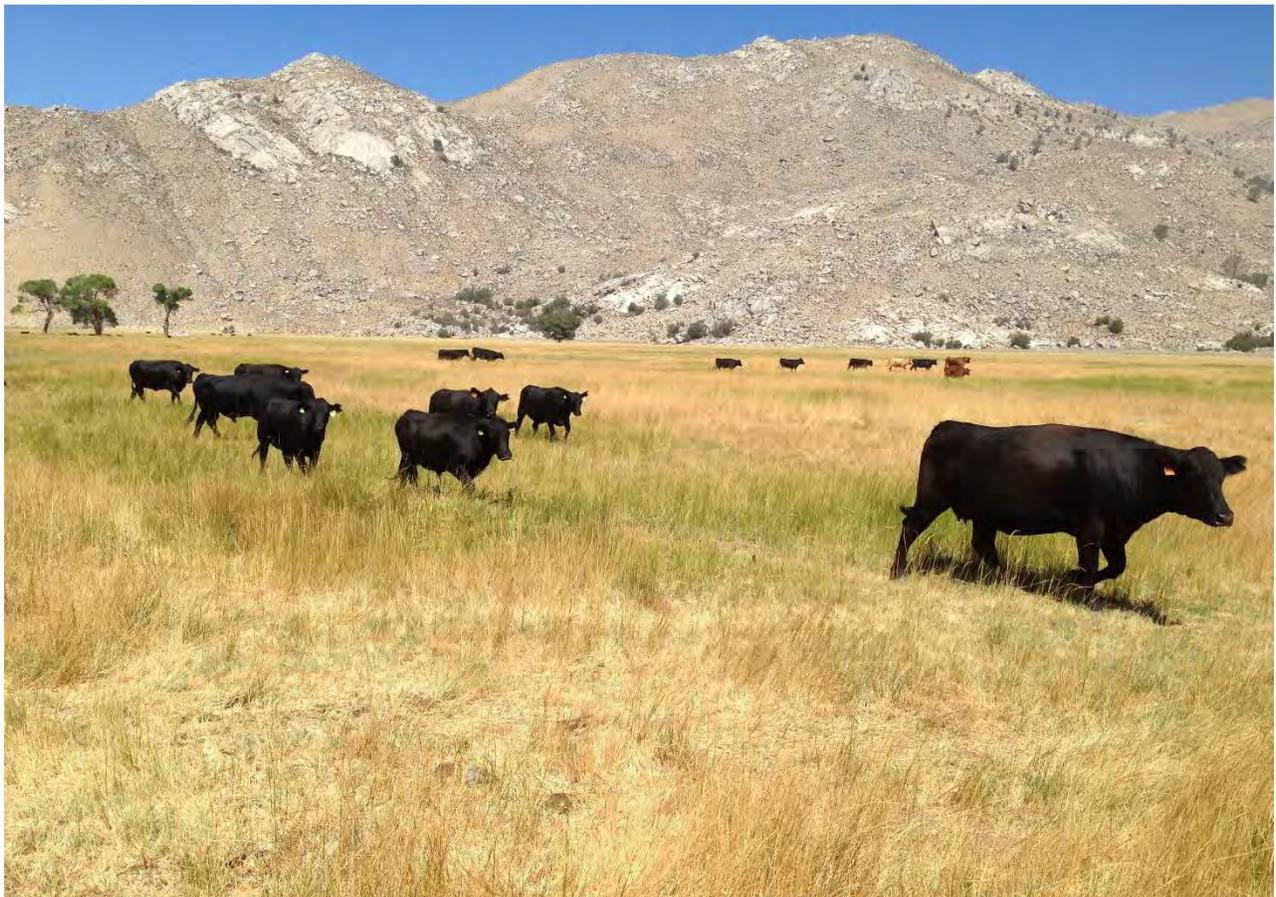


# ONYX RANCH SOUTH FORK VALLEY WATER PROJECT

Final Environmental Impact Report  
State Clearinghouse #2018021061

Prepared for  
Rosedale-Rio Bravo Water Storage District

December 2020





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## Final Environmental Impact Report

### State Clearinghouse #2018021061

Prepared for  
Rosedale-Rio Bravo Water Storage District

December 2020

626 Wilshire Boulevard  
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Los Angeles, CA 90017  
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# CHAPTER 7

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## Introduction

This Final Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) of 1970 as amended (Public Resources Code Section 21000 et seq.) and CEQA Guidelines (California Administrative Code Section 15000 et seq.). This Final EIR incorporates, by reference, the Draft EIR as prepared by the Rosedale-Rio Bravo Water Storage District (RRBWSD) for the Onyx Ranch South Fork Valley Water Project (proposed project) (State Clearinghouse No. 2018021061) as it was originally published. Revisions and clarifications to the Draft EIR are provided in Chapters 9 and 10 to this Final EIR.

### 7.1 CEQA Requirements

CEQA Guidelines specify that the Final EIR shall consist of the following:

- The Draft EIR or a revision of that draft;
- Comments and recommendations received on the Draft EIR;
- A list of persons, organizations, and public agencies commenting on the Draft EIR;
- The response of the lead agency to significant environmental points raised in the review and consultation process; and
- Any other information added by the lead agency.

This Final EIR document for the Onyx Ranch South Fork Valley Water Project contains:

- The written comments received on the Draft EIR (Chapter 8);
- The responses to each written comment received on the Draft EIR (Chapter 9); and
- Revisions and clarifications to the Draft EIR in response to the comments received (Chapter 10).

### 7.2 Public Participation Process

In accordance with the CEQA Guidelines, on February 22, 2018, a Notice of Preparation (NOP) of a Draft EIR and the Initial Study for the proposed project was posted with the California Office of Planning and Research (OPR) and the Office of the Kern County Clerk and distributed via certified mail to potential responsible and trustee agencies and interested organizations and individuals for a 30-day public review period that ended March 23, 2018. A Notice of Availability (NOA) of the NOP and Initial Study was published in *The Bakersfield Californian* and *The Kern Valley Sun*, including the 30-day public review period and the information on the

Scoping Meetings. The NOA was also mailed to other organizations and individuals in the Kern River Valley. The NOP and Initial Study were made available on the RRBWSD's website (<https://www.onyxranch.org>). In addition, copies of the NOP and Initial Study were made available for public review at the following Kern County libraries: Wofford Heights Branch, 6400 B Wofford Boulevard, Wofford Heights, CA 93285; Kern River Valley Branch, 7054 Lake Isabella Boulevard, Lake Isabella, CA 93240; and Beale Memorial Library, 701 Truxtun Avenue, Bakersfield, CA 93301. The RRBWSD held two public Scoping Meetings during the 30-day NOP public review period for the proposed project. The meetings were both held on March 6, 2018. The first meeting was conducted at 10:00 A.M. at the RRBWSD office, 849 Allen Road, Bakersfield, CA 93314, and the second meeting was held at 6:00 P.M. at the South Fork Elementary School, 6401 Fay Ranch Road, Weldon, CA 93283.

Once the Draft EIR was complete, a Notice of Completion (NOC) was submitted to the OPR as required by CEQA (CEQA Guidelines Section 15085), along with copies of the Draft EIR for distribution to public agencies via the OPR State Clearinghouse (CEQA Guidelines Section 15087(f)). At the same time, a Notice of Availability (NOA) of the Draft EIR was posted with the Kern County Clerk (CEQA Guidelines Section 15087(d)). The NOA also was published in *The Bakersfield Californian* and *The Kern Valley Sun* (per CEQA Guidelines Section 15087(d)). Printed copies of the Draft EIR were available for public review at the following public libraries per CEQA Guidelines Section 15087(g) and the RRBWSD office for when the restrictions due to facility closures and the need for social distancing required in response to COVID-19 were lifted by the appropriate governmental agencies: Wofford Heights Branch, 6400 B Wofford Boulevard, Wofford Heights, CA 93285; Kern River Valley Branch, 7054 Lake Isabella Boulevard, Lake Isabella, CA 93240; and Beale Memorial Library, 701 Truxtun Avenue, Bakersfield, CA 93301.

It should be noted that the CEQA Guidelines require a 45-day public review period for a Draft EIR; however, the RRBWSD extended the timeframe to a 60-day public review period for the Draft EIR and the submittal of comments to allow for more time while communities were dealing with the effects of COVID-19. The 60-day public review period for the Draft EIR was from May 27, 2020 to July 27, 2020. During the 60-day public review period, the RRBWSD posted a public information presentation on: the proposed project; the contents and conclusions of the Draft EIR; and the key steps for the remainder of the public review process including the future hearing on the proposed project before the RRBWSD Board of Directors.

Responses to all written comments received on the Draft EIR are addressed in this document, which together with the Draft EIR, and the revisions and clarifications to the Draft EIR provided in Chapter 10, constitute the Final EIR.

### **7.3 Final EIR Certification and Project Approval**

The lead agency is required to provide written responses to comments made on the Draft EIR by public agencies at least 10 days prior to certifying the Final EIR (CEQA Guidelines Section 15088(b)). For the proposed project, this was accomplished by mailing and emailing a Notice of Availability of the Final EIR to all commenting agencies on December 30, 2020, which included a link to the Final EIR on the RRBWSD website and notification of the scheduled Public Hearing

for the proposed project during the RRBWSD Board of Directors meeting on January 12, 2020 (CEQA Guidelines Section 15202).

As the lead agency, the RRBWSD may make the Final EIR available for public review prior to considering the project for approval (CEQA Guidelines Section 15089(b)). This was accomplished by mailing a Notice of Availability of the Final EIR to the organizations and individuals that commented on the Draft EIR. Additionally, a notice of the Public Hearing and availability of the Final EIR on the RRBWSD website was placed in the *Kern Valley Sun* for publication on December 30, 2020.

Prior to considering the proposed project for approval, the RRBWSD Board of Directors will review and consider the information presented in the Final EIR and will consider certification that the Final EIR has been adequately prepared in accordance with CEQA. Once the Final EIR is certified, the RRBWSD Board of Directors may proceed to consider the project approval (CEQA Guidelines Section 15090, Section 15096(f)). Prior to approving the proposed project, the RRBWSD Board of Directors must make written findings for the significant environmental impacts identified in the Final EIR in accordance with Section 15091 of the CEQA Guidelines. Since there were no significant unavoidable environmental impacts identified in the Draft EIR, the RRBWSD Board of Directors will not be required to consider the adoption of overriding considerations for significant unavoidable environmental impacts.

## **7.4 Mitigation Monitoring and Reporting Program**

CEQA requires lead agencies to “adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects” (CEQA Guidelines Section 15097). The mitigation measures included in the Final EIR will be included in the Mitigation Monitoring and Reporting Program (MMRP) for the approved project and will be implemented by the RRBWSD.

## **7.5 Notice of Determination**

Pursuant to Section 15094 of the CEQA Guidelines, the RRBWSD will file a Notice of Determination (NOD) of the certification of the Final EIR with the OPR State Clearinghouse and Office of the Kern County Clerk within five working days of the project approval by the RRBWSD Board of Directors.

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# CHAPTER 8

## Public Comments

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This chapter contains the written comments received during the public review period for the Draft EIR (May 27, 2020 to July 27, 2020). The commenting agencies, organizations, and individuals are listed in **Table 8-1** in the chronological order that the written comments were received by the RRBWSD. The written correspondence has been assigned a label, and the individual comments have been bracketed and numbered in the margin. The responses to comments are provided in Chapter 9 and correspond to the labels and the numbered comments.

**TABLE 8-1**  
**AGENCIES, ORGANIZATIONS, AND PUBLIC COMMENTS RECEIVED**

Commenting Person/Agency	Date of Comment
Kern County Public Works	6/9/20
East Kern Air Pollution Control District	7/9/20
California Department of Transportation	7/10/20
Ellen Schafhauser	7/17/20
CharlAnn Gregory	7/19/20
Alison Hernandez	7/20/20
Suzy Parker and Dick Land	7/20/20
Glen and Gloria Wellman	7/21/20
Buena Vista Water Storage District / Second Point Water Rights Holders	7/27/19
City of Bakersfield	7/27/20
California Department of Fish and Wildlife	7/27/20
Center for Biological Diversity	7/27/20
Kern County Water Agency	7/27/20
Kern Delta Water District	7/27/20
North Kern Water Storage District	7/27/20
Ben Rudnick	7/27/20
Sierra Club Kern-Kaweah Chapter / Sequoia ForestKeeper	7/27/20
Kern River Watermaster	7/27/20
Kern Valley Indian Community	7/27/20
Kern Delta Water District	10/15/20

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**CRAIG M. POPE, P.E., DIRECTOR**  
ADMINISTRATION & HUMAN RESOURCES  
FINANCE & ENGINEERING  
BUILDING & CODE  
OPERATIONS



**2700 "M" STREET, Suite 400**  
**BAKERSFIELD, CA 93301-2370**  
Phone: (661) 862-5000  
FAX: (661) 862-8851  
Toll Free: (800) 552-5376 Option 5  
TTY Relay: (800) 735-2929

June 9, 2020

Dan Bartel, Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

Subject: Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report (SCH No. 2018021061)

I have reviewed the above noted project DEIR and recommend the following conditions be placed in the record:

- 1. Prior to issuance of a building or grading permit: All survey monuments shall be tied out by a Licensed Land Surveyor. A corner record for each monument or record of survey shall be submitted to the County Surveyor for review and processing, per Section 8771 of the Professional Land Surveyor's (PLS) Act. KCPW-1
- 2. Prior to Final Inspection: All survey monuments that were destroyed during construction shall be re-set or have a suitable witness corner set. A post construction corner record for each monument re-set or a record of survey shall be submitted to the County Surveyor for processing, per Section 8771 of the Professional Land Surveyor's Act. KCPW-2
- 3. Upon completion of project: All survey monuments shall be accessible by a Licensed Land Surveyor or their representatives, with prior notice, per Section 8774 of the PLS Act and Civil Code 846.5 (a). KCPW-3

Thank you for the opportunity to review and comment on this project. Should you have any questions please contact me.

Sincerely,

Brian R. Blacklock, PLS  
County Surveyor



---

# Eastern Kern

## Air Pollution Control District

---

Glen E. Stephens, P.E.  
Air Pollution Control Officer

July 9, 2020

Mr. Dan Bartel  
Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

SUBJECT: Comments for Draft Environmental Report for the Onyx Ranch South Fork Valley Water Project (SCH No. 2018021061)

Dear Mr. Bartel:

Eastern Kern Air Pollution Control District (District) is in receipt of the Draft Environmental Impact Report (EIR) for the Onyx Ranch South Fork Valley Water Project.

The project consists of various construction activities and conversion of irrigated agricultural land to change the points of diversion and place of use for the 1914-water rights associated with the parcels listed in this project. Please note construction activities involving more than 10 acres or daily earthmoving activity exceeding 10,000 cubic yards are subject to District Rule 402 (Fugitive Dust) and are required to submit a Fugitive Dust Emission Control Plan. Activities involving, more than two acres shall implement one or more fugitive dust emission control strategy(s) listed in Rule 402. Agricultural operations 10 acres and larger shall submit a Conservation Management Practices (CMP) plan. Additionally, if stationary equipment over 50 horsepower (i.e. generator sets, compressors, pumps, etc.) is to be used, this will require a permit to operate from the District prior to installation and operation.

EKAPCD-1

Should you have any questions, please contact Miguel Sandoval at (661) 862-5250 or via email at [sandovalm@kerncounty.com](mailto:sandovalm@kerncounty.com).

Sincerely,

A handwritten signature in blue ink, appearing to read "Glen E. Stephens".

Glen E. Stephens, P.E.  
Air Pollution Control Officer

GES:MS:tf

**DEPARTMENT OF TRANSPORTATION****DISTRICT 6 OFFICE**

1352 WEST OLIVE AVENUE  
 P.O. BOX 12616  
 FRESNO, CA 93778-2616  
 PHONE (559) 445-5421  
 FAX (559) 488-4088  
 TTY 711  
 www.dot.ca.gov



Making Conservation  
 a California Way of Life

July 10, 2020

06-KER-178-61.651  
 ONYX RANCH WATER PROJECT DEIR  
 SCH #2018021061

SENT VIA EMAIL

Mr. Dan Bartel  
 Rosedale-Rio Bravo Water Storage District  
 849 Allen Road  
 Bakersfield, CA 93314

Dear Mr. Bartel:

Thank you for the opportunity to review the Draft Environmental Impact Report for the Onyx Ranch South Fork Valley Water Project, which proposes to change the points of diversion for the water rights associated with the parcels on the project site so that the water can be delivered in the Rosedale-Rio Bravo Water Storage District service area on the San Joaquin Valley floor to be used for irrigation and groundwater recharge. The project site consists of approximately 29 parcels totaling 4,109 acres on the Onyx Ranch and Smith Ranch located on either side of State Route 178, approximately 45-miles northeast of the City of Bakersfield.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development -Intergovernmental Review (LD-IGR) Program reviews land use projects and plans through the lenses of our mission and state planning priorities of infill, conservation, and travel-efficient development. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

Caltrans provides the *following comments* consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

1. Based on the information provided, Caltrans has no comments on the subject application as no work will be performed within the State right-of-way.

Caltrans-1

Caltrans-2

Mr. Dan Bartel  
July 10, 2020  
Page 2

If you have any other questions, please call Lupita Mendoza, Transportation Planner at (559) 488-4260.



Caltrans-2 (cont.)

Sincerely,

A rectangular area containing a handwritten signature in black ink that reads "Lorena Mendibles".

LORENA MENDIBLES, Chief  
Transportation Planning – South

**From:** [Ellen Schafhauser](#)  
**To:** [Dan Bartel](#)  
**Subject:** Onyx Ranch South Fork Valley Water Project  
**Date:** Friday, July 17, 2020 5:03:56 PM

---

This is my short letter with concerns after reading the DEIR for the Onyx Ranch South Fork Valley Water Project.

SCHAF-1

My concern is multiple. Ground water overdraft by Rio Bravo Water district will be pumped into the South Fork could very well exceed well depths thus running dry our South Fork and Kelso Valley wells.

I'm concerned that the South Fork could be hardened or diverted into a piping system to deliver into Lake Isabella thus creating no recharge of ground water to wells and to the Kern River Preserve which is a riparian forest.

SCHAF-2

I'm also concerned that this project will dry out our South Fork Valley and exacerbate the potential for catastrophic fire.

SCHAF-3

Also just as in the Owens Valley we will be stripped of surface water and turn into a dust bowl desert landscape.

SCHAF-4

Industrial solar panels being placed in a previously planned place that is north of Highway 178 and east of the South Fork Elementary School will blight the scenic view of our valley that so many people come to enjoy.

SCHAF-5

I can only assume that these concerns will become realities because I have little faith that the Rio Bravo Water District will have far sighted concerns of their own that will protect our South Fork Valley, its residence and its flora and fauna. It is always profit over all else. You feign concern for people in supplying water to agriculture. But in reality it always comes down to the bottom line and the inhabitants of the area you drain from are thought of the least. That includes the plants and animals of the local.

SCHAF-6

SCHAF-7

Sincerely,  
Ellen Schafhauser  
9617 Fay Ranch Road  
Weldon, CA 93283  
760-608-9143

To: Dan Bartel- Asst. Gen. Manager  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, California 93314

From: CharlAnn Gregory  
P.O. Box 41  
Weldon, California 93283

Re: Onyx Ranch South Fork Valley Water Project Draft  
Environmental Impact Report (SCH No. 2018021061)

Date: 19 July 2020

Sir,

I am very concerned that your proposed project on the South Fork of the Kern River at the Smith Ranch and Onyx Ranches is detrimental in all aspects to the South Fork Valley.

GREG-1

The surface water in the South Fork channel that reaches the reservoir needs to remain in the reservoir as part of the minimum pool. Historic contour ditches of the South Fork should be maintained to meet the needs of existing water rights. The ground water needs to stay in the existing aquifer to be used as it historically has been within the South Fork Valley, not “shipped” to Bakersfield and beyond.

GREG-2

GREG-3

GREG-4

A concern also, is that RRWSD is planning to use historical water flows to determine the percentage of water to take out of the South Fork. A closer look needs to be taken at projections of climate and

GREG-5

climate change that will have a great impact on the amount of water available.

↑ GREG-5 (cont.)

The third concern, should the proposed plan go into effect, is the soil within the Smith and Onyx Ranches. It would undoubtedly become increasingly drier, ultimately killing the flora and fauna of our valley. Creating a “dust bowl” during our many windy days in the South Fork Valley. Thus causing many more people to have severe breathing issues.

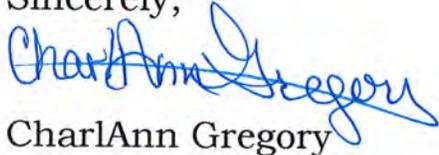
GREG-6

GREG-7

I appreciate being able to comment on RRWSD’s Environmental Impact Report, and sincerely hope that your proposal is dropped to protect the land, animals and people of the South Fork Valley.

GREG-8

Sincerely,

  
CharlAnn Gregory

Alison Hernandez  
PO Box 313  
Weldon, CA 93283-0313

March 13, 2018

Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

Re: Notice of Preparation of Draft Environmental Impact Report

RRBWSD,

The morning news stated that there is a 22% severe drought in our area. California has a history of many consecutive years of drought dating back to the late 1800's. With no foreseeable prediction of future snowpack or precipitation because of a natural warming trend RRBWSD's proposed water diversion downstream would have a negative effect on the Kern River Valley.

HERN-1

Urban growth seems to continue in Bakersfield which can lead to more water demands. Does RRBWSD propose to drain the Kern River Valley to support downstream growth? I am in the process of "growing" a child in the Kern River Valley and you are proposing to strip this valley of future water for generations to come.

HERN-2

I am against this proposed water diversion.

HERN-3



Alison Hernandez

07/20/2020

I am still against any water being taken from the Kern River Valley.

HERN-4

Suzy Parker  
Dick Land  
PO Box 1507  
Weldon, CA 93283-1507

March 13, 2018

Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

Re: Notice of Preparation of Draft Environmental Impact Report

RRBWSD,

After attending the March 6, 2019 scoping meeting and reviewing the draft EIR we have serious concerns of RRBWSD diverting water from Onyx and Smith ranch areas. What will happen over an extended period of time of water diversion from Kern River Valley to the San Joaquin Valley floor. Answer: RRBWSD will dry out the Kern River Valley. The water RRBWSD is proposing to channel downstream will be of no benefit to us. As such, we are opposed to the proposed project. The whole project will significantly affect water quality and quantity to everyday users in the Kern River Valley. In addition it could have serious negative impact on our diverse wildlife which in turn can affect tourism to our valley which in turn will cause decreased business to Kern River Valley community.

PARK-1

PARK-2

PARK-3

We are in opposition to RRRBWSD's proposed water diversion project.

PARK-4

Suzy Parker

Dick Land

7/20/2020

we are against your proposed water diversion. Our opinion has not changed

PARK-5

Glen Wellman  
Gloria Wellman  
PO Box 230  
Weldon, CA 93283-0230

March 13, 2018

Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

Re: Notice of Preparation of Draft Environmental Impact Report

RRBWSD,

We are in opposition of your proposed water diversion project. According to a Bakersfield Now article of 03-02-2018 there is a declining snowpack across the American west over the past six decades. Snow packs in the region dropped between 15 and 30% in a little more than a century. In the last few years California has had snowpack gain BUT recent droughts erased the gains which caused the snowpack to fall in many locations. Because of global warming the snow is melting sooner in higher elevations which leads to low levels in rivers.

WELL-1

Continual ground water depletion from RRBSWSD's proposed project would dry our valley out. It will also have a negative effect on our wildlife habitat.

WELL-2

WELL-3

What are your true intentions besides \$\$.

WELL-4

  
Glen Wellman

  
Gloria Wellman

July 21, 2020

Our original statements still stand. We are opposed to any water diversion.

WELL-5



## Buena Vista Water Storage District

P.O. Box 756 • 525 N. Main Street  
Buttonwillow, California 93206  
Phone: (661) 324-1101 • (661) 764-5510  
Fax: (661) 764-5053

**DIRECTORS:**

John Vidovich - President  
Terry Chicca - Vice President  
Jeof Wyrick - Secretary  
Julien Parsons  
Larry Ritchie

**STAFF:**

Tim Ashlock – Engineer-Manager  
Andrew Bell – Hydrographer  
Marybeth Brooks – Controller  
Adam Sevier – Superintendent  
Angela Thompson – Executive Assistant

July 27, 2020

**BY U.S. MAIL & EMAIL**

Dan Bartel, Assistant-General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314  
Email: [DBartel@rrbwsd.com](mailto:DBartel@rrbwsd.com)

Re: Comments by Kern River 2<sup>nd</sup> Point Water Right Holders on the Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report (SCH No. 2018021061)

Dear Mr. Bartel:

Buena Vista Water Storage District (“BV”); Henry Miller Water District (“HM”); and Olcese Water District (“OWD”) (collectively “2<sup>nd</sup> Point Districts”) appreciate the opportunity to comment on the Draft Environmental Impact Report (“DEIR”) for the Onyx Ranch South Fork Valley Water Project (“Project”) proposed by Rosedale-Rio Bravo Water Storage District (“RRB”). As owners of the 2<sup>nd</sup> Point Kern River water right, we are very concerned about the potential impact of the Project on the flows of the Kern River, impact on existing rights, and existing agreements.

2NDPT-1

These comments are submitted in addition to the comments provided by the Kern River Watermaster on behalf of the 2<sup>nd</sup> Point Districts and others. We believe that these concerns must be acceptably addressed in order for this Project to move forward in compliance with the California Environmental Quality Act (“CEQA”) and to maintain the spirit of cooperation that has existed between our agencies. Under the circumstances, we are compelled to comment on the Project and do so as follows:

**1. The Project Description is Fatally Flawed**

An accurate, stable and finite project description is an essential element of an informative and legally sufficient EIR. [*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192-193.] If a project description is incomplete or inadequate, the environmental analysis will necessarily be incomplete and inadequate. [*Laurel Heights Improvement Association v. Regents of University of California* (1988) 47 Cal.3d 376, 399-400.] More particularly, a project description that omits integral components of the project is deficient since it prevents disclosure and review of the actual impacts of the full project. [*Cadiz Land Co. v. Rail Cycle, L.P.* (2000) 83 Cal.App.4<sup>th</sup> 74; *City of Santee v. County of*

2NDPT-2

*San Diego* (1989) 214 Cal.App.3d 1438, 1450; *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 829.]

Here, the DEIR fails to provide sufficient information to evaluate impacts of the proposed change to the point of diversion and place of use of Kern River water. Of specific concern is potential impacts to the 2<sup>nd</sup> Point Kern River water right and storage capacity in Lake Isabella. The lack of details within the DEIR's project description makes it impossible to evaluate these issues and renders the project description incomplete and inadequate. To this point, the following is noted:

2NDPT-2  
(CONT.)

- a. The DEIR claims RRB has a pre-1914 Kern River water right that may be transferred and moved downstream. Evidence supporting this conclusion is not provided. Without such supporting evidence, it is not possible for the public to evaluate and analyze the water supply upon which the Project is depending. Information lacking is addressed in the comments on the DEIR made by other local entities. However, at a minimum, the DEIR should include a full discussion and analysis of judgments, decrees and agreements governing the rights of the Kern River, known as the "Law of the River," and a full analysis of all the existing Kern River rights. This information is essential to analyze potential impacts on existing water rights and the ability of RRB to transfer the water downstream.

2NDPT-3

Further, the DEIR should provide explanation as to what the "1902 Decree" adjudicates, the parties bound thereby, and the sufficiency to establish a pre-1914 water right. Is this simply an agreement among limited parties or an adjudication of all South Fork Kern River rights?

Without these details, the water supply relied on for the Project is too speculative and insufficient for decision-making under CEQA [*Vineyard Area Citizens for Responsible Growth, Inc. v City of Rancho Cordova* (2007) 40 Cal.4<sup>th</sup> 412, 430-432]. The DEIR should provide more information, with supporting evidence, to demonstrate that RRB has the legal authority and physical ability to move an amount of Kern River water over 50 miles downstream.

- b. The quantity of water to be transferred is not clearly articulated. The DEIR provides that the amount of surface water would range from 2,000 to 12,000 acre-feet per year [DEIR 2-19]. How this amount is calculated is not sufficiently or clearly explained and the rationale given appears to have some serious deficiencies. For example:

2NDPT-4

- Historical records of surface diversions are not provided. Rather, a relatively short time frame (2009-2017) which includes a historically wet year, is used to create a proposed amount of available water.
- The DEIR acknowledges that the ground upon which surface water deliveries have been made is extremely permeable [DEIR 2-10 & 3.11-8] and that subsurface flows return to Lake Isabella and are delivered

2NDPT-5

2NDPT-6

downstream if not consumptively used [DEIR 2-22 & 3.11-12]. Given these dynamics, it is probable that eliminating surface deliveries to the Project lands will result in a reduction of previous “return flows” historically relied on by Kern River right holders. A full analysis of this, and a thorough calculation of the amount of subsurface flow into Isabella, should be made.

2NDPT-6  
(cont.)

- What impact if any will the planting of vegetation for cattle grazing have on the groundwater and subsurface flows into Lake Isabella? Given the permeable nature of the land, it is probable that eliminating surface deliveries and planting vegetation for cattle irrigation will impact groundwater levels and subsurface flows into Lake Isabella. This element of the Project is not fully discussed and thus analysis of potential impacts is not possible.
- Additional details relating to the water transferred from the Smith Ranch should be provided. Will water use on the remaining two-thirds of the ranch change? Can the majority owners elect to irrigate the entire ranch? Will water use on the Smith Ranch be limited to a certain amount?
- If avoiding injury to existing Kern River right users is a Project objective [DEIR 2-8], it is essential that the water proposed to be transferred is truly limited to the consumptive use on lands to be followed. Calculation of this should be certain and clearly delineated in the DEIR. Evapotranspiration studies, among other methods, should be considered and analyzed.

2NDPT-7

2NDPT-8

2NDPT-9

The lack of information regarding the amount of water to be transferred by the Project and how that amount is calculated makes it impossible for the reader to analyze potential impacts to the environment and existing right holders.

2NDPT-10

- c. The DEIR completely fails to describe how water from the Project will be transferred downstream. This is especially concerning given the fact that 2<sup>nd</sup> Point Districts and others have paid millions of dollars for storage rights in Lake Isabella. Transferring water that has historically been delivered for irrigation upstream will undoubtedly impact storage in Lake Isabella and facilities delivering water downstream. The DEIR simply provides that RRB will coordinate with Kern River Interests to address transfer of the Project water through Lake Isabella and downstream. Based on the limited description of an essential element of the Project, it is not feasible to analyze the impacts of something that will be “coordinated” in the future. There is no consideration given if RRB is not able to work out an arrangement with the Kern River Interests in a given year. What will happen if flow downstream of Lake Isabella is not sufficient to get the Project water to RRB’s boundaries? Will the water simply be lost, will it be viewed as banked? If there is no storage available in Lake Isabella for the Project water, and flow from the lake must be stopped for emergency purposes, what happens to the Project water? Rights to storage in Lake Isabella

2NDPT-11

and downstream capacity and facilities must be fully described and discussed to consider the Project's impacts.

2NDPT-11  
(cont.)

- d. Description of proposed places of use proposed by the Project are lacking. Does RRB have sufficient capacity to recharge the water proposed by the Project? How will that impact existing projects and the San Joaquin Valley groundwater basin? The DEIR focuses exclusively on the Onyx Ranch area and entirely ignores describing where and how the Project water will be used. Such omission renders analysis of impacts impossible.

2NDPT-12

The DEIR needs to address these critical issues and provide a detailed analysis of RRB's legal right to the water, RRB's legal and physical ability to move the water downstream, how the amount of water available is calculated, and a detailed description of the operation of moving said water. Simply put, the DEIR needs to demonstrate how the Project is expected to function without invasion of or detriment to existing 2<sup>nd</sup> priority rights of Kern River water right holders.

2NDPT-13

**2. Downstream Conditions and Activities Must be Described in the DEIR and Included in the Environmental Setting**

If the description of the environmental setting of the Project site and surrounding area is inaccurate, incomplete, or misleading, the EIR does not comply with CEQA [14 Cal. Code Regs., § 15125]. Without accurate and complete information pertaining to the setting of the Project and surrounding uses, an EIR fails to adequately investigate and discuss the environmental impacts of the Project [see *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4<sup>th</sup> 645, 655]. The DEIR limits its discussion and analysis to changing the points of diversion from the identified parcels along the South Fork of the Kern River. Notwithstanding the fact the Project proposes to transfer Kern River water and use it downstream of Lake Isabella on the San Joaquin Valley floor, the DEIR glosses over any description of the downstream setting. It is assumed in the DEIR that the downstream facilities have sufficient capacity to accept the increased diversions. However, without a description of the facilities and existing uses, it is impossible to verify this assumption.

2NDPT-14

The fact that the DEIR does not even acknowledge existing agreements granting others capacity to recharge water in RRB's facilities is especially concerning. RRB and BV have various agreements whereby BV has a right to utilize RRB's facilities to recharge water, including high flow Kern River water (e.g., the *Banking and Recovery Agreement Between Buena Vista Water Storage District and Rosedale-Rio Bravo Water Storage District* effective January 1, 2002; and the *Agreement for Water Acquisition by Castaic Lake Water Agency from Buena Vista/Rosedale-Rio Bravo Water Banking and Recovery Program* effective January 1, 2007). Will the Project have any impact on these agreements and BV's ability to utilize RRB facilities for recharge purposes? The DEIR should describe these recharge facilities and the capacity commitments, and analyzed any impacts they have on the proposed Project. At a minimum, RRB's response to comments should address this issue and the Project impacts on BV's right to utilize RRB's recharge facilities.

2NDPT-15

How will bringing more water into RRB's boundaries impact groundwater storage capacity in the Kern County portion of the San Joaquin Valley groundwater basin? Will the recovery of that water

2NDPT-16

create any impacts? Does the Project create a new supply of water that will promote growth within the RRB boundaries? These questions should be clearly addressed in RRB's response to comments.

↑ 2NDPT-16  
(cont.)

**3. The DEIR Fails to Adequately Discuss or Analyze Potential Significant Environmental Impacts Associated with the Change in Place of Use and Purpose of Use of Substantial Amounts of Kern River Water**

The inadequacies within the DEIR's project description and environmental setting have prevented a full consideration of the environmental impacts as required by CEQA. Without having a better understanding of the amount of water, right to the water, ability to transfer the water, and downstream facilities and operations, it is not possible to analyze or consider all of the potential significant impacts to the environment.

2NDPT-17

**4. Areas of Controversy Are Not Adequately Addressed**

The DEIR must identify and summarize "[a]reas of controversy known to the Lead Agency including issues raised by agencies and the public." [14 Cal. Code Regs., § 15123(b)(2).] The DEIR recognizes the Project's potential to injure existing Kern River right holders and water storage in Lake Isabella. These are not little concerns or minor areas of controversy. However, rather than summarizing them and discussing these known areas of controversy, the DEIR glosses over them. Statements are made that the Project will not impact existing Kern River rights, and a promise is made that Lake Isabella storage issues will be worked out in the future. This is not sufficient. The DEIR should clearly address the significant areas of controversy.

2NDPT-18

**5. The DEIR Fails to Adequately Consider Alternatives to the Project**

The DEIR dismisses the "No Project Alternative" and "50 Percent Diversion Alternative" because they are not "financially sustainable for the RRBWSD as the payoff debt service associated with the property acquisition is required." [DEIR ES-10]. Dismissing these alternatives because they do not provide for the payment of the debt service on the Project real property raises concerns that RRB committed to this Project prior to CEQA review and thus could not fully consider alternatives.

2NDPT-19

On behalf of Buena Vista Water Storage District, Henry Miller Water District, and Olcese Water District, thank you for your attention to and consideration of these comments. As stated above, the primary concern of the 2<sup>nd</sup> Point Districts is the Project's potential impact on the flows of the Kern River, impacts on existing 2<sup>nd</sup> Point Kern River rights, and impacts on existing Lake Isabella storage. If you have any questions or require any further information with respect to these comments, please do not hesitate to contact the undersigned.

2NDPT-20

Sincerely,



Tim Ashlock – Engineer Manager  
Buena Vista Water Storage District



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AND SRI LANKA

July 27, 2020

VIA EMAIL

Dan Bartel  
Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

Re: City of Bakersfield’s Comments to Draft Environmental Impact Report for Onyx Ranch South Fork Valley Water Project

Dear Mr. Bartel:

On behalf of the City of Bakersfield (“City” or “Bakersfield”), we submit the following comments to the Draft Environmental Impact Report (“DEIR”) for the Onyx Ranch South Fork Valley Water Project (“Project”) issued by the Rosedale-Rio Bravo Water Storage District (“Rosedale” or “RRBWSD”) on May 22, 2020.

On March 23, 2018 the City submitted detailed comments to the Notice of Preparation (“NOP”) for the Project. In the comments, the City raised a number of concerns with the Project and identified a number of issues, and impacts, that Rosedale should identify and review in the DEIR for the Project. Rosedale, however, failed to sufficiently address or respond to the City’s comments to the NOP in the DEIR. Rosedale in particular failed to provide data, information and analysis in the DEIR that is necessary and required for an EIR for a project that proposes a change in the point of diversion and place of use of a significant quantity of Kern River water.

The City accordingly has a number of significant concerns with regard to the Project, and Rosedale’s failure to comply with the requirements of the California Environmental Quality Act (“CEQA”) in connection with the DEIR.

BAK-1

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The City also remains convinced that Rosedale has not proposed a valid, or viable, Project. The City has significant practical, operational and legal concerns with regard to the Project, and questions whether Rosedale can implement the Project without causing harm to the local environment, the City’s water resources and supplies, and the Kern River.

↑  
BAK-1  
(cont.)

**1. BAKERSFIELD HAS SIGNIFICANT CONCERNS WITH AND OBJECTIONS TO THE PROJECT**

Bakersfield will not repeat all of its practical and legal concerns with regard to the Project in these comments. The City’s comments to Rosedale’s NOP set forth the City’s extensive and detailed questions, concerns and objections to the Project. The City attaches a copy of the comments to the NOP as Exhibit A, and incorporates such comments as part of the City’s comments to the DEIR. (See *Woodward Park Homeowners Assn., Inc. v. City of Fresno* (2007) 150 Cal.App.4th 683, 712, noting that comments to an NOP were preserved for a later challenge to an EIR.)

The City points out that the DEIR fails to address any of the questions, uncertainties and deficiencies with the water rights that Rosedale claims in connection with the Project, and the extent, yield and viability of Rosedale’s claimed rights, and Rosedale’s ability to change the point of diversion and place of use of such rights. The continued lack of information and uncertainty with regard to Rosedale’s claimed water rights undercuts and negates the review and analysis of Project impacts in the DEIR.

BAK-2

In particular, the DEIR fails to address or respond to the City’s prior stated concerns with regard to (1) the viability and yield of Rosedale’s claimed pre-1914 appropriative water rights, and its claimed ability to create a water supply on the South Fork of the Kern River through a curtailment of diversions, (2) Rosedale’s lack of any practical or legal right to move water through Lake Isabella, or to hold water in Lake Isabella, (3) Rosedale’s practical and legal inability to transport alleged new or additional water supplies through the Kern River channel to Rosedale, and (4) adverse impacts on the City’s water rights and supplies through a loss of water, in violation of Water Code Section 1706.

As explained in detail in the attached NOP comments, the City’s concerns and objections with regard to the Project, include, but are not limited to, the following:

- The City continues to question whether the “pre-1914 appropriative water rights on the South Fork of the Kern River” which Rosedale claims it acquired and holds in connection with the Onyx Ranch property, are still valid, viable and enforceable.
- The City has concerns over the amount of water that Rosedale claims it will utilize in connection with the Rosedale’s claimed rights, and questions whether

BAK-3

↓  
BAK-4

the actual, historic record of diversion and use of Rosedale’s rights supports or properly evidences the quantities of water Rosedale proposes to use, and transfer, in connection with the Project.

↑  
BAK-4  
(cont.)

- The DEIR fails to indicate or establish that Rosedale holds any right to transfer water through Lake Isabella, or to hold or store water in Lake Isabella. Absent a right or agreement to use Lake Isabella, the Project is not valid or viable in its present form, and any hope or intention for a future right to use Lake Isabella represents pure, unsupported speculation and conjecture.
- The DEIR fails to indicate or establish that Rosedale holds any right to transfer or transport its purported new water supply, with a claimed yield of between 2,000 and 12,000 acre-feet of water per year, through the Kern River channel below Lake Isabella.
- Any attempt to move water through Lake Isabella and the Kern River channel would adversely impact the City’s prior water rights and supplies, as the transportation of water pursuant to the Project would necessarily displace or replace water which would otherwise be diverted by the City and other Kern River interests.
- The potential loss of between 2,000 to 12,000 acre-feet per year of the City’s Kern River water supply, as well as the water supplies of other Kern River parties, would cause significant “injury” to the City, in violation of Water Code Section 1706.

BAK-5

BAK-6

BAK-7

BAK-8

The City will also address and challenge Rosedale’s claimed water right at a later time, and its attempted change in the point of diversion and place of use of its claimed rights, in an appropriate forum. The City still believes it is necessary and advisable to raise its substantive objections and challenges to the Project at this time, in these comments to the DEIR, because presumably the Rosedale Board of Directors will consider such objections and concerns, along with the environmental impacts of the Project, in deciding whether to approve the Project and the DEIR. The City wants to make sure that Rosedale’s Board of Directors considers the City’s serious and strenuous objections to the Project in making that determination.

BAK-9

**2. ROSEDALE HAS FAILED TO COMPLY WITH BASIC, NECESSARY CEQA REQUIREMENTS IN ITS PREPARATION OF THE DEIR**

In addition to the City’s ongoing concerns with the validity and viability of the Project, and Rosedale’s claimed water rights, it is also apparent that Rosedale has not complied with the requirements of CEQA, and applicable provisions of California law, in the DEIR.

BAK-10

Among other things, Rosedale has not complied with the provisions of CEQA through the DEIR because:



- The description of the Project in the DEIR is incomplete, and misleading, as Rosedale omits any mention or discussion of important, necessary components of the Project, including details regarding the storage of Project water in Lake Isabella, the release of water from Lake Isabella, the conveyance of Project water through the Kern River channel, and the diversion of water into Rosedale's service area. ↑  
BAK-10  
(cont.)
- The DEIR omits other critically important details and components of the Project, and information regarding the water that will be developed and used in connection with the Project. Among other things, the DEIR fails to identify the process, procedures and future agreements that will dictate and regulate the transfer, conveyance and diversion of water pursuant to the Project, and the DEIR fails to include necessary, important information regarding the source of water for the Project, and uncertainties and expected challenges to the alleged water rights that Rosedale claims it can use in the Project. BAK-11
- The Project area identified and studied by Rosedale in the DEIR is improperly limited and restricted to only the Onyx and Smith Ranch areas in the Kern River Valley, without consideration of impacts from the Project on areas below Lake Isabella, including the Kern River channel, Rosedale's service area, and the service areas of the City and other Kern River interests that will suffer a loss of water through the Project. BAK-12
- Based in large part on the lack of required and necessary information regarding the Project, and the improperly narrow Project area, the DEIR fails to properly identify, study and review significant Project impacts. BAK-13
- The DEIR is incomplete, and deficient, because it does not disclose the questions, uncertainties or challenges to Rosedale's claimed water rights, or Rosedale's right and ability to change the place of use and type of use of such claimed water rights pursuant to Water Code Section 1706. BAK-14
- The DEIR fails to identify baseline conditions in Lake Isabella, the Kern River, and the areas that will be impacted by the Project. BAK-15
- The DEIR does not sufficiently or adequately identify and discuss related Project Impacts, including cumulative impacts. BAK-16
- The DEIR does not properly or sufficiently consider alternatives to the Project, including the no project alternative. BAK-17
- Rosedale violated CEQA by committing itself to the Project and deciding on a definite course of action with regard to the Project, prior to preparation of the DEIR. BAK-17

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In light of all of these deficiencies, and omissions, the DEIR fails to comply with the policy, purpose or specific requirements of CEQA, and fails as a public document.

The fundamental purpose of an EIR is “to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment.” (Public Resources Code § 21061.) Full and candid disclosure, and an honest assessment of the environmental consequences of governmental action, is the foundation of the CEQA process. The foremost principle under CEQA is that the Legislature intended the act “to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.” (*Friends of Mammoth v. Board of Supervisors* (1972) 8 Cal.3d 247, 259.)

BAK-18

In sharp contrast to the underlying purpose and principles of CEQA, Rosedale has attempted, through the DEIR, to obscure and hide the details of the Project, and to avoid or minimize any real analysis of the Project’s impact on the environment, the City, and other entities that divert and use Kern River water. Rosedale attempts to use the DEIR and the CEQA process not to inform the public, but to confuse the public and to hide the details and impacts of its intention to strip rural, agricultural lands of water supplies and to ship the water more than 60 miles to the far western region of Kern County.

**A. The Project Description is Incomplete and Misleading**

The DEIR fails to provide a clear, consistent or complete description of the Project, the goals and purposes of the Project, or the various “components” of the Project. The description of the Project, and the purpose and objectives of the Project, consequently does not comply with the requirements of CEQA.

The DEIR describes the Project as follows:

“The proposed project involves changing the points of diversion and place of use for the RRBWSD’s pre-1914 appropriative surface water rights in the South Fork of the Kern River from the project site to the RRBWSD diversion point on the San Joaquin Valley floor. The proposed changes would allow water to flow past the project site (Onyx and Smith Ranches), resulting in a net increase in surface flows within the South Fork of the Kern River and the Isabella Reservoir. The increased amount of water accumulated in the Isabella Reservoir would be released through the Isabella Dam and flow downstream in the Lower Kern River. The RRBWSD would divert the water from the Lower Kern River and deliver it to the groundwater recharge basins and channels in and near the

BAK-19

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RRBWSD’s service area west of the City of Bakersfield in the San Joaquin Valley.” (DEIR, at pages ES-4, 5.)<sup>1</sup>

The DEIR later claims that the Project would produce and result in “an average of 6,014 net acre-feet per year of new water in the Isabella Reservoir.” (2-22.) The DEIR also claims that “the total amount of water that would be moved from the project site to the RRBWSD service area on the San Joaquin Valley floor . . . would range from about 2,000 acre-feet per year to 12,000 acre-feet per year, depending on year type.” (2-19.)

The DEIR also lists six “elements” of the Project, including:

- (1) “collection of surface flow diversion data for the South Fork of the Kern River and the preparation of data records for use by downstream water right holders,”
- (2) “collection of groundwater pumping data and the preparation of data records for use by the water right holders,”
- (3) “collection of groundwater level and water quality data . . . from the wells on the project site,”
- (4) “use of a comprehensive calibrated groundwater/surface water model to estimate the net difference between the amount of South Fork of the Kern River water reaching Isabella Reservoir in the existing condition and with the proposed project,”
- (5) “the coordinated release of water from the Isabella Reservoir,” which would include coordination with “the USACE, Kern River Watermaster, and the Kern River Interests to release the RRBWSD water through the Isabella Reservoir and ensure that amount is not diverted by others between the Isabella Reservoir and the existing diversion points in the RRBWSD service area,” and
- (6) “land management practices for the agricultural fields on the project site.”

The first four “elements” of the Project only describe data gathering and monitoring efforts in connection with the Project, instead of actual components of the Project. The last element of the Project involves “land management practices” that Rosedale would presumably have to undertake outside of and independent of the Project.

The fifth element of the Project is therefore the only element that reflects and refers to the actual Project, which calls for a change in the point of diversion and place of use for certain claimed water rights, and the conveyance of water allegedly generated by the Project through Lake Isabella, and then through the Kern River channel, until Rosedale diverts the alleged “new” water supply out of the Kern River and into its service area. The Project Description section of

BAK-19  
(cont.)

BAK-20

<sup>1</sup> All future references to portions of the DEIR will only list the page number.

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the DEIR, however, fails to identify or describe important components of the Project, including the agreements that would be necessary before Rosedale could move any water into Lake Isabella, hold water in Lake Isabella, release water from Lake Isabella, and transport water through the Kern River channel downstream to Rosedale’s service area, all without being lost or diverted by senior Kern River right holders, including the City.

BAK-20  
(cont.)

The DEIR only states that “the increased flows resulting from the proposed project would be released through the Isabella Dam and flow downstream in the Lower Kern River until the water is diverted at the RRBWSD diversion points.” (2-1.)

The DEIR later provides slightly more information regarding the practical and physical components of the Project with regard to “Element 5:”

“Project Element 5 consists of coordination with the USACE, Kern River Watermaster, and the Kern River Interests to release the RRBWSD water through the Isabella Reservoir and ensure it is not diverted by others between the Isabella Reservoir and the existing diversion points in the RRBWSD service area. The RRBWSD would coordinate with the Lower Kern River Interests to address scheduling releases and computing any losses between the Isabella Reservoir and the existing RRBWSD diversion points within its service area.

BAK-21

The increased flow in the South Fork of the Kern River watershed would move downstream through Isabella Reservoir and the Isabella Dam and then into the Lower Kern River. The RRBWSD would coordinate with the Kern River Watermaster, Kern River Interests, and USACE to facilitate the movement of the water through the Isabella Dam, or alternatively, secure temporary storage of the water in the Isabella Reservoir for later release to the downstream RRBWSD service area.” (2-22, 23.)

The DEIR does not provide any additional information regarding this critical component of the Project. The DEIR in particular fails to disclose or identify the type of multi-party agreement or understanding that Rosedale would obtain in order to “coordinate” the conveyance of water into Lake Isabella, and out of Lake Isabella, and through the Kern River channel to Rosedale’s service area. The DEIR also does not explain how Rosedale would “coordinate” to schedule releases and compute any losses between Lake Isabella and Rosedale’s downstream diversion points.

The DEIR does not explain what type of “coordination” Rosedale would need to accomplish with the listed entities with regard to the transportation of water through Lake Isabella and the Kern River Channel. The DEIR does not describe which “Kern River Interests” Rosedale would need to reach an agreement or understanding with to obtain the required “coordination” of flows. The DEIR fails to explain how diversions of alleged new water

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supplies from the Project could be accommodated or coordinated with diversions by prior right holders with senior Kern River water rights.

↑  
BAK-21  
(cont.)

Rosedale indicates that “system losses” for water conveyed through the Kern River channel would have to be determined in the future. (2-22.) The DEIR, however, does not provide any specific details as to how such losses would be determined, or how the conveyance of water and calculation of losses would be coordinated or accommodated with the conveyance of water by Bakersfield and other Kern River interests below Lake Isabella. That is an important feature of the Project that would necessarily determine whether, and how, Rosedale could move water physically, and legally, through the Kern River below Lake Isabella.

BAK-22

The lack of information regarding the conveyance of water to Rosedale is significant, and indicates that the Project is premature, incomplete, and not viable. Rosedale presently has no right or ability to move Kern River water through Lake Isabella, and through the Kern River channel below Lake Isabella. Rosedale would need some sort of permission, agreement or license from the City and other Kern River interests for the use and operation of the facilities within and around the Kern River. Rosedale would also need to reach an agreement with the City, as operator and record keeper on the Kern River, recognizing that water placed in the Kern River pursuant to the Project belongs to Rosedale, and is not absorbed by other Kern River rights. Absent an agreement with the City and other Kern River water interests, any water brought into the Kern River channel by Rosedale would be considered abandoned, and would be subject to and absorbed by prior rights held by the City and other interests.

BAK-23

The limited information that is provided in the DEIR regarding the conveyance of water for the Project is incomplete and misleading. Rosedale fails to address or account for the legal and practical obstacles to the use of the Kern River channel and Lake Isabella for storage and conveyance of water. The DEIR simply assumes that Rosedale will reach an agreement with a number of disparate water right holders and users, without identifying any of the issues, and obstacles, that Rosedale would have to address through such an agreement.

Rosedale would necessarily have to displace, replace or dispose of water presently in Lake Isabella in order to hold or transport water through Lake Isabella. That would result in adverse impacts to various Kern River interests, and would require future agreements and arrangements with Kern River interests. The DEIR, however, fails to identify or discuss this critically important component of the Project, and fails to assess the impact of the Project on those agreements and arrangements.

BAK-24

The DEIR provides no indication or explanation as to how or to what extent Rosedale would attempt to avoid reducing or displacing water accruing to existing Kern River water rights, including rights held by the City. There is no explanation or indication as to the specific

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steps or measures Rosedale would take to avoid or mitigate adverse impacts on other Kern River water rights and supplies.

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BAK-24  
(cont.)

The DEIR does not identify or account for any impacts on power generation and power generation rights involving flows released from Lake Isabella, including rights held by Southern California Edison and PG&E.

BAK-25

Rosedale also does not hold or use any Kern River water rights, other than through contracts with the City, and the alleged water right described in the DEIR. Rosedale additionally cannot utilize or rely on accessing any of its contract Kern River water in connection with the Project to hold or move water through Lake Isabella. Any attempt to transport water through the Kern River channel would be subject to competing claims, needs and demands by Kern River interests and prior Kern River water right holders, including the City.

BAK-26

The claimed intent to “coordinate” the storage and conveyance of water through Lake Isabella constitutes an admission that Rosedale has no present right or ability to move water into or out of Lake Isabella. That statement does not establish that Rosedale will be able to secure any right to move water through Lake Isabella. The Project Description presents only “wishful thinking” with regard to necessary and important Project components. The Project description is therefore incomplete and invalid in its present form.

The DEIR also fails to describe how, where and for what purpose Rosedale would use water generated by the Project. It is not clear, for example, whether Rosedale would use Project water in connection with existing Rosedale projects and groundwater banking programs. It is also not clear if water generated by the Project would be used within Rosedale, or transferred, sold or exchanged for use elsewhere in Kern County or outside of Kern County.

BAK-27

An accurate, finite project description “is indispensable to an informative, legally adequate EIR.” (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192.) Without an accurate description on which to base the EIR’s analysis, CEQA’s objective of furthering public disclosure and informed environmental decision making are stymied. “An accurate project description is necessary for an intelligent evaluation of the potential environmental effects of a proposed project.” (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 730.)

BAK-28

An EIR’s project description must provide “enough information to ascertain the project’s environmentally significant effects, assess ways of mitigating them, and consider project alternatives.” (*Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523.) California courts have frequently stated that “only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal’s benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal ... and weigh other alternatives in the balance” and that “[a]n accurate, stable and finite project description is

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the sine qua non of an informative and legally sufficient EIR.” (*County of Inyo, supra*, 71 Cal.App.3d at 192-193; *Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 830.)

If a project description is incomplete or inadequate, the environmental analysis will necessarily be incomplete and inadequate. (*Laurel Heights Improvement Association v. Regents of University of California* (1988) 47 Cal.3d 376, 399-400; *San Joaquin Raptor/Wildlife Rescue Center, supra*, 27 Cal.App.4th at 729.) In *County of Amador v. El Dorado County* (1999) 76 Cal.App.4th 931, for example, the court found that an EIR for a water supply project was deficient for not providing information on historic water release schedules from storage lakes, so that parties could determine if the project would alter the historic “baseline” pattern of water releases. An accurate and complete description of a project is required under CEQA to allow for “an intelligent evaluation of the potential environmental effects of a proposed activity.” (*McQueen v. Board of Directors* (1988) 202 Cal.App.3d 1136, 1143, in which the court stated that the term “project” under CEQA “is given a broad interpretation in order to maximize protection of the environment.”)

BAK-28  
(cont.)

As a result of Rosedale’s failure to describe necessary elements of the Project, including the agreements, arrangements and procedures for the storage of water in Lake Isabella, the release of water from Lake Isabella, the transportation of water in the Kern River channel in conjunction with water accruing to existing Kern River rights, and the diversion of Project water into Rosedale’s service area, the DEIR does not and cannot review significant and inevitable Project impacts. Failure to include that such important Project details and information in the DEIR constitutes improper “piecemealing”, in violation of CEQA.

The entire project being proposed for approval must be described in the EIR. A complete project description is necessary to ensure that all of the project's environmental impacts are considered. (*City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1450.) In *County of Inyo*, for example, the court found that an EIR improperly fails to described or analyze groundwater exports because the EIR improperly sought to characterize expanding groundwater exports as a separate, ongoing project. (71 Cal.App.3d at 193.)

BAK-29

A lead agency may not split a single large project into small pieces so as to avoid environmental review of the entire project. (*Orinda Association v. Board of Supervisors* (1986) 182 Cal.App.3d 1145, 1171.) Instead, an EIR must examine all components necessary to a project, including those that will have to be approved by another agency. (*Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428.)

The description of the Project in the DEIR is therefore incomplete and deficient.

**B. The DEIR Fails to Identify, Include and Discuss Important Information Which is Necessary for a Proper Review of Project Impacts**

In addition to failing to provide necessary and important information regarding the Project components, goals and objectives, the DEIR fails to include or disclose additional data and information regarding a number of other matters which is necessary for any proper or meaningful review of the impact of the Project on the environment. The DEIR, most importantly fails to provide necessary information with regard to the operation and management of Lake Isabella and the Kern River, and the prior rights and agreements that govern and regulate the Kern River.

The Kern River is highly regulated, managed and controlled by the City and other Kern River interests. The City uses the Kern River channel to transport water supplies through various weirs, dams and other regulating structures to various diversion points on the river. The City also uses the Kern River channel and structures for recharge purposes, including to store and bank Kern River surface water in the groundwater basin for later extraction and use. In effect, every drop of water coming into the Kern River channel is owned and controlled by the City or other Kern River interests, and such ownership and control extends to recharged and stored water supplies in the groundwater basin.

The City also measures, monitors and records flows of water in the Kern River, and diversions from the river for various uses, including diversions into storage through the Kern River channel for recharge purposes. The City prepares monthly and annual summaries of the diversion and use of Kern River water for distribution to various Kern River interests.

Rosedale ignores and fails to acknowledge or account for all of these facts and circumstances. The DEIR does not identify or refer to the myriad of agreements, judgments, policies and procedures commonly referred to as “the Law of the River” that controls and impacts the diversion and use of Kern River water. The DEIR further ignores and fails to discuss the regulating structures, weirs and canals on the river, or the City’s active management and operation of such structures in connection with the Kern River.

The DEIR also fails to identify or describe any other Kern River water rights and supplies, including rights held by Bakersfield and other entities below Lake Isabella. The DEIR does not acknowledge or identify the agreements, judgments, orders, policies and practices which govern and control the conveyance of water through the Kern River channel, and the diversion and use of water from the Kern River. Without that critical information, the DEIR cannot properly review the impacts of the Project on other Kern River interests. The DEIR, moreover, improperly fails to acknowledge or identify any potential impact on the water rights and supplies of other entities, such as Bakersfield, that hold Kern River water rights or which use and rely on Kern River water supplies.

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The DEIR does not discuss or analyze the impact of the Project on the quantity and timing of flows in the Kern River below Lake Isabella. The DEIR does not attempt to explain or quantify such flows, which consequently makes it impossible to determine the impacts of the Project on such flows. The DEIR also does not describe the plant and animal life in and around the river, or the impact of the Project on such plant and animal life.

BAK-31

The DEIR fails to include or discuss information regarding uncertainties and questions with regard to Rosedale's claimed water rights, as discussed in more detail in the City's comments to the NOP for the Project. Even if Rosedale rejects the challenges and uncertainties associated with its claimed water rights, it must acknowledge such uncertainties in the DEIR. Rosedale is also required to discuss and identify potential alternate sources of water for the Project if its claimed water rights and supplies are later challenged and invalidated, or reduced in volume.

The failure to provide information regarding Rosedale's claimed new water rights, other Kern River water rights and supplies, and the use of water from the Kern River, is contrary to the intent and requirements of CEQA. The California Supreme Court has recognized that "the future water sources for a large land use project and the impacts of exploiting those sources are not the type of information that can be deferred for future analysis." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 431.) In *Vineyard*, the court explained that "future water supplies" identified and analyzed in an EIR "must bear a likelihood of actually proving available; speculative sources and unrealistic allocations ("paper water") are insufficient bases for decisionmaking under CEQA." (*Id.* at 432.) The court further explained that an EIR for a land use project "must address the impacts of likely future water sources, and the EIR's discussion must include a reasoned analysis of the circumstances affecting the likelihood of the water's availability." (*Id.*, citing *California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219, 1244.)

BAK-32

Courts have previously invalidated EIRs that did not contain sufficient information and details about water supplies proposed for use in a project, and which did not adequately discuss uncertainties associated with water supplies. (See e.g. *Planning & Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 908, fn. 5, noting that State Water Project entitlements represent nothing more than "hopes, expectations, water futures or, as the parties refer to them, 'paper water'"; *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715, 722, holding that an EIR's water supply discussion was inadequate because of its assumption that 100 percent of a party's SWP entitlement would be available; *California Oak Foundation, supra*, 133 Cal.App.4th at 1238–1239, 1244, in which the court rejected an EIR for an industrial park because the water supply analysis relied, without adequate consideration of the uncertainties of SWP supplies, on the party's purchase of 41,000 af in imported SWP water supplies.

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An EIR also cannot rely on information that is not either included or described and referenced in the document. (*Vineyard Area Citizens for Responsible Growth, Inc., supra*, 40 Cal.4th at 442.) An EIR should not be written in a way that forces readers “to sift through obscure minutiae or appendices” to find important components of the analysis. (*San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 659.)

BAK-33

**C. The Project Area Described and Studied in the DEIR is Improperly Limited and Incomplete**

The DEIR has adopted an unreasonably limited, deceptive and misleading description of the Project site, or area. The DEIR states:

“The project site is located approximately 5 miles from the eastern boundary of the Isabella Reservoir along the South Fork of the Kern River, approximately 50 miles east of the RRBWSD service area in the San Joaquin Valley. The majority of the project site, consisting of approximately 3,418 acres, is located within lands collectively known as the Onyx Ranch. The remaining approximately 691 acres are parcels within the Smith Ranch, of which the RRBWSD owns one-third interest.” (2-2.)

It is inexplicable, and a clear and obvious violation of CEQA, for Rosedale not to include its own service area in the Project site, since water generated by the Project will allegedly eventually be diverted into and used within Rosedale’s service area. The Project area should have also included Lake Isabella and the Kern River channel and corridor below Lake Isabella, as the Project involves the conveyance of water through those facilities and properties. The Project area should have also included the service areas for the Kern River interests, such as the City, that will likely experience a reduction of their Kern River surface water supplies as a result of the Project.

BAK-34

That limited Project location description is not in compliance with CEQA. The Project location must include all areas where the Project will be implemented, and where the Project will impact the environment. An EIR must consider all impacts of a project on the environment, even if the impacts would be felt by another agency. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus, supra*, 27 Cal.App.4th.) A complete project description is necessary to ensure that all of the project's environmental impacts are considered. (*City of Santee, supra*, 214 Cal.App.3d at 1454.)

As a result of the incomplete, improper description of the Project area, the review and analysis of Project impacts in the DEIR is necessarily incomplete and deficient. The Project setting and Project location must include the Kern River channel, the area in and around the Kern River channel, and Rosedale’s service area. The Project will be implemented and carried out at those locations, and the Project will have significant impacts on those areas. In particular, most of the impacts from the Project will occur within the Kern River channel as a result of the



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Project’s proposed conveyance of water through the channel, which would occur at same time as, and potentially in conflict with, water moved through the channel by the City or by the City on behalf of other Kern River interests. Project impacts will additionally primarily be realized within the boundaries of Rosedale, where water generated and transported pursuant to the Project would eventually be put to use.

BAK-34  
(cont.)

**D. The DEIR’s Discussion of Project Impacts is Incomplete, Misleading and Erroneous**

As a direct and obvious result of the DEIR’s incomplete Project description, missing data and information, and limited and restricted Project area, the review and discussion of Project impacts in the DEIR is incomplete, deficient and not in compliance with CEQA requirements.

The DEIR does not and cannot properly and completely review Project impacts without proper identification and discussion of important Project components, starting with the details and information involving the storage of Project water in Lake Isabella, the release of Project water from Lake Isabella, and the conveyance of Project water through the Kern River channel to the Rosedale service area. The DEIR additionally does not and cannot completely assess Project impacts without considering impacts within Rosedale, and within the service areas of Kern River interests that will be impacted by the Project through a reduction in their surface water supplies.

The DEIR also fails to properly identify and study Project impacts because it arbitrarily and improperly limits the Project Area to the Kern River Valley, and fails to include Lake Isabella, and the areas below Lake Isabella in the Project Area. The DEIR therefore improperly concludes that the Project will not result in any significant impacts on a number of resources, based on its failure to consider Project impacts below Lake Isabella. The DEIR also understates a number of other Project impacts by limiting its consideration of impacts to the Kern River Valley.

BAK-35

An EIR must describe and analyze the significant environmental effects of a project, and discuss ways of mitigating or avoiding those effects. (14 Cal. Code Regs. § 15362.) Among other things, an EIR must identify direct, indirect and long-term environmental effects, and cumulative impacts. (14 Cal. Code Regs. §§ 15126(a), 15130.) An EIR must provide public agencies, and the public in general, with detailed information about the effects a proposed project is likely to have on the environment. (Pub. Res. Code §§ 21060.5, 21061; *Environmental Planning and Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 354.)

An EIR must be prepared with a sufficient degree of analysis to provide decision-makers with the information needed to make an intelligent judgment concerning a project’s environmental impacts. (14 Cal. Code Regs. §15151; *Napa Citizens for Honest Government v. Napa County Board of Supervisors* (2001) 91 Cal.App.4th 342, 356.) An EIR should, when

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looked at as a whole, provide a reasonable, good faith disclosure and analysis of the project’s environmental impacts. (*Laurel Heights Improvement Assn., supra*, 47 Cal.3d at 392.)



The entire DEIR is fundamentally flawed because it fails to discuss, recognize or account for the fact that the Project will necessarily result in a decrease in water supplies for the City, and other entities that use and rely on Kern River surface supplies, and banked Kern River supplies. Consequently the DEIR fails to properly assess or review Project impacts, including impacts on local water supplies, fails to inform the public of the impacts resulting from the Project, and fails as a CEQA document.

BAK-35  
(cont.)

The Kern River, and Lake Isabella, contain a finite amount of water. Water in Lake Isabella, and in the Kern River following release of the water from Lake Isabella, is the property of the Kern River interests. Although the Kern River also contains certain quantities of unappropriated high flow water and unappropriated water forfeited by a senior right holder, the Kern Delta Water District, that unappropriated water is also subject to competing claims before the State Water Resources Control Board, and is currently being diverted and used by various Kern River interests.

BAK-36

The Project would not practically increase the quantities of water in Lake Isabella and the Kern River channel, but would instead necessarily displace and replace water subject to senior rights and claims. The Project would therefore reduce the quantity of Kern River water available for use by the City and other Kern River interests. The loss of such water supplies would necessarily result in adverse impacts to the local groundwater basin through a loss of valuable surface water supplies. The Project would lead to a decrease in the quantity of water available for groundwater recharge, and would further deplete groundwater resources through increased groundwater pumping to replace lost surface water supplies. It is inexcusable, and a clear violation of CEQA, for the DEIR not to acknowledge or review those significant and adverse impacts on the City, the Kern River, the local groundwater basin, and the environment in and around the Kern River.

BAK-37

In addition, any attempt to move water through Lake Isabella and the Kern River channel would adversely impact the City’s prior water rights and supplies. The transportation of water pursuant to the Project would necessarily displace or replace water which would otherwise be diverted by the City. The supply of water available for use by the City for a number of beneficial uses, including direct diversion to water treatment plants and groundwater recharge and banking in the Kern River channel, would necessarily be reduced and adversely impacted. A reduction of the supply of Kern River water available to the City would also cause significant secondary and cumulative adverse impacts, including a decline in groundwater levels in the region, and increased pumping and reliance on groundwater supplies.

BAK-38

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The Project would accordingly violate Water Code Section 1706, which provides that a party holding pre-1914 water rights may only “change the point of diversion, place of use, or purpose of use if others are not injured by such change.” Based on the potential injury to the City, it is unlikely that the Project could be implemented as proposed by Rosedale.

BAK-39

Despite these significant, far reaching changes, the DEIR presents a very limited, narrow and incomplete analysis of the Project’s impacts, only considering limited, project-specific impacts. In particular, the DEIR fails to consider the overall impact on the local environment, including the Kern River, flows of water in the river, and the environment in and around the river. The DEIR also fails to sufficiently consider or analyze the impacts of the Project on the local groundwater basin and water supply, including impacts that would result from the transfer of water from Kern River interests to Rosedale.

BAK-40

Despite such obvious and apparent impacts and changes to the river, the DEIR only discusses or focuses on very narrow and limited impacts to the Kern River from the Project. The DEIR also improperly, and without sufficient supporting evidence or explanation, dismisses any impacts on the Kern River from the Project as “less than significant.”

BAK-41

The DEIR is also deficient because to the extent it does attempt to review the impacts of the Project on the environment, it dismisses or minimizes a number of potential impacts to the environment without explanation, based on the limited Project area and incomplete Project description, and based on unsupported or unexplained conclusions. In particular, due to the limited Project area and incomplete Project description, the DEIR fails to properly or sufficiently consider and review impacts from the Project on aesthetics, agriculture, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, population and development, tribal cultural resources and utilities, service systems and energy.

BAK-42

The DEIR’s unexplained conclusions regarding Project impacts does not comply with CEQA, as a bare conclusion without an explanation of the factual and legal basis is not a sufficient analysis of an environmental impact. (*Laurel Heights Improvement Assn., supra*, 47 Cal.3d at 404.) The discussion of environmental impacts must instead contain an explanation of the reasoning supporting the EIR’s impact findings, and the supporting evidence. (*Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383.)

BAK-43

California courts have frequently invalidated environmental review documents for failing to adequately review the impact of a project on a local water supply or source. (*See Napa Citizens for Honest Government, supra*, 91 Cal.App.4th at 386, rejecting an EIR for failing to provide sufficient information on the effect a project would have on a region’s water supply and the need for treatment of wastewater; *County of Amador, supra*, 76 Cal.App.4th at 948, setting aside an EIR for a new water diversion for failing to “adequately assess the project's impacts on



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fishery resources and lake levels;” *Friends of the Santa Clara River v. Castaic Lake Water Agency* (2002) 95 Cal.App.4th 1373, finding an EIR for the acquisition of supplemental state water pursuant to the Monterey Agreement deficient for failing to completely assess the impacts of the water transfer.)

In *Citizens to Preserve the Ojai v. City of Ventura* (1985) 176 Cal.App.3d 421, 432, the court concluded that if a precise technical analysis of environmental impacts is not practical, the lead agency must still make a reasonable effort to pursue a less detailed analysis. When it is difficult to forecast future actions, an EIR must still base its analysis on reasonable assumptions. (*State Water Resources Control Board Cases* (2006) 136 Cal.App.4th 674, 797.) When uncertain future events could lead to a range of possible outcomes, an EIR should base its analysis on a reasonable “worst-case” scenario. (*Planning and Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, 244.)

BAK-43  
(cont.)

**E. The DEIR Fails to Disclose or Discuss the Significant Questions, Uncertainties and Challenges to Rosedale’s Claimed Water Rights, and Rosedale’s Right and Ability to Change the Place of Use and Type of Use of its Claimed Water Rights**

The DEIR must also identify and discuss “areas of controversy” known to the parties. (14 Cal. Code Regs. §15123.) At pages 1-7 and 1-8, the DEIR lists “areas of controversy and issues of concern” which were identified in “comments made during the 30-day public review period in response to information published in the NOP and Initial Study.”

Despite that claim, the DEIR fails to identify the most significant “areas of controversy and issues of concern” with regard to the Project; the uncertainty over the existence and extent of the water rights Rosedale seeks to develop and utilize in connection with the Project. The City raised and identified a number of specific concerns with regard to Rosedale’s claimed water rights in its comments to the NOP. Rosedale’s failure to identify and assess the disputes and questions surrounding the water rights is a fatal, material failure which, by itself, calls for amendment, correction, and recirculation of the DEIR.

BAK-44

In its NOP comments, the City also explained that the Project likely violated Water Code Section 1706, as Rosedale’s proposed change in the point of diversion and place of use of claimed “pre-1914” appropriative water rights would cause injury to the City and other Kern River Interests. Rosedale should have identified that issue in this section of the DEIR.

The DEIR also fails to acknowledge prior disputes among the Kern River interests and other local water districts, including Rosedale, which could impact Rosedale’s ability to implement the Project or to transport water developed through the Project. Rosedale, for example, has been involved in litigation with its neighboring water districts with regard to Rosedale’s groundwater pumping and use. The DEIR should have identified and discussed those

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disputes, and considered the impact of the Project on such disputes, and the issues arising from such disputes.

The DEIR also fails to identify and discuss opposition to the Project from residents in the Kern River Valley. Local residents have recently made posts on Facebook opposing the Project (See Kern River Valley News & Community Info site for comments). At the very least, Rosedale should have summarized and discussed the mounting opposition to the Project from neighbors and residents of the Kern River Valley, and the grounds for such opposition.

Rosedale’s listing of areas of controversy and issues of concern, with no further explanation or information, is not in compliance with CEQA requirements. Even if Rosedale disagrees with various objections to and complaints about the Project, the environmental documentation must still summarize the main points of disagreement regarding controversies and issues of concern. (14 Cal. Code Regs. § 15151; *Browning-Ferris Indus. v. City Council* (1986) 181 Cal.App.3d 852.) An agency may choose among differing opinions or conclusions as long as the EIR identifies the competing arguments correctly and in a responsive manner. (*Browning-Ferris Indus.*, *supra*, 181 Cal.App.3d at 863.)

BAK-44  
(cont.)

**F. The DEIR Fails to Identify Baseline Conditions in Lake Isabella, the Kern River, and the Areas that Will be Impacted by the Project**

An EIR must describe the environmental setting for a proposed project, to establish the “baseline” that a lead agency uses to determine whether project impacts are significant. (14 Cal. Code Regs. § 15125.) Specifically, the EIR must describe “the physical environmental conditions in the vicinity of the project.” (*Id.*) The description of physical and environmental conditions must include both a local and regional perspective. (*Id.*)

Establishment of the baseline is critical to a meaningful assessment of the environmental impacts of a project, because the significance of environmental impacts cannot be determined without setting the baseline. (*Save Our Peninsula Committee v. Monterey County Board of Supervisors* (2001) 87 Cal.App.4th 99, 119.) The description should place special emphasis on environmental resources that are rare or unique to the region and that would be affected by the project. (14 Cal. Code Regs. § 15125(a); *San Joaquin Raptor/Wildlife Rescue Center, supra*, 27 Cal.App.4th at 722.)

BAK-45

The DEIR fails to meet these standards, as it does not set forth a clear or comprehensive description of baseline conditions surrounding Lake Isabella, the Kern River, the diversion and use of water from the River, the local groundwater basin, or irrigation and agricultural operations within Rosedale, or within the service areas of the City and other Kern River interests that will be impacted by the Project.

At the very least, the DEIR should have described current flow conditions in the Kern River, the environment in and around the river, and the timing and frequency of diversions from the river. Absent such information, the DEIR cannot possibly, properly or completely assess the impact of a Project that involves the conveyance of an alleged new water supply through Lake Isabella and the Kern River channel.

BAK-45  
(cont.)

The DEIR also fails to completely or accurately describe baseline conditions within Rosedale, especially with regard to Rosedale’s water rights and diversion and use of water. The DEIR does not describe in any detail water supply and use information within Rosedale, or groundwater conditions within Rosedale, and the DEIR consequently fails to properly consider Project impacts within Rosedale.

**G. The DEIR does not Sufficiently or Adequately Identify and Discuss Related Projects and Cumulative Impacts**

The DEIR’s discussion of the cumulative impacts of the Project, in connection with other, similar projects in the region, is inadequate and incomplete.

An EIR must evaluate significant cumulative impacts, based on an assessment of the project’s incremental effects “viewed in connection with the effects of past projects, the effect of other current projects, and the effects of probable future projects.” (14 Cal. Code Regs. §§ 15130(a), 15065(c).) An adequate cumulative analysis requires a list of projects producing related or cumulative impacts. (14 Cal. Code Regs. § 15130(b)(1).) In formulating those projects to be considered and each cumulative analysis, the lead agency has “a duty to interpret the guidelines so as to afford the fullest possible protection to the environment.” (*San Franciscans for Reasonable Growth v. City and County of San Francisco* (1984) 151 Cal.App.3d 61, 74.) An EIR is further required to assess the cumulative impact of the project on not just related existing projects, but also “probable future projects.” (14 Cal. Code Regs. § 15130(b)(1)(A).)

BAK-46

In *Citizens to Preserve the Ojai*, the court stated that “it is vitally important that an EIR avoid minimizing the cumulative impacts. Rather, it must reflect a conscientious effort to provide public agencies and the general public with adequate and relevant detailed information about them.” (176 Cal.App.3d at 431.) The court therein further stated: “A cumulative impact analysis which understates information concerning the severity and significance of cumulative impacts impedes meaningful public discussion and skews the decision maker’s perspective concerning the environmental consequences of the project, the necessity for mitigation measures, and the appropriateness of project approval.” (*Id.*)

Despite this authority and policy, the DEIR provides a very limited, incomplete description of “related projects that would have similar impacts.” (3-6.) The list of related projects considered in the cumulative impact analysis in Table 3-2 is too limited, and excludes a

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number of additional projects that could result in cumulative effects and impacts when combined with the effects of the Project. (3-7, 8.) Again, the shift in water supplies away from the City and other Kern River interests could result in significant adverse impacts on local water supplies, and groundwater recharge and extraction.

To comply with CEQA, Rosedale should have listed and considered the cumulative impacts of the Project on all other entities in the region that divert and use Kern River water, including the City, as well as all other “projects” proposed or undertaken by those entities that involve the diversion and use of Kern River water. Rosedale’s intention to transport between 2,000 and 12,000 acre-feet of water per year would have direct and immediate impacts on diversions by the other entities that use Kern River water. Rosedale must identify and describe those other projects in order to properly assess the impacts, including cumulative impacts, resulting from the Project.

The related projects considered in connection with cumulative impacts must therefore include all water banking projects within the San Joaquin Valley portion of Kern County, including the City’s 2800 Acre recharge project, the Pioneer Project, the Kern Water Bank, and water banking projects within various other Kern County water districts. The Project could also impact a number of water supply and water conveyance projects within Kern County, including new and planned projects identified in Groundwater Sustainability Plans (“GSPs”) prepared on behalf of the Kern River Groundwater Sustainability Agency (“KRGSA”), the Kern Groundwater Authority Groundwater Sustainability Agency (“KGA”), and other local Groundwater Sustainability Agencies (“GSAs”). The DEIR should have considered the cumulative impact of Rosedale’s increased recharge and use of water when combined with those existing projects.

An EIR’s cumulative impacts analysis must include future aspects of the project that are reasonably foreseeable consequences of project approval. (*Del Mar Terrace Conservancy, Inc. v. City Council* (1992) 10 Cal.App.4th 712, 738.) The DEIR does not comply with that requirement, as the DEIR fails to discuss the probable future aspects and impacts of the Project, including the loss of Kern River water to the region, decreases in Kern River flows and water available for diversion, decreases in groundwater resulting from a potential decrease in recharge, and adverse water quality impacts.

The DEIR’s discussion of cumulative impacts arising from the Project, and in connection with other, similar projects in the region, is therefore inadequate and incomplete. In *Whitman v. Board of Supervisors* (1979) 88 Cal.App.3d 397, 408, the court noted that the full environmental impact of a project “cannot be gauged in a vacuum.” Instead, the DEIR must provide a list of projects producing related or cumulative impacts, a brief summary of the expected environmental impacts to be produced by the projects and a reasonable analysis of the combined or cumulative impacts of all the projects. (*Id.* at 409.) The court in *Whitman* found that the

BAK-46  
(cont.)

cumulative impact section of the EIR did not comply with the statutory authority because it “lacks even a minimal degree of specificity or detail.” (*Id.* at 411.)

Despite this authority and policy, the DEIR provides a very limited, incomplete description of “related projects that would have similar impacts.” (DEIR, Chapter 5.) The DEIR violates CEQA requirements by only providing a limited consideration of the impacts of the Project “in a vacuum,” without consideration of other, related projects that will increase the severity of impacts associated with the Project.

BAK-46  
(cont.)

**H. The DEIR does not Properly or Sufficiently Consider Alternatives to the Project, Including the No Project Alternative**

An EIR must consider the full range of alternatives for meeting the goals of a particular program, and inform the decision makers as to the various issues associated with those alternatives. It is the policy of this state to require governmental agencies at all levels to consider alternatives to proposed actions affecting the environment. (Pub. Res. Code § 21001(d).) Even if a project proponent has rejected various alternatives, “an EIR must explain why each suggested alternative either does not satisfy the goals of the proposed project, does not offer substantial environmental advantages, or cannot be accomplished.” (*San Joaquin Raptor/Wildlife Rescue Center, supra*, 27 Cal.App.4th at 737.)

An EIR must “describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.” (14 Cal. Code Regs. § 15126.6(a).) It must contain “sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project.” (14 Cal. Code Regs. § 15126.6(d).)

BAK-47

There is no indication in the DEIR that Rosedale considered actual, practical or meaningful alternatives to the Project, including alternate sources of supply, such as State Water Project water, reclaimed waste water, or water purchased from the City. The DEIR also fails to indicate that Rosedale has considered alternatives, such as conservation, designed to reduce its water demands or to satisfy the alleged “unmet irrigation demands” and therefore reduce its need for the Project. Similarly, there is no indication that Rosedale actually or properly considered the “no project” alternative, as required by CEQA.

Accordingly, the DEIR is clearly deficient for failing to consider reasonable, valid alternatives to the conveyance and diversion of between 2,000 and 12,000 acre-feet of a purported new water supply through Lake Isabella and the Kern River channel to Rosedale, including through the use of alternative sources and supplies of water, and through less convoluted and controversial projects and options. In *Watsonville Pilots Association v. City of Watsonville* (2010) 183 Cal.App.4th 1059, 1087, the court similarly found that an EIR for a

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Rosedale-Rio Bravo Water Storage District  
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city’s new general plan did not comply with CEQA by only including alternates with the same level of increased development as the proposed plan, without considering any reduced development alternatives.

It certainly appears possible, and reasonable, that a combination of additional recycled water supplies, water conservation, more efficient irrigation methods, and additional alternate water supplies would serve as a complete, viable and environmentally superior alternative to the Project. The DEIR’s failure to consider such alternatives constitutes a direct and clear violation of CEQA. (See e.g. *Laurel Heights Improvement Assn.*, supra, 47 Cal.3d at 403, in which the court stated that an EIR was inadequate because the consideration of alternatives was “cursory at best.”) Among other things, the EIR listed and rejected alternatives without providing “a factual informational underpinning for the conclusory statement[s].” (*Id.*)

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(cont.)

**I. Rosedale Improperly Committed to the Project in Advance of CEQA Review and Without Properly Considering Alternatives**

Rosedale appears to have violated CEQA by committing itself to the Project and deciding on a definite course of action with regard to the Project, prior to preparation of the DEIR. Rosedale has therefore practically and effectively precluded any alternatives to the Project in advance of and independent of the requirements of CEQA.

Rosedale’s failure to adequately consider alternatives to the Project also confirms that it violated the fundamental requirement of CEQA, as discussed in *Save Tara v. City of West Hollywood* (2008) 45 Cal.4th 116, that a public agency cannot commit to or decide on a specific course of action for a project until it has subjected the proposed project to proper CEQA review.

BAK-48

In *Save Tara*, the court explained that “before conducting CEQA review, agencies must not ‘take any action’ that significantly furthers a project ‘in a manner that forecloses alternatives or mitigation measures that would ordinarily be part of CEQA review of that public project.’” (45 Cal.4th at 138; see also 14 Cal. Code Regs. § 15004(b)(2)(B).) The court in *Save Tara* further explained that courts should look “to the surrounding circumstances to determine whether, as a practical matter, the agency has committed itself to the project as a whole or to any particular features, so as to effectively preclude any alternatives or mitigation measures that CEQA would otherwise require to be considered, including the alternative of not going forward with the project.” (45 Cal.4th at 139.)

It is apparent that Rosedale violated this authority when it made the decision, well before preparation of the DEIR, to obtain the Onyx Ranch property with the sole goal and purpose of stripping the property of its water rights and transferring the water far from its source and origin. The decision to “create” water supplies from the Onyx and Smith Ranch properties for transfer to Rosedale was set in stone and agreed to well before Rosedale instituted the current CEQA review process. Rosedale’s unequivocal decision to purchase the property effectively precluded

any consideration of water supply alternatives, and indicates that Rosedale’s CEQA review is nothing but a sham process intended to shield and rubberstamp Rosedale’s transfer of water downstream to its service area.

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**3. COMMENTS TO SPECIFIC PORTIONS OF THE DEIR**

Bakersfield has the following additional comments, questions, and concerns regarding the DEIR and the Project. These comments do not constitute or represent all of the City’s objections to and concerns with the DEIR and the Project, or to the adequacy of Rosedale’s compliance with CEQA. The City reserves the right to supplement these comments, in the future, and the City reserves the right to submit substantive objections to the Project.

BAK-49

- The DEIR should describe and account for pending applications to the California State Water Resources Control Board to appropriate Kern River water, including Rosedale’s application, and the impact of the Project on those applications. That information is certainly relevant to Rosedale’s vague and incomplete plan to transport Project water through the Kern River channel.
- The DEIR states: “The proposed project’s change in point of diversion method is consistent with how the other “Kern River Interests” (including the Buena Vista Water Storage District, North Kern Water District, Kern Delta Water District, City of Bakersfield, Henry Miller Water District, and Kern County Water Agency) manage their respective Kern River pre-1914 water rights. This includes their use of changes in points of diversion and place of use in order for those agencies to manage and maximize their water supply benefits in Kern County.” (ES-2.)

That statement is incorrect, and misleading. All of the referenced entities use Kern River water within historic service areas, and do not and have not changed the point of diversion and place of use of their water supplies, subject only to rare exceptions. The North Kern Water Storage District (“North Kern”), for example, only diverts and uses Kern River water pursuant to agreements with the City, and those agreements expressly require North Kern to only use Kern River supplies provided by the City within its boundaries.

BAK-50

In addition, the actions of other entities does not affect or excuse Rosedale’s need to comply with Water Code Section 1706 in order to change its point of diversion and place of use for its claimed water rights. Even if various Kern River interests had previously changed their point of diversion or place of use of their supplies, Rosedale would still need to independently and separately comply with Water Code Section 1706.

- One of the primary assumptions underlying the Project involves increased flows in the South Fork of the Kern River (*See* 1-1). There is no evidence, however, that increased flows in the South Fork of the Kern River will actually increase the available supply of Kern River water further downstream, or increase flows of water into Lake Isabella over historic levels. Rosedale does not provide any data from calibrated or otherwise river gauging stations directly above or directly below the Project properties. The DEIR fails to provide any information regarding the impact of alleged increased flows on quantities stored in and released from Lake Isabella. BAK-51
- “Currently, the RRBWSD service area contains approximately 44,000 acres of land, of which approximately 27,500 acres are utilized for irrigated agriculture and approximately 7,500 acres are developed for residential, commercial, and industrial uses.” (1-2.) Because of that urban development, the Project could cause impacts to population growth, but the DEIR fails to identify or consider such impacts. BAK-52
- The DEIR states: “The urban development is primarily located in the eastern end of the RRBWSD’s service area and is anticipated to increase as the City of Bakersfield develops to the west.” (1-2.) The DEIR fails to account for the fact that as development by the City increases within Rosedale’s service area, Rosedale’s water demands will decrease because the City provides water directly to urbanized lands within Rosedale. Rosedale should have also addressed the fact that its future reduced demand for water will offset and obviate the need and purpose for the Project. BAK-53
- The DEIR states: “The analysis of the proposed project uses a method that conservatively accounts for the quantity of pre-1914 appropriative rights and the available water supply that can be moved downstream as a result of the proposed project, without injury to other water right holders. This conservative method is not intended to quantify the full extent of the pre-1914 appropriative rights associated with the Onyx Ranch or Smith Ranch.” (1-5.) The DEIR does not explain why it elected to use a “conservative” method to quantify its claimed rights. That methodology also implies some dispute or uncertainty over the extent and yield of rights, yet the DEIR does not disclose or review such uncertainty over the pre-1914 rights. BAK-54
- “Flow in the South Fork is measured at the U.S. Geological Survey (USGS) Onyx Gage Station 11189500 located at the upper end of the South Fork Valley upstream of the project site. During 2005 to 2017, the South Fork had an annual average flow of approximately 88,440 acre-feet, with a maximum of 292,062 acre-feet in 2017 and minimum of 6,385 acre-feet in 2015 (Thomas Harder & Company.,” ( 2-8.) The DEIR should have reviewed and considered older flow BAK-55

and diversion records and information, including data on flows going back further than 2005. Rosedale claims it holds “pre-1914” appropriative water rights, and it is important to document and provide evidence of prior historic use to establish any claim to the right or to the extent of the right. The limited time period used for the flow calculation also does not convey or represent the actual historic use of the claimed water rights, or the actual remaining amount of the claimed rights, if any, available for use by Rosedale.

BAK-55  
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- Bakersfield questions the accuracy of the data reported at page 2-8. In 2015, the USGS Onyx Gage Station measured 4,300 acre-feet for the calendar year, not 6,385 acre-feet, as noted in the DEIR. In 2015, the USGS Onyx Gage Station measured 282,500 acre-feet for the calendar year, not 292,062 acre-feet, as noted in the DEIR.

BAK-56

- “The Isabella Reservoir consists of 11,499 acres (45 square kilometers) and has a design capacity of 568,000 acre-feet.” (2-9.) That is misleading, because due to safety concerns and dam improvements, actual reservoir capacity has been significantly reduced within the past few years. The lack of accurate or complete information calls into question the review and analysis of Project impacts.

BAK-57

- “The Kern River Watermaster prepares and keeps daily records on the flow of the waters of the Upper Kern River and the storage and release of surface water to the Lower Kern River from the Isabella Reservoir for deliveries to water right holders in the San Joaquin Valley as coordinated by the City of Bakersfield Water Resources Department.” (2-9.) That statement is not entirely accurate. The City prepares and keeps daily records of flows and storage and releases from Isabella reservoir, with some minimal supervision and collaboration by the Watermaster.

BAK-58

- “The water rights of the South Fork of the Kern River are associated with the landholdings upstream of the Isabella Reservoir. The majority, but not all, of the South Fork water rights were quantified in a 1902 Arbitration Decree (1902 Decree) that resolved water rights disputes between various diverters on the South Fork.” (2-10.) Rosedale’s apparent reliance on the 1902 decree does not take into account later challenges to the claimed water rights, changes in the quantity of water used, or later reductions in the use of the claimed water rights.

BAK-59

- Throughout the DEIR, Rosedale refers to information from only the 2009 to 2017 time period. That is misleading and incomplete information. To properly and accurately describe the Project, the Project setting, and impacts from the Project, the DEIR should have used and considered broader, older, and more expansive information. There is no indication that older information was not available or reliable. The lack of older and more complete information is particularly concerning and problematic for information in the DEIR on water diversion and

BAK-60

use, and flow information. Water rights, particularly the pre-1914 appropriative rights referenced throughout the DEIR, are based on and tied to historic use, and such historic use defines and determines the existence and extent of the rights. Only using water flow, diversion and use information from 2009 to 2017 creates an incomplete, false and misleading assessment of the existence and extent of the claimed water rights. The DEIR should have used and considered older data and information regarding the diversion and use of water connected to the Onyx Ranch property.

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- Table 2-1 at page 2-14, “provides a summary of the crops that have been historically grown on the Onyx Ranch portion of the project site between 2009 and 2017.” Rosedale could have, and should have, identified and considered crops grown on the property prior to 2009, and historically, in order to properly identify and depict the quantities of water used on the property historically.

BAK-61

- “The majority of the water rights for the proposed project were quantified in a 1902 Arbitration Decree (1902 Decree) that resolved water rights disputes between various diverters on the South Fork. The balance of the pre-1914 rights involved in the proposed project are evidenced in other historic documents and chains of title for the RRBWSD property in the South Fork Valley.” (2-16.) Rosedale should have provided more information regarding the purported evidence for such historic rights, including any evidence that demonstrates a pattern or history of use of the claimed rights following the 1902 decree.

BAK-62

- The DEIR does not provide sufficient information about the extent of the historic diversion and use of water pursuant to the rights. That information, instead of the 1902 decree, will determine and evidence the actual extent, quantity and viability of those water rights.

BAK-63

- The DEIR provides information on the current point of diversion for the Project, yet fails to provide any relevant or helpful information on the proposed new point, or points, of diversion for the water within Rosedale. (2-15.) It is not apparent from the DEIR how Rosedale will actually divert the new water from the Kern River, and where the diversions will take place.

BAK-64

- “The Boone Field has riparian rights with an 1882 priority date. The riparian rights for the Boone Field cannot be transferred. However, the RRBWSD could reduce water diversions under the Boone riparian right to make more water available for appropriative rights junior to 1882, such as the 33rd water right under the 1902 Decree.” (2-16.) We question whether riparian rights are still viable or valid, and whether Rosedale can try to create appropriative rights to that water based on reduced diversions. Rosedale would need to provide consistent water diversion and use data since 1882 to determine if riparian rights still exist

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on the property, and the extent of the rights, and whether curtailment of diversions and use could create new water supplies available for diversion and use and transfer downstream to Rosedale’s service area.

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- “Table 2-2 provides the priorities, priority dates, and the decreed water right quantities associated with the project site based on the pre-1914 appropriative rights on the South Fork of the Kern River.” (2-16). That chart is misleading and incomplete without water use information since the purported “priority date” for the various water rights, and without identifying or addressing questions and challenges to the claimed water rights.

BAK-66

- The section addressing the “Quantity of Surface Water Involved in the Proposed Project” (2-17) describes a “three-step process” to determine the amount of water available for the Project. That is not a valid process without underlying data and information regarding the existence, extent and quantity of rights, based on historic use. The process is also invalid and incomplete for not factoring in or accounting for the availability of capacity in Lake Isabella and in the Kern River channel below Lake Isabella.

BAK-67

- At page 2-18, Table 2-3 depicts Kern River diversions to Onyx Ranch from 2009 to 2017, and the DEIR uses that information to calculate a “typical water demand.” (2-19.) That calculation is incomplete and of questionable accuracy and utility, however, without historic diversion information for a longer period of time than just the past 10 years. The DEIR should have identified and considered diversions from years prior to 2009.

BAK-68

- “To accomplish the project objectives, the proposed Project involves changing the points of diversion and place of use for the RRBWSD’s pre-1914 appropriative surface water rights in the South Fork of the Kern River from the project site to the RRBWSD diversion point on the San Joaquin Valley floor. The proposed changes would allow water to flow past the project site (Onyx and Smith Ranches), resulting in a net increase in surface flows within the South Fork of the Kern River and the Isabella Reservoir. The increased amount of water accumulated in the Isabella Reservoir would be released through the Isabella Dam and flow downstream in the Lower Kern River.” (2-19, 2-20.) That description assumes the existence of net increase of surface flows “within” and an “increased amount of water accumulated” in Isabella Reservoir. But there is no evidence, explanation or data to support those assumptions. The DEIR also fails to account for uncertainties and questions regarding claimed increased quantities of water in Lake Isabella. Most importantly, Rosedale has no right to store water in Lake Isabella. All water in Lake Isabella is owned and held by parties to various agreements, including agreements involving the federal government. Rosedale would have to obtain some storage right, or an agreement to share storage

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capacity with one of the parties with storage rights, in order to implement the Project. Absent that information, the analysis in the DEIR is incomplete and not in compliance with CEQA.

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- The DEIR fails to account for dry year conditions, when there is not enough water flowing in the Kern River to satisfy all but the most senior Kern River rights. It is not clear, for example, if water generated by the Project could still be transported in the Kern River channel when there is little water flowing in the river, and the water that is in the river is subject to claims by senior right holders. The City also calculates the “Natural Flow” of the Kern River at First Point in determining the allocation of water pursuant to the 1900 “Shaw Decree” and other rights, considerations and interest. The DEIR does not describe how the purported “new water” generated by the Project would factor into those calculations.

BAK-70

- “Project Element 1 consists of the collection of surface flow diversion data for the South Fork of the Kern River and the preparation of data records for use by downstream water right holders. Coordination of surface flow diversions among the water right holders is a necessity to ensure good water management and preclude water rights disputes based on erroneous or no information.” (2-20.) The DEIR later states: “In addition, more frequent coordination with the Kern River Watermaster and City of Bakersfield Water Department would occur.” (*Id.*) The DEIR needs to explain how diversions would be “coordinated,” and how Rosedale would “preclude water rights disputes.” The DEIR provides no explanation of how coordination would occur, how prior and senior rights would be protected and not reduced or adversely impacted. Absent those details, it is not possible to determine impacts from the Project and from the diversion of water downstream of Lake Isabella by Rosedale pursuant to the Project.

BAK-71

- “Project Element 2 consists of the collection of groundwater pumping data and the preparation of data records for use by the water right holders. Coordination of groundwater data among the water right holders is a necessity to ensure good groundwater management and to preclude water rights disputes based on erroneous or lack of information.” (2-20, 2-21.) The DEIR provides no information about potential “water rights disputes” for Project Element 2, who would be involved, what the disputes would involve, or how those disputes would impact the Project.

BAK-72

- For Project Element 3, the DEIR states: “Project Element 3 consists of the collection of groundwater level and water quality data. Coordination of data about groundwater level and water quality among the water right holders is a necessity to ensure good groundwater management and to preclude water rights disputes based on erroneous or lack of information.” (2-21.) Those statements are vague and unclear. It is not clear which “water right holders” it refers to. It is not clear

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if the DEIR is referring to data relating to the Onyx Ranch area, Rosedale’s service area, the service area of various Kern River interests, or some other area. It is also not clear what the DEIR means by “coordination,” or how coordination would “preclude water rights disputes.”

BAK-73  
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- “The calibrated model for the period is January 2005 to December 2017. For this 13-year period, the model shows that reducing 94,452 acre-feet per year of previous net diversions to the project site results in 78,183 acre-feet per year more water in the Isabella Reservoir, without impacting other reservoir storage amounts. Said differently, over the 13-year period, a modeled comparison of the existing condition and the proposed project shows that 83 percent of re-directed flows (from pre-project surface water diversions) goes into and can be released out of Isabella Reservoir as new water below the Isabella Reservoir without injury to other legal users. On an average annual basis, the model shows that an average of 7,265 net acre-feet per year of redirected flows from the Onyx Ranch and the Smith Ranch results in an average of 6,014 net acre-feet per year of new water in the Isabella Reservoir.” (2-22.) These conclusions are suspect because of the limited data cited and relied on in the DEIR. The DEIR should have looked at actual diversions and flow information, and South Fork flows into Isabella, for a longer period of time, instead using a “model” which relies on incomplete and limited information.
- Rosedale bought the Onyx Ranch property in 2013, and the Smith Ranch property in 2015. The DEIR should have discussed efforts to obtain historic, older flow and diversion information relating to the properties, and should have relied on more than exaggerated flow records submitted to the SWRCB.
- The DEIR’s reliance on very limited flow and diversion data from 2005 to 2017 to calculate average annual flows and diversions is suspect and unreliable because that data includes the driest Kern River flows on record (2015) and the fourth wettest runoff year (2017) experienced in the over 120 year history of record keeping on the river.
- The DEIR should have used the USACOE daily Lake Isabella flow records to calculate prior daily flows in “cubic feet per second” (cfs), which data would more accurately depict quantities of water actually available to Rosedale through the Project.
- The DEIR does not describe how seepage in the Kern River channel, evaporation in Lake Isabella and other conveyance losses will impact the Project water that Rosedale would try to transfer through Lake Isabella and downstream to its service area. Such conveyance losses in drier years could absorb all or most of

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the water generated by the Project, and the DEIR should have addressed that issue, and considered potential impacts from such conveyance losses.

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- Project element 4 consists of an estimation of the amount of “new” water which Rosedale claims will flow into Lake Isabella as a result of the Project. (2-21, 22.) From a practical and legal standpoint, reducing diversions does not necessarily create additional or new water supplies that the diverter can then transfer downstream to itself or another diverter. Instead, water not diverted by an upstream appropriate becomes subject to diversion and use by other downstream diverters, and those entities typically gain rights to and ownership of the additional water allegedly created by reduced diversions. In addition, any and all water that flows into Lake Isabella, no matter the amount becomes the property of the entities that hold water rights, and storage rights, in Lake Isabella.

BAK-79

- The DEIR should account for and describe all potential “end uses” for water generated by the Project, including any potential transfers or exchanges of such new water supplies with other districts and entities.

BAK-80

- “Project Element 5 consists of coordination with the USACE, Kern River Watermaster, and the Kern River Interests to release the RRBWSD water through the Isabella Reservoir and ensure it is not diverted by others between the Isabella Reservoir and the existing diversion points in the RRBWSD service area.” (2-22.) “The RRBWSD would coordinate with the Lower Kern River Interests to address scheduling releases and computing any losses between the Isabella Reservoir and the existing RRBWSD diversion points within its service area.” (2-22.) The DEIR also states: “The RRBWSD would coordinate with the Kern River Watermaster, Kern River Interests, and USACE to facilitate the movement of the water through the Isabella Dam, or alternatively, secure temporary storage of the water in the Isabella Reservoir for later release to the downstream RRBWSD service area.” (2-22, 2-23.) The lack of details about this “coordination” process with Kern River interests and other entities makes it impossible to determine Project impacts, and specifically impacts from this anticipated coordination process involving releases and transfers of water through Lake Isabella. It is not clear what coordination means, how that would occur, which entities would be involved, and how practically the water allegedly created by the Project would be moved through Lake Isabella through this coordination process.

BAK-81

- The DEIR neglects to identify all the Kern River interests with whom Rosedale will need to “coordinate” or obtain the approval of in order to move water through Lake Isabella and then downstream to Rosedale’s boundaries. In fact, Rosedale would need an agreement from and approval by all Kern River interests, with appropriate protections and mitigation for senior right holders on the river, such

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as the City, in order to implement the Project. The DEIR is deficient for not identifying those necessary approvals and agreements, and for consequently failing to review or analyze any impacts associated with those approvals and agreements. (2-27.)

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- The DEIR neglects to address how Project water would be used or addressed during “Mandatory Release” operations involving Lake Isabella, during heavy rain fall and high flow events, when the Watermaster is required to quickly release large amounts of water from Lake Isabella.

BAK-83

- “It was determined that several environmental topics would not be affected by implementation of the proposed project (see Appendix A, Public Participation Process, to this Draft EIR). Therefore, further evaluation of the following environmental topics are not required within this Draft EIR: Forestry Resources; Mineral Resources; Noise; Housing; Public Services; Recreation; and Transportation and Traffic.” (3-1.) The Project could decrease the quantity of water available to the City, and the Project therefore could have an impact on Housing and Public Services, and the DEIR should have identified and reviewed those impacts. For example, reduced water supplies for City residents as a result of the Project could impact housing construction and development within the City, and the City’s ability to provide water to its residents. Water delivered to Rosedale from the Project, in addition, could create a water supply for development outside of the City, which could further urban sprawl and the creation of utility service issues through the creation of development “islands.”

BAK-84

- The “geographic scope” for the cumulative impact analysis, as identified in Table 3-1 at page 3-5, is improperly narrow and restricted. Table 3-1 indicates that the geographic scope for most of the subjects addressed in the DEIR, including land use and planning, population and employment, and utilities, service systems and energy, will be the Kern River Valley. The Project, however, will involve a shift of important Kern River water supplies away from the City or other Kern River right holders and diverters to Rosedale, which will result in significant impacts within the City, and the San Joaquin Valley portion of Kern County, downstream of Lake Isabella.

BAK-85

- In Table 3-2, at page 3-8, item G, the “James Groundwater Storage and Recovery Project” is not accurate, as the project is actually called the “McAllister Ranch Groundwater Banking Project,” and the project will utilize the entire 2,072 acre McAllister Ranch parcel, not just 1,400 acres. The table also erroneously indicates that the Notice of Preparation (“NOP”) for the project was issued in 2012, as the NOP for the project was actually issued in 2020.

BAK-86

- Table 3-2, starting at page 3-7, fails to include the City’s 2800 Acre recharge project. That omission is significant in light of the location of the 2800 Acre recharge project on the Kern River, the proximity of the project to Rosedale, and the use of the facility by multiple Kern River interests. That omission also renders the entire cumulative impact analysis incomplete and invalid. BAK-87
- The DEIR also describes the Kern Fan Groundwater Storage Project, at page 3-15, between Rosedale and the Irvine Ranch Water District. The DEIR should disclose whether any water generated by the Project will eventually be used within this project, and, more importantly, whether Rosedale proposes to transfer any water generated through the Project to the Irvine Ranch Water District, or to other entities in Southern California. BAK-88
- The shift in up to 12,000 acre-feet per year from the City or other Kern River interests will result in potential significant impacts within the City and the San Joaquin Valley on (1) air quality, as the City and other entities would have to increase groundwater pumping, which produces greenhouse gases, to replace water lost to Rosedale through the Project, (2) hydrology and water quality based on the shift in water supplies and the need for the City and other impacted water users to find replacement water supplies, (3) land use and planning, based on impacts on the City’s growth and development as a result of a decrease in and uncertainty over the City’s water supplies, (4) population and employment as a result of a decrease in the City’s ability to provide drinking water to its residents, and (5) utilities, service systems and energy, based on the shift of water supplies away from the City and other water users and the need to locate and utilize alternate, replacement water supplies. The DEIR should have identified, discussed and analyzed all of those impacts. BAK-89
- The DEIR fails to acknowledge or admit that the Project could have significant impacts on agriculture in the San Joaquin Valley portion of Kern County, and not just in the Kern River Valley. (See Section 3.4, Agriculture.) As a result of the Project, significant quantities of Kern River water diverted and used by various Kern River interests and local water districts to serve agricultural lands could be shifted to Rosedale for groundwater recharge and other uses within Rosedale’s boundaries. It is also possible that some of the water associated with the Project could be transferred or sold outside of Kern County, including to southern California water interests, such as the Irvine Ranch Water District. The shift in water supplies to Rosedale could adversely impact Kern County agriculture by reducing the quantity of water available for agricultural use. That shift could result in conversion of farmland to non-agricultural use within the San Joaquin Valley portion of Kern County, shifts in cropping patterns, secondary impacts related to efforts to find replacement water supplies to serve agricultural lands. BAK-90

The impacts to agriculture in the San Joaquin Valley could be significant, yet the DEIR fails to identify, consider or review any of those impacts. The DEIR is therefore incomplete, deficient and misleading.

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BAK-90  
(cont.)

- The transfer of a significant quantity of surface water away from the Kern River interests, and the Onyx Ranch region, would result in additional groundwater pumping and use to generate replacement water. Kern River interests would additionally likely have to pump and use groundwater supplies to replace water lost or displaced as a result of the Project. Such increased pumping would generate energy and emissions which could have a significant impact on air quality in the region. The DEIR fails to identify and review those impacts. (3.5-1.)

BAK-91

- The DEIR is deficient for failing to identify potential significant impacts on air quality in the region, and in the San Joaquin Valley portion of Kern County. The DEIR improperly only reviews air quality impacts resulting from and related to Project impacts in the Kern River Valley, and in the Onyx Ranch region. That limited, incomplete analysis also improperly downplays or obscures actual impacts on air quality because existing baseline air quality conditions in the San Joaquin Valley portion of Kern County are considerably worse, and less favorable, than in the Kern River Valley.

BAK-92

- The Project area should include Rosedale’s service area, where the water generated by the Project will be used, and should also include the Kern River corridor, where the water will be transferred, and the service areas of the City and other Kern River interests who will be impacted by the Project by a reduction in Kern River supplies. (3.5-2.)

BAK-93

- The DEIR understates and fails to review impacts on air quality from increased pumping within the Kern Subbasin to replace surface water supplies lost and transferred to Rosedale through the Project. The Project could also increase agricultural production within Rosedale as a result of new water supplies obtained by and delivered to Rosedale through the Project. That could result in impacts on air quality in the region, and the DEIR should have identified and reviewed impacts on air quality associated with increased agricultural production. The DEIR therefore understates and does not properly consider air quality impacts resulting from and caused by the Project.

BAK-94

- Without information on air quality impacts associated with areas downstream of Lake Isabella, it is not possible to determine whether emissions will exceed the “thresholds of significance associated with the adopted air quality standards.” (3.5-31, 33.) In particular, the DEIR is not able to accurately or credibly assess cumulative impacts on air quality associated with the Project. (3.5-37, 38.)

BAK-95

- The DEIR should have but fails to review biological impacts associated with a reduction in water supplies by downstream diverters of Kern River water as a result of the Project. (See Biological Resources, at 3.6-1.) For example, the City has a Habitat Management Program within the 2800 Acres for the Buena Vista Lake Shrew a species on the Endangered Species list. Reduced water supplies for and reduced diversions into the 2800 Acres as a result of the Project could potentially impact that species, and the HMP for the species, as well as other species within the 2800 Acres, and in the Kern River channel near the 2800 Acres. BAK-96
- The Project could have a “substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS,” as a result of a decreased supply of Kern River flows resulting from the Project. (3.6-1) BAK-97
- The DEIR states that “the 4,247-acre Biological Study Area (study area)” which is limited to “the 4,109-acre project site (consisting of the Onyx Ranch and the Smith Ranch) plus 138 acres of area that includes off-site agricultural ditches that provide water to the project site and a 50-foot wide buffer area around the alignment of the agricultural ditches and the boundaries of the project site.” (3.6-2.) It is highly concerning that Rosedale is proposing a project which will result in a significant shift of Kern River surface water supplies away from existing users to Rosedale, yet has failed to review or consider impacts on Biological Resources in and around the Kern River, particularly below Lake Isabella and through the City. Those arbitrary limitations on the area for the Project results in a substantial understatement and concealment of potential impacts on biological resources, including cumulative impacts. BAK-98
- The DEIR fails to identify “special-status wildlife” that could be impacted by Project as a result of its improperly narrow and limited Project Area, including the Buena Vista Lake Shrew. BAK-99
- “Within the study area, the South Fork of the Kern River is under the jurisdiction of the USACE, RWQCB, and CDFW. The agricultural ditches do not fall under the jurisdiction of the USACE based on the Code of Federal Regulations (CFR) Title 33 § 328.3 (b)(4)(i), which states that features that are not considered ‘waters of the U.S.’ include ‘artificially irrigated areas that would revert to dry land should application of water to that area cease.’ However, agricultural ditches may potentially be considered RWQCB jurisdictional ‘waters of the State.’” (3.6-30.) The DEIR does not account for the possibility that these Project “features” could be considered waters of the U.S. or the State, which is a distinct possibility as a result of shifting interpretations and application of those terms. The DEIR further BAK-100

does not explain how and to what extent those entities might exercise jurisdiction over aspects of the Project.

↑ BAK-100  
(cont.)

- “Within the study area, USFWS designated critical habitat for the southwestern willow flycatcher and the yellow-billed cuckoo occurs within the riverine and floodplain of the South Fork of the Kern River (USFWS, 2018) (Figure 3.6-4). The South Fork of the Kern River provides suitable habitat by supporting thickets of large trees, such as willows and cottonwoods, with a relatively low-density canopy and patches of thick understory containing mulefat. The last documented occurrence of southwestern willow flycatcher within the vicinity of the South Fork was August 5, 2016 (CDFW, 2018) and the last documented occurrence of yellow-billed cuckoo was in 2017 (Stanek, 2017). A total of approximately 455 acres of yellow-billed cuckoo critical habitat and approximately 1,545 acres of southwestern willow flycatcher critical habitat overlap the study area.” (3.6-32.) The DEIR does not sufficiently account for Project impacts, including impacts resulting from a reduction in water supplies, on the habitat for these species.

BAK-101

- “The proposed project includes the installation of up to 12 shallow, low-volume wells powered by solar facilities, provided on an as needed basis, that would be located in previously disturbed areas at least 1,000 feet from the South Fork of the Kern River. Therefore, the proposed wells would be located outside of the sensitive natural communities, riparian areas, and marsh habitats areas. The earthen irrigation ditches on the project site are not a river, stream, or lake. There would be no diversion of the natural flow of any river, stream, or lake; rather, the proposed project would maintain the natural flows within the South Fork of the Kern River. Therefore, the proposed project would not have activities subject to CFGC Section 1600 et seq.” (3.6-36, 37.) We question those statements, as it seems apparent that the transfer of up to 12,000 acre-feet of water from the Onyx Ranch region to the western portion of Kern County, many miles away, would naturally and certainly “change the natural flow” of the Kern River, and in particular the South Fork of the river.

BAK-102

- Due to the shallow and very permeable aquifer of the South Fork Valley, the “12 shallow, low-volume wells” could interact with and reduce flows in the South Fork of the Kern River. Rosedale should either provide a detailed engineering analysis to demonstrate that pumping will not impact river flows, or add any amounts pumped on the Onyx and Smith Ranch properties as part of the claimed diversions from the river.

BAK-103

- “No habitat conservation plans or natural community conservation plans are applicable to the study area.” (3.6-38.) That statement fails to account for or consider habitat conservation plans, and related plans, in place and under consideration in areas that will be impacted by the Project downstream of Lake

↓ BAK-104

Isabella, including the City’s BV Lake Shrew HMP. The Audubon Society’s Kern River Preserve, the CDFW’s Canebrake Eco Reserve and the USFS South Fork Wildlife Area, moreover, are all adjacent to or in the immediate area of the Project, and those areas, which provide habitat for the protected species, may be adversely impacted by the Project.

BAK-104  
(cont.)

- Because the Project area considered in the DEIR is improperly limited, impact analysis also incomplete and improper. The entire impact analysis, at pages 3.6-46 through 3.6-66, is therefore flawed, and incomplete. For example, without studying Project impacts on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service within San Joaquin Valley portion of Kern County, the analysis of impacts “to special-status plants or wildlife or their habitats” is flawed and incomplete. (3.5-47.)

BAK-105

- “Therefore, the conveyance of more water in the South Fork of the Kern River would be a benefit to the southwestern willow flycatcher and western yellow-billed cuckoo and their nesting and foraging habitat, as well as critical habitat designated for these species.” (3.6-47.) Also, “[w]ith the implementation of the proposed project, the potential impacts to the breeding and foraging habitat for the southwestern willow flycatcher and the yellow-billed cuckoo would be less than significant.” (p. 3.6-48.) The narrow and misleading Project description renders that discussion and analysis incomplete and deficient. The DEIR does not take into account the loss of water supplies to the region, increased pumping and changes in land use, all of which could and would likely have significant impacts on threatened and endangered species.

BAK-106

- “USFWS designated critical habitat for the southwestern willow flycatcher and western yellow-billed cuckoo includes the riverine and floodplain of the South Fork of the Kern River throughout much of the potential impact area (USFWS, 2018). Notably, USFWS recently published a proposed rule to revise the designation of critical habitat for the western yellow-billed cuckoo, including areas along the South Fork of the Kern River (USFWS, 2020); however, the final rule has not been published.” (3.6-31.) It is apparent that transfer of 12,000 acre-feet of water to the San Joaquin Valley portion of Kern County would have a significant impact on critical habitat for species. Again, a loss of substantial water supplies previously used within the critical habitat for these listed species would certainly have a significant impact on those species.

BAK-107

- A change in diversion patterns on the Kern River, and a transfer of water supplies to the western portion of Kern County would certainly have an impact on “riparian habitat or other sensitive natural community identified in local or

BAK-108

regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.” (3.6-66.)

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BAK-108  
(cont.)

- The loss of water to the Onyx Ranch region, and a change in diversion patterns below Lake Isabella, would have significant impacts on riparian habitat in and around the Kern River. The cumulative impact analysis of biological resources is therefore flawed and incomplete.

BAK-109

- The DEIR should have reviewed impact on cultural resources, including cumulative impacts, on all of the regions and areas impacted by the Project, in particular downstream of Lake Isabella, in the Kern River channel and corridor, and in the service areas of the Kern River interests who will experience a reduction in their Kern River water supplies as a result of the Project.

BAK-110

- “In order to provide a regional context for the geological setting of the project site, a larger Geological Study Area has been defined. The Geological Study Area, including the project site, is located within the Sierra Nevada geomorphic province which extends from where the Coast Ranges, Transverse Ranges, and Mojave Desert Ranges meet in southern California, to the Cascade Ranges in northern California (see Figures 3.8-1 and 3.8-2)” (3.8-3.) Rosedale should have further expanded the Geographical Study Area to include the San Joaquin Valley portion of Kern County.

BAK-111

- The DEIR concludes that “there would be no net increase in GHG emissions relative to existing conditions, and the proposed project would not result in a cumulatively considerable impact” (3.9-22), and the Project would therefore have a “less than significant impact.” That conclusion is flawed, and inaccurate, because the DEIR improperly limits its review to impacts within the Kern River Valley. The DEIR should have considered impacts in other areas that will be directly impacted by the Project, including areas downstream of Lake Isabella, and in the service areas of Kern River interests that will see a reduction in the availability of surface water as a result of the Project, and who consequently will have to increase pumping, and greenhouse gas emissions, to replace the lost surface water supplies.

BAK-112

- The transfer of a significant quantity of surface water away from the Onyx Ranch region would very likely result in additional groundwater pumping and use to generate replacement water. Kern River interests would additionally likely have to pump and use groundwater supplies to replace water lost or displaced as a result of the Project. Such increased pumping could have a significant impact on greenhouse gas emissions in the region. The DEIR fails to identify and review those impacts. The DEIR is deficient for failing to identify potential significant

BAK-113

BAK-114  
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impacts resulting from increased greenhouse gas emissions in the region, and in the San Joaquin Valley portion of Kern County. The DEIR improperly only reviews greenhouse gas emissions resulting from and related to the Project in the Kern River Valley, and in the Onyx Ranch region.

BAK-114

- The DEIR’s discussion of “potential impacts related to hydrology and water quality associated with implementation of the proposed project” is once more flawed and incomplete because the DEIR improperly limits the study area for such impacts to the Onyx Ranch region and the Kern River Valley. It is inconceivable for the DEIR to not consider Project impacts on stream flows, and related hydrological impacts on the Kern River below Lake Isabella. Rosedale contemplates that water generated by the Project will flow through the Kern River channel below Lake Isabella. It is a clear and obvious violation of CEQA for the DEIR not to consider impacts on stream flows, and related hydrological conditions, from the Project below Lake Isabella. The DEIR should have also considered Project impacts on groundwater conditions and water quality, below Lake Isabella, instead of narrowly restricting its analysis to just the Onyx Ranch area.

BAK-115

- “The inflow from the South Fork of the Kern River into the Isabella Reservoir is not gaged. Therefore, the inflow to the Reservoir from the South Fork of the Kern River is inferred as the balance of inflow necessary to account for the reported change in Reservoir storage, after accounting for other sources of inflow and outflow.” (3.11-6.) The DEIR should use more reliable data than information based on an “inference.” Rosedale should have more accurately calculated the actual alleged increase in flows generated by the Project, above and in addition to current, and historic, pre-Project flows into Lake Isabella. As a potential mitigation measure, Rosedale should accurately measure actual South Fork flows into Lake Isabella.

BAK-116

- “The Kern River Valley Groundwater Basin is not a critically-over drafted groundwater basin identified by the DWR. Therefore, the Kern River Valley Groundwater Basin is not subject to a Sustainable Groundwater Management Act (SGMA) Groundwater Sustainability Plan because it is considered to be a low-priority basin by the DWR.” (3.11-7.) The Kern Subbasin, however, is critically over drafted, and is subject to a proposed GSP through coordination agreements between various Groundwater Sustainability Agencies . The DEIR should have considered the impacts, including cumulative impacts, on the Kern Subbasin as a result of the Project.

BAK-117

- The DEIR should have considered and discussed the groundwater budgets for the Kern Subbasin, and the Project’s impacts on that budget. (3.11-12.) That

BAK-118

information is readily available, as GSPs for the Kern Subbasin contain detailed and up to date groundwater models and budgets.

↑ BAK-118  
(cont.)

- The DEIR states: “The RRBWSD service area is within the Kern County Sub-basin (DWR Basin 5-022.14), which is considered a “high-priority” basin by the DWR. As such, the RRBWSD is a member of the Kern Groundwater Authority, which has prepared a Groundwater Sustainability Plan for the portion of the Kern County Sub-basin that is within the boundaries of its member agencies. The aquifer characteristics and groundwater conditions of the Kern County Sub-basin where the RRBWSD service area is located are documented in the Kern Groundwater Authority’s Groundwater Sustainability Plan (Kern Groundwater Authority, 2019).” (3.11-20.) The mention of just the Kern Groundwater Authority GSP, but not the other GSPs that apply to the Kern Subbasin, is misleading, as the KGA GSP does not apply to the entire basin that will be impacted by the Project. The DEIR should have at least identified and discussed the GSP for the Kern River GSA, and Project impacts on the Kern River GSA’s GSP, as the Kern River GSA members all hold historic Kern River water rights, and the GSP covers the majority of the Kern River channel and corridor within the San Joaquin Valley portion of Kern County. The KGA GSA, in contrast, is comprised primarily of entities without Kern River water rights, such as Rosedale, and the GSP for the KGA GSA does not cover or regulate the Kern River corridor and channel.

BAK-119

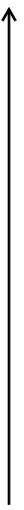
- The DEIR mentions the Kern County General Plan (3.11-22), but not Bakersfield’s General Plan. The City’s General Plan is far more relevant than the County’s plan, as the City’s plan applies to an extensive portion of the Kern River channel and corridor, and contains specific elements relating to the Kern River. In light of the improperly narrow and limited Project area, and arbitrary and incomplete failure to identify features, conditions and impacts below Lake Isabella, the entire discussion of Project impacts on hydrology and water quality is incomplete, and flawed, and not in compliance with CEQA requirements.

BAK-120

- “A numerical groundwater flow model was developed for the proposed project to evaluate the response of the aquifer to the proposed project’s reduction in the amount of surface water diversion and reduction in the amount of surface water irrigation on the project site. The model also was used to develop a no-injury factor by estimating how much water would be delivered to Isabella Reservoir with the proposed project. As part of Project Element 4, the no-injury factor would be applied to the proposed project to determine the amount of re-directed flows (from preproject surface water diversions) that would flow into and be released through the Isabella Dam as new water without injury to the Kern River Interests and other legal users downstream. The model included the development

BAK-121

of a water budget for the existing conditions, estimated the changes in the surface water volumes, and estimated the changes in the groundwater levels and storage within the Hydrological Study Area with implementation of the proposed project. The model analysis addressed the simulation of the proposed project over a 13-year period. The time period of January 2005 to December 2017 was selected because it contains both dry and wet time periods, with an average precipitation similar to historical precipitation.” (3.11-26.) The model should have extended beyond Lake Isabella to identify and consider impacts on Kern River flows below Lake Isabella, as well as impacts resulting from decreased diversions and increased pumping by Kern River interests as a result of the Project. The model should have also used more data and older data than just the 2005 to 2013 time period. Kern River flows and supplies are highly variable, so the accuracy and reliability of information on Kern River supplies and flows increase substantially when more information is used in a study or report.



BAK-121  
(cont.)

- The groundwater model described at pages 3.11-26 and 27 is based on a number of “assumptions,” including assumptions involving a reduction in groundwater pumping and diversions within the Onyx Ranch property. The DEIR, however does not provide any details regarding the actual implementation and enforcement of such reductions. It is not apparent from the DEIR that Rosedale would have the ability to implement or enforce such reductions.



BAK-122

- The assessment of groundwater conditions in the model (3.11-29) is highly flawed for only considering groundwater conditions in the Kern River Valley and not below Lake Isabella, where actual impacts from increased pumping to replace supplies lost by Kern River interests as a result of the Project would occur.



BAK-123

- The assessment that the Project would have a “less than significant impact” on water quality (3.11-34), is flawed and incomplete because the DEIR improperly limits its review of water quality impacts to impacts in the Kern River Valley. The DEIR should have considered and reviewed impacts on water quality below Isabella Dam, including impacts on water quality as a result of increased groundwater pumping by the City and others to replace water lost to Rosedale through the Project. Increased pumping in areas already experiencing degraded groundwater quality adversely and significantly impacts water quality, and increased pumping could also shift and “pull” contaminated supplies, and plumes, towards groundwater production wells.



BAK-124

- The conclusion in the DEIR that the Project will have a “less than significant impact” on aquifer volume and groundwater levels (3.11-37) is flawed, and incomplete, because it again fails to consider impacts below Lake Isabella, or impacts associated with increased pumping by the City and other Kern River interests to replace water transferred to Rosedale as a result of the Project. The



BAK-125

- DEIR should have specifically identified and considered Project impacts on the Kern Subbasin, and not just the Kern River Valley Groundwater Basin. ↑ BAK-125 (cont.)
- The DEIR states: “Depending on the year, the proposed project could provide water for groundwater replenishment in the Kern County Sub-basin, which would have a beneficial effect to groundwater levels and the aquifer volume. The proposed project would not impede, but rather support, the sustainable management of the Kern County Sub-basin.” (3.11-37) That self-serving claim is not supported by any data or evidence. In addition, Rosedale fails to account for increased pumping demands within the Kern County Subbasin to replace water “provided” to Rosedale through the Project. BAK-126
  - The discussion and analysis of drainage patterns, and the conclusion of “less than significant impacts” is untenable, and incomplete, as the DEIR fails to consider impacts below Lake Isabella. The DEIR does not, most importantly, identify and review impacts on Kern River flows, and diversions, below Lake Isabella. BAK-127
  - The DEIR states: “The surface water that would remain in the South Fork of the Kern River with the proposed project would be allowed to pass through the Isabella Dam based on communications between the Kern River Watermaster, USACE and the RRBWSD and would not raise its surface water level above the designated operational levels of the Reservoir. Therefore, the proposed project would not result in flooding offsite adjacent to the Isabella Reservoir in comparison to the existing conditions.” (3.11-38, 39.) The DEIR fails to explain why it arbitrarily cut off consideration of any impacts below Lake Isabella. BAK-128
  - In addition, “communications between the Kern River Watermaster, USACE and the RRBWSD” would not give Rosedale any right to hold water in Lake Isabella or to move water through Lake Isabella. (3.11-38, 39.) Rosedale would instead need an agreement with the entities that actually hold rights to water in Lake Isabella, and the right to store water in Lake Isabella. The Kern River Watermaster does not hold rights to any water in Lake Isabella, and does not manage any water supplies on his own, but only take actions at the direction of the Kern River interests with rights in and to Lake Isabella. BAK-129
  - The discussion of impacts on Water Quality Control Plans and Sustainable Groundwater Management Plans (3.11-20) is flawed and incomplete for primarily focusing on impacts within the Kern River Valley, and for selectively understating or ignoring adverse impacts downstream of Lake Isabella. BAK-130
  - “The proposed project also would increase flow in the South Fork of the Kern River downstream of the project site, downstream of Isabella Reservoir, and below the Isabella Dam in the Lower Kern River until the RRBWSD diversion points at their recharge basins. As a result, the implementation of the proposed ↓ BAK-131

project would provide Kern River water for groundwater replenishment in the Kern County Sub-basin, which would have a beneficial effect to groundwater levels and aquifer volume. Therefore, the proposed project would not conflict or obstruct with the Tulare Lake Basin Plan requirement for surface water and groundwater to be put to beneficial use to the fullest extent of which they are capable.” (3.11-43.) It is highly concerning that the DEIR only identifies purported positive impacts on groundwater in the Kern County Subbasin as a result of the Project, while ignoring adverse impacts resulting from increased groundwater pumping to replace water lost to Rosedale through the Project.

BAK-131  
(cont.)

- The DEIR states “The implementation of the proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. No impact would occur.” (3.11-44.) That analysis is highly flawed and incomplete because the DEIR ignores and fails to assess actual Project impacts within the Kern Subbasin, including impacts caused by increased groundwater pumping to replace water lost to Rosedale. The DEIR also only mentions the GSP for the KGA, without mentioning all of the other GSPs, including the KRGSA’s GSP, which will manage and govern groundwater in the Kern Subbasin.

BAK-132

- The discussion of cumulative impacts (3.11-44, 45) is deficient as a result of the errors and omissions underlying the prior assessments of Project impacts.

BAK-133

- “Given that the proposed project would be adding water to the Kern River and would not decrease the Kern River water supply or affect Kern River water rights downstream of the Isabella Dam, there would be no adverse impact to Kern River diversions, Kern River water rights, or groundwater recharge associated with any of the cumulative projects downstream of Isabella Reservoir and the Isabella Dam. Additionally, the proposed project would support sustainable groundwater management in the Kern County Subbasin. Therefore, the proposed project, when considered together with Cumulative Projects E through J, would have no cumulatively considerable adverse impacts to hydrology and groundwater resources.” (3.11-45.) That conclusion, and the entire discussion, is erroneous and incomplete, as the DEIR ignores impacts associated with a shift of water to Rosedale, and necessary actions by Kern River interests, including increased groundwater pumping, to replace water lost to Rosedale as a result of the Project.

BAK-134

- The contention that the Project would “add water” to the Kern River is not supported by any data or evidence, and is objectively not correct. Lake Isabella and the Kern River channel have finite and defined capacity, and any new water in Lake Isabella or downstream of Lake Isabella would necessarily have to replace, and displace, other Kern River supplies that are claimed by a prior right holder or one of the Kern River interests.

BAK-135

- “The proposed project would not change the volume of water stored in the Isabella Reservoir and, therefore, would not affect the Isabella Dam or increase the risk of failure of the Isabella Dam. Therefore, the proposed project, when considered together with Cumulative Project A, would have no cumulatively considerable adverse impacts to hydrology or water quality.” (3.11-45.) That statement is not accurate, and is contradicted by Rosedale’s claim that the Project would generate a “new” water supply that would flow into Lake Isabella.
- The Land Use and Planning section is flawed for not considering any potential impacts involving land use and planning below Lake Isabella. A decrease in water supplies available to the City and other Kern River interests as a result of the Project could limit the availability of water for growth and development within the City and in other parts of Kern County. By limiting and restricting any discussion of Project impacts on land use and planning to impacts within the Kern River Valley, the DEIR understates and fails to consider significant potential Project impacts.
- The DEIR should have also identified and considered land use and planning documents that apply to the areas impacted by the Project below Lake Isabella, including the City’s Urban Water Management Plan and General Plan, and City policies. It does not make sense that the DEIR only considered the County’s General Plan, and not the City’s General Plan, since the County has no Kern River water rights and therefore will not be impacted by the Project. The DEIR is again deficient for only identifying and considering the GSP prepared by the KGA GSP, and not the remainder of the GSPs that will regulate groundwater production and use within the Kern Subbasin, including the KRGSA’s GSP.
- “One of the objectives of the proposed project is to reduce reliance on imported water from the Sacramento/San Joaquin Delta via the SWP, which has become unreliable due to environmental restrictions in the Delta. As discussed in Chapter 4 Growth Inducement of this Draft EIR, the RRBWSD has been receiving a reduced long-term average of approximately 60 percent of the contracted amount of SWP water. This reduction equals approximately 10,000 AFY. The approximately 2,000 to 12,000 AFY of water to be supplied by the proposed project would help replace the 10,000 AF of imported water, thereby augmenting the groundwater basin with a sustainable local supply to support agricultural irrigation. Therefore, implementation of the proposed project would be consistent with the RRBWSD’s adopted Groundwater Sustainability Plan. Impacts would be less than significant.” (3.12-30.) Once again, the DEIR’s analysis is flawed and incomplete for failing to consider or account for efforts by Kern River interests to replace water supplies transferred to Rosedale as a result of the Project, including increased groundwater pumping and increased use of imported water supplies.

BAK-136

BAK-137

BAK-138

BAK-139

- The list of “cumulative projects that could have impacts to land use and that, combined with the proposed project, could result in cumulatively considerable impacts” (3.12-31), is incomplete and deficient for not identify projects below Lake Isabella. BAK-140
- Section 3.13, addressing Population and Employment, is flawed for failing to consider any issues or impacts below Lake Isabella, and for arbitrarily and improperly limiting consideration of any impacts to the Kern River Valley. BAK-141
- The analysis in the Utilities, Service Systems and Energy section is flawed for failing to consider any issues or impacts below Lake Isabella, and for arbitrarily and improperly limiting consideration of any impacts to the Kern River Valley. In particular, the DEIR improperly fails to consider impacts on City utilities and service systems as a result of the City’s loss of up to 12,000 acre-feet of water per year as a result of the Project. BAK-142
- “The proposed project would reduce irrigation on the project site and allow water that is currently diverted under existing conditions to stay in the South Fork of the Kern River and flow downstream into Isabella Reservoir, then the Lower Kern River, and then to the existing RRBWSD diversion structures and recharge basins for storage in their groundwater bank (Thomas Harder & Co., 2019; see Appendix E of this Draft EIR). No water supply associated with any other Kern River water rights holders would be affected or changed. Therefore, relative to surface water and implementation of the proposed project, there would be no change in surface water supplies available to serve adjacent land uses, communities, and local water suppliers. No impact on surface water supplies would occur.” (3.15-12.) That conclusion is highly flawed, on its face, as it ignores the reduction in City water supplies, and in supplies available to other Kern River interests, as a result of the transfer of water supplies to Rosedale through the Project. The reduction in surface water supplies to the City could have a significant impact on the supply of water available to serve its customers and residents. BAK-143
- “As stated in Chapter 2 Project Description, several entities have water rights or access to surface water via agreement along the Lower Kern River downstream of the Isabella Dam, including the City of Bakersfield, Olcese Water District, North Kern Water Storage District, Kern Delta Water District, Buena Vista Water Storage District, and Kern County Water Agency (Kern River Interests). In addition, the RRBWSD receives Kern River water from the City of Bakersfield and other Kern River Interests through contractual arrangements. As explained in Section 3.11 Hydrology and Water Quality, with implementation of the proposed project, based on the 13-year model period of 2005 to 2017, it is estimated that an average of 7,265 net AFY of redirected flows from the Onyx Ranch and the Smith Ranch would result in an average of 6,014 net AFY of new water flowing through BAK-144

the Isabella Reservoir and the Isabella Dam and into the Lower Kern River. The difference, which amounts to a 17 percent “no injury factor,” accounts for model estimated losses that are anticipated to occur between Onyx Ranch and Isabella Reservoir as a result of the proposed project. These losses are associated with increased streambed infiltration, evapotranspiration, and subsurface outflow. Therefore, up to 6, 014 AFY of water on average for the model period could be released out of Isabella Reservoir without injury to other legal users. In addition, Project Element 5 of the proposed project discussed in Chapter 2 Project Description of this Draft EIR consists of coordination with the USACE, Kern River Watermaster, and the Kern River Interests to release the surface water from the project site through the Isabella Dam and ensure it is not diverted by others between the Isabella Dam and the existing diversion points in the RRBWSD service area. The RRBWSD would coordinate with the Lower Kern River Interests to address scheduling releases and computing any losses between the Isabella Reservoir and the existing RRBWSD diversion points within its service area. With implementation of the proposed project, there would be no impact on water supplies available to serve the existing water rights and entitlements of the Kern River Interests.” (3.15-15.) That entire discussion is suspect, flawed, and based on unsupported assumptions and incomplete information. Once again, the DEIR fails to identify or consider project impacts below Lake Isabella, including impacts resulting from a loss of water supplies and the replacement of those supplies by Kern River interests, and the DEIR fails to include necessary details regarding the “coordination” and conveyance of water through Lake Isabella and downstream of Lake Isabella through the Kern River channel.

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BAK-144  
(cont.)

- The conclusion that the Project will have a “less than significant impact” on water supplies (3.15-15) is obviously false, based on incomplete information, and not supported by any actual or credible data. As explained herein, any water generated by the Project will result in a loss of water supplies within the Kern River Valley and downstream of Lake Isabella.
- The conclusion that impacts on energy consumption through the Project would be less than significant (3.15-17) is incomplete and deficient for failing to consider increased energy consumption from increased groundwater pumping to replace water supplies lost to Rosedale through the Project.
- “Implementation of the proposed project would not have direct growth inducement effects, as it does not propose development of new housing, either in the Kern River Valley or the RRBWSD service area, that would attract additional population. Nor would the project build or extend roads or other any other essential utility infrastructure that could indirectly induce growth. Furthermore, implementation of the proposed project would not result in permanent or short-

BAK-145

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BAK-147  
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term employment that would indirectly stimulate the need for additional housing and services to support the new employment demand. In fact, as identified in Section 3.13 Population and Employment, employment may be slightly reduced as a result of the project. Therefore, the proposed project would not indirectly induce population growth by establishing new employment opportunities or housing to accommodate such employees.” (4-4.) The DEIR fails to consider that the addition of up to 12,000 acre-feet of water per year into the urban Bakersfield region could increase population growth in that region.

BAK-147  
(cont.)

- “Based on the 13-year modeled period of 2005 to 2017, the proposed project would make approximately 2,000 to 12,000 AFY available for recharge into the San Joaquin Valley Groundwater Basin (groundwater basin).” (4-4.) “The proposed project would reduce the reliance on Delta water and offset the use of imported water with a local water supply for RRBWSD’s landowners and customers. Increased groundwater storage as part of the proposed project may support planned population growth by Kern County that has been identified within the RRBWSD service area.” (4-4.) The DEIR concludes: “The proposed project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.” (4-5.) That conclusion contradicts prior statements in the DEIR, and common sense and logic. It seems apparent that the shift of 2,000 to 12,000 acre-feet of water per year from a lightly populated agricultural area in the Sierra Nevada Mountains to the edge of Bakersfield, where the City’s population is growing, would have an inevitable and immediate impact on population growth, and development. As the DEIR states, “[w]ater storage and supply is one of the primary public services needed to support growth and community development.” (4-1.) The addition of such a large supply of water would have significant impacts on continued growth and development in and around Rosedale’s service area. The DEIR is misleading and deficient for not recognizing or reviewing that significant impact.
- In the alternatives section, to satisfy the objective of “maximizing the beneficial use of water rights associated with the Onyx Ranch and Smith Ranch in Kern County (5-2), the DEIR should have considered other uses of water rights that would have less adverse impacts on Kern River interests below Lake Isabella as a result of the shift in 2,000 to 12,000 acre-feet per year of Kern River water supplies from those entities to Rosedale.
- To satisfy objectives associated with increasing the quantity of water delivered to Rosedale (5-2), the DEIR should have considered other less impactful alternatives, and sources of supply.

BAK-148

BAK-149

- The DEIR also cannot properly consider alternatives due to omission of critical information regarding the Project from the DEIR, including details of the agreements or arrangements that would potentially allow Rosedale to convey water through Lake Isabella, and through the Kern River channel, to Rosedale. BAK-150
- The DEIR takes an improperly narrow and limited view of alternatives. The Delta Conveyance Project is not the only alternative water supply available to Rosedale. The DEIR should have considered water conservation, transfers or exchanges with local water districts or the City, recycled water, or expanded conjunctive use and groundwater banking. BAK-151
- The No Project Alternative would have significant attractiveness, as it would reduce adverse impacts from the shift of water supplies away from the Kern River Valley, and away from Kern River interests. The No Project Alternative would also reduce conflict over the use of a highly questionable and dubious water supply, with very questionable water rights claims. BAK-152
- The DEIR should have identified and considered actual separate alternatives to the Project, instead of limiting the consideration of alternatives to a “50 percent” version of the Project. A lesser version of the Project does not present a true, viable and practical alternative to the Project and the objectives of the Project. BAK-153
- The DEIR also cannot properly or practically identify the “environmentally superior alternative” without identifying and considering all components of and impacts resulting from the Project.

**4. COMMENTS TO APPENDIX E-HYDROGEOLOGICAL TECHNICAL REPORT**

The following comments relate to Appendix “E” of the DEIR the Hydrogeological Technical Report and a Technical Memorandum (“Report”) prepared by Thomas Harder & Co., and dated July 2019.

The Report is apparently intended to evaluate how changes to surface water diversions along the South Fork of the Kern River associated with the Project are anticipated to change the surface water and groundwater budget of the Project study area and Lake Isabella. The evaluation uses a computer numerical model. BAK-154

The Report concludes with a summary of findings that included:

1. The study period of 2005 to 2017 yielded an average of 6,074 acre-feet per year of water that could be released from Isabella Lake without a change in reservoir storage with the Project in place.
2. The Project is predicted to result in a net increase of groundwater in storage across the study area, as compared to the no Project historical condition.

3. Groundwater levels under “with Project” conditions are predicted to be less variable and periodically lower by 0 to 16 feet in some places than they would have otherwise been without the Project but generally fall within the range of groundwater levels historically measured in the area.

4. At the end of the 13-year model period, groundwater levels under Project conditions are predicted to be within a few feet of no Project groundwater levels throughout most of the study area, particularly areas away from the Project site. Groundwater levels in areas away from the Project site, such as the area immediately upgradient of Isabella Reservoir and immediately downgradient of Smith Ranch, are predicted to be 0 to four feet higher as a result of the Project. Thus, the Project is not predicted to result in a long-term negative change in groundwater storage.

5. Pumping from Project wells is planned to be reduced from an annual average of approximately 6,500 acre-ft/yr to approximately 875 acre-ft/yr.

The City has the following concerns with the Report:

- The findings in the Report were based on several faulty data sets and assumptions built into the model.
- The United States Army Corps of Engineers’ (“USACOE”) “Daily Operation of Isabella Reservoir, Kern River, CA” sheets are a tool to assist in calibration of Kern River South Fork inflow, but are not definitive. The USACOE uses a subtraction method to calculate the total inflow to Lake Isabella. After measurements are taken daily and calculations are completed, any deficient inflow is added to the total inflow to account for all other potential inflows, including South Fork. There is no direct measuring station that gauges the flow that enters the lake. The Report “infers” that the make-up number is South Fork flows, but other considerations for inflow are “bank storage”, minor stream flows and springs.
- The flows and quantities listed in the SWRCB’s statements of flow and diversion are not verified, or at least not known to be verified. The Report notes that several measuring stations reported flows that exceeded the capacity of the station whereby the numbers used in the model were “adjusted”. The Report also mentions that if total diversions on the South Fork were less than the “inferred” South Fork flow into the lake, the diversion flows were again “adjusted” proportionately among diverters.
- Precipitation data infers that a certain quantity of water makes it to the groundwater basin or satisfies a portion of crop demands, but the Report provides no direct explanation how that translates into water used in the Kern River Valley.
- The Report uses estimates for years when no historical records were available.

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 BAK-154  
 (cont.)

BAK-155

BAK-156

BAK-157

BAK-158

BAK-159

- The Report states that diversion amounts throughout the Kern River Valley were generally overstated. | BAK-160
- The Report mentions that other flow records, presumably from the South Fork right holders, were recorded by Rosedale. There is no indication that these records were verified or that the measurements were calibrated. There is no mention of the measurement method or of the verification of any recorded flows by diverters. There is no mention of daily flows by each South Fork right. The Report provides no examples of recording sheets or calibration. | BAK-161
- Statistics in the Report were annualized to total volume. It would have been helpful to also report the range of instantaneous flows in cubic feet per second, as well as the high and low flows, and seasonal or high flow years compared to low flow years. | BAK-162
- The only reliable and verified gauging station is the USGS Onyx Station located in the upper end of the South Fork Valley. It measures and records flows in 15 minute intervals. The Report does not list any other calibrated, reliable measuring station on the South Fork. | BAK-163
- The conclusions and summary of findings in the Report regarding the quantity of water “available” are suspect and unconvincing due to (a) the lack of calibrated measuring stations at key points along the South Fork of the Kern River, especially at some point beyond the last diversion before entering Lake Isabella, (b) the lack of historic records, sloppy and incomplete diversion records, suspect flow measurements, estimates in the place of actual records, and “adjusted” diversions, (c) water sources in the form of precipitation are not adequately explained or quantified, (d) crop consumptive uses not fully explained or disclosed, and (e) the model had some groundwater levels above ground surface, with no explanation. | BAK-164
- In light of the tremendous uncertainty over the quantity of water actually “available” for the Project, and to move downstream to Rosedale, the DEIR should have considered the consumption use (ET) of crops grown on the property minus any groundwater pumping needed to meet ET in dry years, and minus any precipitation that falls during the growing season. The net amount would identify the actual amount of water beneficially used and presumably available for moving off the property. | BAK-165
- The City also joins in, supports and endorses the comments, conclusions and findings in the July 17, 2020 Technical Memorandum prepared by Todd Groundwater and submitted as Exhibit B to the Kern Delta Water District’s comments to the DEIR. | BAK-166

Dan Bartel  
Rosedale-Rio Bravo Water Storage District  
July 27, 2020  
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**5. CONCLUSION**

The City maintains that Rosedale must revise and recirculate the DEIR to address all of the errors, omissions and deficiencies in the current DEIR. (Pub. Resources Code § 21092.1.) Rosedale will need to revise and add considerable information to the DEIR, and failure to recirculate would “deprive[] the public of a meaningful opportunity to comment.” (14 Cal. Code Regs. § 15088.5.)

As indicated, in addition to all of the comments herein, Bakersfield has significant substantive and legal concerns with regard to the Project, which concerns it will raise at the appropriate time, in the appropriate forum. The statements and comments in this letter only constitute the City’s comments to the DEIR. The City reserves the right to comment on and raise appropriate objections and challenges to the Project, and any other efforts or approvals related to the Project.

We thank you for consideration of these comments. Please let us know if you have any questions with regard to these comments.

Sincerely,



Colin L. Pearce  
for DUANE MORRIS LLP

BAK-167

CLP:bah

cc: Virginia Gennaro, City Attorney, City of Bakersfield  
Art Chianello, Water Resources Manager, City of Bakersfield

# **EXHIBIT A**

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WASHINGTON, DC  
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OMAN  
A GCC REPRESENTATIVE OFFICE  
OF DUANE MORRIS  
ALLIANCES IN MEXICO  
AND SRI LANKA

March 23, 2018

**VIA EMAIL**

Dan Bartel  
Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

**Re: City of Bakersfield’s Comments to Notice of Preparation of Draft  
Environmental Impact Report for Onyx Ranch South Fork Valley Water  
Project**

Dear Mr. Bartel:

On behalf of the City of Bakersfield (“City” or “Bakersfield”), we submit the following comments to the Notice of Preparation and supporting Initial Study (herein collectively “NOP”) for an Environmental Impact Report (“EIR”) for the Onyx Ranch South Fork Valley Water Project (“Project”) issued by the Rosedale-Rio Bravo Water Storage District (“Rosedale” or “RRBWSD”) on February 22, 2018.

The City has a number of concerns with regard to the Project, the NOP, and Rosedale’s failure to comply with the requirements of the California Environmental Quality Act (“CEQA”) in connection with the potential scope and contents of an EIR for the Project.

The City does not believe Rosedale has proposed a valid, viable or appropriate Project. In particular, the City is concerned with and has questions with regard to (1) Rosedale’s claimed pre-1914 appropriative water rights, and its claimed ability to create a water supply on the South Fork of the Kern River through a curtailment of diversions, (2) Rosedale’s lack of any practical or legal right to move water through Lake Isabella, or to hold water in Lake Isabella, (3) Rosedale’s practical and legal inability to transport alleged new or additional water supplies through the

DUANE MORRIS LLP

Kern River channel to Rosedale, and (4) adverse impacts on the City’s water rights and supplies, in violation of Water Code Section 1706. The City maintains that Rosedale should address all of these issues, and concerns, in the EIR for the Project.

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(cont.)

With regard to CEQA, the City believes Rosedale has (1) failed to properly or sufficiently describe the Project, (2) failed to disclose critically important components and details of the Project, (3) failed to acknowledge or indicate it will review significant and potentially significant impacts of the Project, including impacts on the City and other Kern River interests, and (4) failed to indicate it will include and review required and necessary information in the EIR, including alternatives to the Project, and mitigation measures.

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(cont.)

Based on these errors and omissions, absent a substantial revision of the NOP and a switch in the approach and focus of the intended CEQA review for the Project, the City believes Rosedale cannot prepare an EIR which complies with the intent or specific requirements of CEQA. The City’s concerns are also exacerbated by the lack of details and information in the NOP regarding the Project, as well as Rosedale’s additional failures to comply with CEQA.

In addition to those concerns, the City provides specific comments regarding the NOP, and points out additional errors, omissions and misstatements in the NOP.

**1. BAKERSFIELD HAS SIGNIFICANT CONCERNS WITH AND OBJECTIONS TO THE PROJECT**

**A. Concerns with Water Supply for the Project**

Bakersfield questions and has serious concerns with regard to the water supply which Rosedale proposes to use in the Project. Bakersfield in particular questions whether the “pre-1914 appropriative water rights on the South Fork of the Kern River” which Rosedale claims it acquired and holds in connection with the Onyx Ranch property, are still valid, viable and enforceable. The City additionally has concerns over the amount of water that Rosedale claims it will utilize in connection with the rights.

Rosedale claims that “The majority of the water rights were quantified in a 1902 Arbitration Decree (1902 Decree) that resolved water rights disputes between various diverters on the South Fork. The balance of the pre-1914 rights involved is based on other historic documents and chains of title for the RRBWSD acquired property in the South Fork Valley.” (p. 1-23.) Bakersfield understands that the 1902 Decree may constitute evidence of pre-1914 appropriative water rights associated with the Onyx Ranch property. The Decree, however, is not determinative, and does not by itself establish that Rosedale still holds the rights referenced in the Decree.

BAK-A-2

The 1902 Decree only indicates that the rights claimed by Rosedale existed in 1902. The NOP does not refer to any other evidence regarding the existence or extent of the claimed water

rights. The NOP presents no evidence that the claimed rights are still in existence and still viable and valid, or that Rosedale can change the point of diversion and place of use for the water right.

The Decree is not binding on the City, or on other Kern River interests, as they were not parties to the proceeding. The Decree did not arise out of a streamwide adjudication or a determination of any other rights or claims on the Kern River. The City also questions whether an arbitration decree, as opposed to a court judgment, can be binding or determinative of the rights referenced in the decree.

Rosedale’s more recent diversion and use of water does not establish that it actually holds rights to such water, or that it holds rights to the quantities of water diverted in recent years. When an appropriator holding pre-1914 appropriative water rights fails to make beneficial use of water for a period in excess of five years, such water rights revert to the public for subsequent appropriation. (Water Code § 1241; *Smith v. Hawkins* (1895) 110 Cal. 122, 126-28.) The NOP does not provide any evidence showing a continuous use of water on the subject property since 1902 in the amounts claimed. There are no references to older or prior statements of diversion and use. Rosedale’s claimed rights may therefore have been lost or reduced through non-use. Specifically, absent evidence of continuous use of the water rights claimed by Rosedale, and in the amounts claimed by Rosedale, it would appear that the water rights may have been forfeited or abandoned, in whole or in part.

Recent increased diversions of water by Rosedale would not establish, revive, evidence or quantify the existence or extent of Rosedale’s claimed pre-1914 water rights on the South Fork of the Kern River. The use of a certain flow of water, even on a regular basis, does not, by itself, give rise to any property right to the water or to a right to the continued use of the water. (*Stevens v. Oakdale Irr. Dist.* (1939) 13 Cal.2d 343, 350.) In *Dannenbrink v. Burger* (1913) 23 Cal.App. 587, 596-97, the court stated that a party’s use of water would “raise no presumption of a grant” of a water right, and a user of such water does not, without more, “secure or acquire the right to the continuous flow of such water.”

The NOP also claims that: “The amount of water involved in the proposed project annually would be the lesser of the amount available to the RRBWSD under its Onyx Ranch and Smith Ranch pre-1914 appropriative water rights from the South Fork during actual flow conditions and the largest amount that was diverted in that same month between the years 2009 and 2017.” (p. 1-28.) Table 1-3 lists the quantities of water “associated with the proposed project,” stated as rates of flow, and Table 1-4 lists the “actual diversion of water available from the Onyx Ranch water rights since the year 2009.” (p. 1-24.)

Rosedale then claims “[f]or the purposes of the proposed project, the amount of water from the Onyx Ranch that may be left to flow in the South Fork of the Kern River to the Isabella Reservoir would be: the lesser of the amount available under the water rights under actual flow conditions; and the largest amount that was diverted in that same month of the year between

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(cont.)

BAK-A-3

2009 and 2017 (excluding the year 2011).” (p. 1-24.) As indicated, recent cropping patterns and increased use of water by Rosedale does not establish that the water rights will or should yield those same amounts of water in the future. Rosedale’s predecessors in title may have forfeited, abandoned or reduced the water rights, in whole or in part, by failing to use the rights to that extent in the past. (See Water Code § 1241.)

Two law firms that recently investigated the Onyx Ranch property for possible purchase by Kern County concluded that the pre-1914 appropriative water rights associated with the Onyx Ranch property may not be viable and enforceable. The law firms also questioned the amount of water associated with the claimed appropriative water rights for the property. In a September 30, 2009 report to Stephen D. Schuett, Assistant County Counsel for Kern County, for example, the Hanson Bridgett law firm stated that “a substantial portion of the ‘paper rights’ derived from the 1902 arbitration may have long gone unused.”

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**B. Lack of any Right to use Lake Isabella for Conveyance or Storage**

It does not appear that Rosedale holds any right to transfer water through Lake Isabella, or to hold water in Lake Isabella. The NOP does not indicate or claim that Rosedale has any right to move water into or out of Lake Isabella, or to temporarily hold or store water in Lake Isabella. Absent a right or agreement to use Lake Isabella, the Project is not valid or viable in its present form.

The US Army Corps of Engineers (“USACE”) owns and operates Lake Isabella reservoir and dam. The USACE allows certain water districts to use Lake Isabella for storage of water pursuant to various agreements. Absent such an agreement, Rosedale has no rights to any water that may flow into Lake Isabella.

The City is not aware of any agreements which would give Rosedale a right to hold water in Lake Isabella or to move water through Lake Isabella. Rosedale has not claimed and does not claim in the NOP that it is a party to any agreements involving storage in Lake Isabella. Rosedale also does not claim that it is entitled to store water in Lake Isabella pursuant to any statute, regulation, right, interest or policy. The City, the USACE, and other Kern River right holders and Kern River interests are not obligated to allow Rosedale to transport water through Lake Isabella, or to store water in Lake Isabella.

BAK-A-4

The NOP does not provide any details or explanation as to how Rosedale would hold water in or convey water through Lake Isabella. Rosedale only states that it “would coordinate with the Kern River Watermaster, Kern River Interests, and U.S. Army Corps of Engineers to facilitate the movement of the water through the Isabella Dam, or alternatively, secure temporary storage of the water in the Isabella Reservoir for later release to the downstream RRBWSD service area.” (p. 1-29.)

All of the water in Lake Isabella is already subject to prior rights. Water that flows into Lake Isabella is part of or becomes part of the native supply and is thereafter subject to and absorbed by prior existing rights to water in the Kern River. Any water released from Lake Isabella has been claimed by and accrues to prior rights on the Kern River.

Rosedale would have to displace, replace or dispose of water presently in Lake Isabella in order to hold or transport water through Lake Isabella. That would result in adverse impacts to various Kern River interests, and would require future agreements and arrangements with Kern River interests.

Rosedale also does not hold or use any Kern River water rights, other than through contracts with the City, and the alleged water right described in the NOP. Rosedale therefore cannot utilize or rely on any of its own Kern River rights in connection with the Project to hold or move water through Lake Isabella.

The claimed intent to “coordinate” the storage and conveyance of water through Lake Isabella constitutes an admission that Rosedale has no present right to move water into or out of Lake Isabella. That statement does not establish that Rosedale will be able to secure any right to move water through Lake Isabella. The Project is therefore incomplete and invalid in its present form.

**C. Rosedale has No Right or Ability to Transport Water Through the Kern River Channel**

In addition to the concerns over the movement of water into Lake Isabella, the City has concerns over Rosedale’s proposed use of the Kern River channel to transport an alleged “block” or supply of water through the Kern River channel to Rosedale’s service area in western Kern County.

The Kern River is highly regulated, managed and controlled by the City and other Kern River interests. The City uses the Kern River channel to transport water supplies through various weirs, dams and other regulating structures to various diversion points on the river. The City also uses the Kern River channel and structures for recharge purposes, including to store and bank Kern River surface water in the groundwater basin for later extraction and use. In effect, every drop of water coming into the Kern River channel is owned and controlled by the City or other Kern River interests, and such ownership and control extends to recharged and stored water supplies in the groundwater basin.

The City also measures, monitors and records flows of water in the Kern River, and diversions from the river for various uses, including diversions into storage through the Kern River channel for recharge purposes. The City prepares monthly and annual summaries of the diversion and use of Kern River water for distribution to various Kern River interests.

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(cont.)

BAK-A-5

Rosedale ignores and fails to acknowledge or account for all of these facts and circumstances. The NOP does not identify or refer to the myriad of agreements, judgments, policies and procedures commonly referred to as “the Law of the River” that controls and impacts the diversion and use of Kern River water. The NOP further ignores and fails to mention the regulating structures, weirs and canals on the river, or the City’s active management and operation of such structures in connection with the Kern River.

The NOP does not indicate how Rosedale would transport water through the Kern River channel below Lake Isabella. Rosedale does indicate that “system losses” for water conveyed through the Kern River channel would have to be determined in the future. (p. 1-28.) The NOP, however, does not provide any specific details as to how such losses would be determined, or how the conveyance of water and calculation of losses would be coordinated or accommodated with the conveyance of water by Bakersfield and other Kern River interests below Lake Isabella.

The NOP instead only states: “The channel and canal losses from the mouth of the Kern Canyon to the RRBWSD point of diversion point at their recharge areas west of Bakersfield would be assessed in proportion to the flows of other Kern River operations by the Kern River Watermaster. RRBWSD would seek to coordinate and schedule deliveries coincidental to the operations of others so as to minimize losses and maximize recharge benefits.” (p. 1-28.) That statement is too vague and general for purposes of CEQA, and for an NOP. The statement is also erroneous, as the Kern River Watermaster has no authority or ability to coordinate and schedule deliveries of water to Kern River interests. The Watermaster has no authority over any Kern River water rights or right holders, and does not have the right to assign or impose transportation losses on any Kern River interest, or to control or limit the actions of any Kern River right holder.

Rosedale has no legal or practical right to move water through the Kern River channel, at least through the Bakersfield City limits. Water Code Section 7075, for example, would not give Rosedale a right to use the portion of the Kern River that runs through the City because the City manages, controls and regulates the flows of water in and around the Kern River channel for a number of purposes, and reasonable and beneficial uses, included recharge for banking and later recovery. Rosedale would need some sort of permission, agreement or license from the City for the use of the facilities within and around the Kern River. Rosedale would also need to reach an agreement with the City recognizing that water placed in the Kern River pursuant to the Project belongs to Rosedale, and is not absorbed by other Kern River rights.

Rosedale additionally could not rely on Water Code Section 7075 to convey water through the Kern River channel unless it can demonstrate that it is actually introducing new water, foreign water, or surplus water in the Kern River system, above prior rights, and which actually increases flows of water in the river. (*Stevinson Water Dist. v. Roduner* (1950) 36 Cal.2d 264, 267-268.) The NOP does not indicate that Rosedale’s alleged water supply would practically and physically increase or add to flows of Kern River water, as opposed to replacing or

BAK-A-5  
(cont.)

displacing water accruing to other Kern River rights. The court in *Stevinson* indicated that absent an agreement with additional appropriators, water placed in a stream for conveyance would be considered abandoned water. (*Id.*)

Absent an agreement with the City and other Kern River water interests, any water brought into the Kern River channel by Rosedale would therefore be considered abandoned, and would be subject to and absorbed by prior rights held by the City and other interests. Rosedale’s failure to acknowledge or account for its inability to transport water generated through the Project establishes that the Project is premature, incomplete, and invalid. At the very least, the NOP is deficient for not explaining and identifying one of the primary components of the Project.

BAK-A-5  
(cont.)

**D. The Project Would Adversely Impact the City’s Rights**

Any attempt to move water through Lake Isabella and the Kern River channel would adversely impact the City’s prior water rights and supplies. As indicated, the transportation of water pursuant to the Project would necessarily displace or replace water which would otherwise be diverted by the City. The supply of water available for use by the City for municipal uses, including direct diversion to water treatment plants and groundwater recharge and banking in the Kern River channel, would necessarily be reduced and adversely impacted. A reduction of the supply of Kern River water available to the City would also cause significant secondary and cumulative adverse impacts, including a decline in groundwater levels in the region, and increased pumping and reliance on groundwater supplies.

As indicated, the City actively manages and regulates the flow of water in the Kern River for a number of purposes and beneficial uses, including recharge, banking and storage of flows of water for later recapture and use by the City. The City relies on the Kern River channel for conveyance of water to diversion points and to the City’s 2800 Acre Recharge Facility. The City also utilizes the Kern River channel to send water to the North Kern Water Storage District (“North Kern”) pursuant to 1952 agreement with the City, and to the Kern Delta Water District (“Kern Delta”) pursuant to its pre-1914 appropriative rights. In addition to reducing quantities of water diverted and used by the City, the Project could disrupt or displace additional supplies of water allocated for use by other entities and parties on the Kern River.

BAK-A-6

The Project would accordingly violate Water Code Section 1706, which provides that a party holding pre-1914 water rights may only “change the point of diversion, place of use, or purpose of use if others are not injured by such change.” Based on the potential injury to the City, it is unlikely that the Project could be implemented as proposed by Rosedale.

In its investigation of the Onyx Ranch property, the Hanson Bridgett law firm also recognized the likely application of Water Code Section 1706 to an attempted transfer of water from Onyx Ranch to other parts of Kern County. In its September 30, 2009 opinion letter, the law firm stated: “In order to effectively convey water from Onyx Ranch to, for example, the

California Aqueduct, the transferor would need to prohibit downstream users from themselves diverting it for consumptive use. Thus, a proposed transfer of that sort might elicit a challenge by a downstream user claiming injury caused by a reduction in the water available to it.”

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BAK-A-6  
(cont.)

**2. THE NOP OMITTS AND OBSCURES NECESSARY AND REQUIRED INFORMATION REGARDING THE PROJECT, IN VIOLATION OF CEQA**

In addition to the foregoing objections and concerns, the City maintains that the NOP is misleading, deficient and incomplete. Rosedale fails to provide or explain important, necessary details and components of the Project.

An NOP must contain “sufficient information describing the project and the potential environmental effects to enable the responsible agencies to make a meaningful response.” (14 Cal. Code Regs. § 15082(a)(1).) At the very least, an NOP must include (a) a description of the project, (b) the location of the project, and (c) probable environmental effects of the project. (Id.) An Initial Study must additionally consider “[a]ll phases of project planning, implementation, and operation.” (14 Cal. Code Regs. § 15063(a)(1).)

BAK-A-7

Rosedale’s NOP does not satisfy those basic, limited requirements. The NOP instead contains incomplete, misleading and incorrect statements with regard to the Project, the local environment, and the water rights and supplies that will be impacted by the Project. The NOP does not identify or consider all phases of the Project. The NOP further fails to indicate that the EIR will include required, relevant sections, or that it will properly discuss and consider required and necessary issues and subjects. The document does not satisfy even the most basic requirements for the contents of an NOP, and therefore does not comply with CEQA.

**A. The Project Description is Incomplete and Misleading**

The “Project Description” in the NOP is deficient, as it is incomplete, vague and lacking in critical details about the Project. The Project Description fails to provide important details about the physical features of the Project, and the agreements, conditions and infrastructure necessary for the implementation of the Project. Without a more complete, and accurate, description of the Project, it is impossible to determine whether, and to what extent, the proposed EIR for the Project will properly review all significant Project impacts, including impacts on the City and its water rights and supplies.

BAK-A-8

The NOP provides that the Project “involves changing the point(s) of diversion and place of use for certain South Fork of the Kern River water rights from lands in the South Fork Valley to lands on the San Joaquin Valley floor in Kern County (County).” (p. 1-1.) The NOP further provides:

“The RRBWSD proposes to change the point of diversion and place of use for the water rights associated with these parcels so that the water can be delivered in the RRBWSD



service area on the San Joaquin Valley floor and used for irrigation and groundwater recharge. The RRBWSD proposes to reduce the diversion of water on the project site and convert the irrigated fields to lower water use crops or allow the fields return to their native vegetative state. The RRBWSD would then allow the water that would have been diverted on the project site to remain in the South Fork of the Kern River and flow downstream. This would result in a net increase in flows within the South Fork of the Kern River, and the Isabella Reservoir where the water would be released through the Isabella Dam and flow downstream in the lower Kern River until the water is diverted at the RRBWSD diversion point. From there, the RRBWSD would deliver the water to recharge basins and channels within and near its service area west of the City of Bakersfield (City) in unincorporated Kern County within the San Joaquin Valley.” (p. 1-1.)

At page 1-19, in a description of the “Purpose of the Proposed Project,” the NOP states “The purpose of the proposed project is to enable the RRBWSD to change the point of diversion and place of use for certain water rights from lands in the South Fork Valley to a location downstream within the San Joaquin Valley floor.” As indicated above, that statement is incomplete and misleading. The statement omits the primary, most problematic feature of the Project; the intended conveyance of a purported new water supply through Isabella Reservoir, Isabella Dam, and more than 50 miles of the highly regulated, managed and controlled Kern River system.

At page 1-28, in the description of proposed Project characteristics, Rosedale fails to provide necessary and important details regarding the transportation and diversion of water from the Kern River for the Project. Rosedale instead only very generally states:

“The proposed changes would allow water to flow to past the project site (Onyx and Smith Ranches), resulting in a net increase in surface flows within the South Fork of the Kern River and the Isabella Reservoir. The increased amount of water accumulated in the Isabella Reservoir would be released through the Isabella Dam and flow downstream in the lower Kern River to the groundwater recharge basins and channels in and near the RRBWSD’s service area west of the City of Bakersfield (City) and in unincorporated Kern County in the San Joaquin Valley.” (p. 1-28.)

The NOP later indicates that Rosedale would have to “coordinate with the Kern River Watermaster, Kern River Interests, and U.S. Army Corps of Engineers to facilitate the movement of the water through the Isabella Dam, or alternatively, secure temporary storage of the water in the Isabella Reservoir for later release to the downstream RRBWSD service area.” (p. 1-29.) The NOP provides no further details or information regarding the proposed “coordination” of flows of water into or out of Lake Isabella. The NOP does not provide any suggestion or proposal as to the type or manner of agreement or other accommodation that would allow it to bring water into and out of Lake Isabella.

The NOP therefore fails to provide essential, necessary information regarding the conveyance of water through Lake Isabella and the Kern River channel to Rosedale. The NOP does not indicate how water would be moved into and out of Lake Isabella, how long and under what circumstances the water would remain in Lake Isabella, and when and in what quantities water would be “released” from Lake Isabella. The NOP instead appears to simply assume that water generated in connection with the Project will somehow magically be conveyed more than 50 miles through the Kern River system to Rosedale, without any impact on the environment or on the Kern River interests.

BAK-A-8  
(cont.)

The information that is provided in the NOP regarding the conveyance of water is incomplete and misleading. Rosedale fails to address or account for the legal and practical obstacles to the use of the Kern River channel and Lake Isabella for storage and conveyance of water. Rosedale erroneously claims that such issues can be resolved through arrangements or accommodations made with the Kern River Watermaster, yet the Watermaster has no authority over the matters addressed in the NOP.

The NOP also fails to provide any information as to whether other Kern River water supplies or water accruing to other water rights would be impacted, or how such supplies and rights would be impacted, by “releases” of Project water from Lake Isabella. The NOP does indicate that “channel and canal losses” would have to be calculated and assessed for the water conveyed through the Kern River channel pursuant to the Project, and that Rosedale “would seek to coordinate and schedule deliveries coincidental to the operations of others so as to minimize losses and maximize recharge benefits.” (p. 1-28.) The NOP, however, provides no further details or information beyond those vague, general statements.

BAK-A-9

It is also not clear whether the Project would result in an actual net increase in surface flows below Lake Isabella, in addition to above Lake Isabella. As indicated above, the NOP claims that there will be a “net increase,” in flows above Lake Isabella, but there is no direct claim or indication that the Project would result in a net increase in flows of water in the Kern River, below Lake Isabella. There is also no indication that water developed pursuant to the Project and which flows in the South Fork of the Kern River would increase flows below Lake Isabella in the same or similar amount.

BAK-A-10

There is also no indication or explanation as to how or to what extent water conveyed through the Kern River channel below Lake Isabella would avoid reducing or displacing water accruing to existing Kern River water rights, including rights held by the City. There is no explanation or indication as to the steps or measures Rosedale would take to avoid or mitigate adverse impacts on other Kern River water rights and supplies.

BAK-A-11

## **B. The Project Area is Improperly Restricted and Not in Compliance with CEQA**

The EIR identifies the Project location as “five miles from the eastern boundary of the Isabella Reservoir along the South Fork of the Kern River, approximately 50 miles east of the RRBWSD service area in the San Joaquin Valley. The majority of the project site, consisting of 3,418.42 acres, is located within the northwestern portion of lands collectively known as the Onyx Ranch. The remaining acres are parcels within the Smith Ranch.” (pp. 1-2, 4.) In the Environmental Checklist form, Rosedale further claims that the Project location is limited to “29 parcels within the Onyx and Smith Ranches in and around the unincorporated communities of Onyx and Weldon within the Kern River Valley area in the northeastern portion of Kern County.” (p. 2-1.)

That limited Project location description is not in compliance with CEQA. The Project location must include all areas where the Project will be implemented, and where the Project will impact the environment. An EIR must consider all impacts of a project on the environment, even if the impacts would be felt by another agency. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713.) A complete project description is necessary to ensure that all of the project's environmental impacts are considered. (*City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1454.)

The Project setting and Project location must include the Kern River channel, the area in and around the Kern River channel, and Rosedale’s service area. The Project will be implemented and carried out at those locations, and the Project will have significant impacts on those areas. In particular, most of the impacts from the Project will occur within the Kern River channel as a result of the Project’s proposed conveyance of water through the channel, which would occur at same time as, and potentially in conflict with, water moved through the channel by the City. Project impacts will additionally primarily be realized with the boundaries of Rosedale, where water generated and transported pursuant to the Project would eventually be put to use.

It is inexplicable for a large water supply project not to identify the property where the conveyance of water will occur, and the territory where water will be used, as part of the project location. As a result of the incomplete, improper description of the Project area, the review and analysis of Project impacts in the EIR will necessarily be incomplete and deficient.

The NOP indicates that the EIR will review a number of potential Project impacts, including impacts on hydrology and water quality, but only within the Onyx Ranch area, and not the areas actually impacted by the Project, such as the Kern River channel and Rosedale’s service area. As explained in more detail below, the NOP also indicates that the EIR will not review or consider a number of potential impacts from the Project as a result of its impermissibly narrow focus on the Onyx Ranch region. The failure to identify the actual Project area would

therefore perpetuate and exacerbate additional violations of CEQA involving a failure to review all Project impacts.

↑ BAK-A-12  
 (cont.)

### C. The NOP Fails to Describe or Include Relevant Information Required in an EIR

The NOP fails to include or refer to additional information regarding Rosedale, including Rosedale's current water rights and supplies, Rosedale's diversion, delivery and use of water within its service area, or Rosedale's intended use of water generated through the Project. Absent that information, it is impossible to determine or identify potential impacts from the Project on Rosedale or its operations. It is additionally impossible to determine the necessity or need for the Project.

The NOP also fails to identify or describe any other Kern River water rights and supplies, including rights held by Bakersfield and other entities below Lake Isabella. As indicated, the NOP does not acknowledge or identify the agreements, judgments, orders, policies and practices which govern and control the conveyance of water through the Kern River channel, and the diversion and use of water from the Kern River. Without that critical information, the EIR cannot properly review the impacts of the Project on other Kern River interests. The NOP, moreover, improperly fails to acknowledge or identify any potential impact on the water rights and supplies of other entities, such as Bakersfield, that hold Kern River water rights or which use and rely on Kern River water supplies.

BAK-A-13

The failure to provide information regarding Kern River water rights and supplies, and the use of water from the Kern River, is contrary to the intent and requirements of CEQA. The California Supreme Court has recognized that "the future water sources for a large land use project and the impacts of exploiting those sources are not the type of information that can be deferred for future analysis." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 431.)

Courts have previously invalidated EIRs that did not contain sufficient information and details about water supplies proposed for use in a project, and which did not adequately discuss uncertainties associated with water supplies. (See e.g. *Planning & Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 908, fn. 5 (noting that State Water Project entitlements represent nothing more than "hopes, expectations, water futures or, as the parties refer to them, 'paper water'"); *Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715, 722 (holding that an EIR's water supply discussion was inadequate because of its assumption that 100 percent of a party's SWP entitlement would be available); *California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219, 1238–1239, 1244 (in which the court rejected an EIR for an industrial park because the water supply analysis relied, without adequate consideration of the uncertainties of SWP supplies, on the party's purchase of 41,000 af in imported SWP water).)

The EIR for the Project must also identify and discuss “areas of controversy” known to the parties, and the NOP should have acknowledged this duty. (14 Cal. Code Regs. §15123.) The NOP, however, fails to acknowledge prior disputes among the Kern River interests and other local water districts, including Rosedale, which could impact Rosedale’s ability to implement the Project or to transport water developed through the Project. Rosedale, for example, has been involved in litigation with its neighboring water districts with regard to Rosedale’s groundwater pumping and use. The NOP should have indicated that the EIR will mention and discuss those disputes, or consider the impact of the Project on such disputes, and the issues arising from such disputes.

BAK-A-14

The NOP further fails to indicate that it will identify and consider “areas of controversy” involving opposition to the Project from residents and landowners in the Onyx Ranch region. In particular, the City believes that some affected residents and landowners have objected to the fallowing of land in the region to “create” a new water supply, and the attempted transfer of significant water supplies to Rosedale’s service area.

The NOP does not reflect or mention any consideration of alternatives to the Project, including the “no project” alternative. The NOP specifically does not indicate that Rosedale will consider alternatives that would satisfy the alleged purpose and goals of the Project, including to “mitigate shortages in [Rosedale’s] SWP water supply that has been reduced due to environmental constraints in the Sacramento/San Joaquin Delta.” (p. 1-19.) Such alternatives would logically include conservation, additional sources of water, changes in cropping patterns, or use of groundwater banking facilities and projects within Kern County.

BAK-A-15

The NOP does not indicate that the EIR will identify and analyze the cumulative impacts of the Project, including the impact of the Project in connection with other water supply projects in the vicinity of the Project. The NOP should have also indicated that the EIR will identify and discuss the cumulative impacts of the planned conveyance of water generated through the Project to Rosedale. Bakersfield, for example, has proposed and recently completed program level CEQA review of the Kern River Flow and Municipal Water Project. That project could compete directly with Rosedale’s Project for the use of flows of Kern River water. Rosedale’s EIR should therefore consider and account for cumulative impacts associated with Bakersfield’s proposed project, in conjunction with Rosedale’s Project.

BAK-A-16

The NOP does not indicate that the EIR will examine all of the impacts and potential impacts of the Project on other entities that use and rely on Kern River water supplies, or which hold Kern River water rights, such as the City. An EIR must consider all impacts of a project on the environment, even if the impacts would be felt by another agency. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus*, (1994) 27 Cal.App.4th 713.) The NOP should therefore indicate that the EIR will assess the impact of the Project on the City, other water users in the region, and the Kern River generally.

BAK-A-17

**3. COMMENTS TO SPECIFIC PORTIONS OF THE NOP**

Bakersfield has the following additional comments, questions, and concerns regarding the NOP and the Project. These comments do not constitute or represent all of the City’s objections to and concerns with the Project, or to the adequacy of Rosedale’s compliance with CEQA. The City reserves the right to supplement these comments, in the future, and the City reserves the right to submit substantive objections to the Project.

BAK-A-18

- The NOP states: “In addition, the following entities also have water rights along the Kern River downstream of the Isabella Dam: City of Bakersfield, Olcese Water District, North Kern Water Storage District, and Kern Delta Water District.” (p. 1-7.) That statement is not accurate. Only Bakersfield and Kern Delta hold Kern River water rights within the First Point of Measurement service area. Bakersfield and Kern Delta provide Kern River water to other entities pursuant to various agreements. Such entities include North Kern, Olcese Water District, the California Water Service Company, the Kern-Tulare Water District, and the County of Kern.

BAK-A-19

- The NOP states: “The Kern River Watermaster prepares and keeps daily records on the flow of the waters of the Kern River and the storage and release of surface water to the Kern River from the Isabella Reservoir for deliveries to water right holders in the San Joaquin Valley.” (p. 1-7.) That statement is not accurate. The City, and not the Kern River Watermaster, prepares and keeps the daily record of the flow water in the Kern River, the storage and release of water from Isabella Reservoir, and the diversion and delivery of water to various entities. The City prepares certain records for use by the Watermaster, but the Watermaster does not have access to or the ability to prepare and maintain such records, which records are now the responsibility of the City.

BAK-A-20

- The NOP states: “The release of water from the Isabella Dam is made in accordance with prior existing agreements on the Kern River, beginning with the Miller-Haggin Agreement of 1888.” (p. 1-7.) That statement is incomplete and misleading. The release of water from Isabella Dam is made in accordance with a number of agreements between various Kern River interests, including the City’s predecessors in interest, and the federal government. After water is released from Lake Isabella it is distributed among various Kern River right holders and other parties pursuant to a number of agreements, policies, and practices. Those agreements include the Miller-Haggin Agreement of 1888, but also the 1900 Shaw Decree, subsequent amendments to the Miller-Haggin Agreement, and a number of other agreements.

BAK-A-21

- The NOP further states that the Project “would result in a net increase in surface flows within the South Fork of the Kern River and the Isabella Reservoir where the water would be released through the Isabella Dam and flow downstream in the lower Kern River . . .” That statement is incomplete, confusing and misleading. While Rosedale may have the ability to increase flows of water within the South Fork of the Kern River, the reference to Isabella Reservoir is not clear. It is not clear, in particular, whether that statement refers to increased flows of water into Isabella Reservoir, or out of Isabella Reservoir. In any case, the statement is misleading because it does not indicate that the Project would increase flows of water “in the lower Kern River.”

BAK-A-22

- The claim that the Project’s change in point of diversion method is consistent with how the other “Kern River Interests’ . . . routinely manage their respective Kern River pre-1914 water rights” (p. 1-19.) is misleading and inaccurate. Water is released out of Lake Isabella for diversion and use by the Kern River interests pursuant to a number of agreements. Rosedale is not a party to those agreements and does not have the same, or any, right to utilize the distribution, regulation and water management facilities along and throughout the Kern River channel downstream from Lake Isabella.

BAK-A-23

- As indicated, the City questions the existence and extent of the pre-1914 appropriative rights to divert water from the South Fork of the Kern River identified and quantified in the NOP at p. 1-23. The EIR should provide evidence of the existence and prior use of the alleged water rights in the amounts previously claimed. The EIR must provide more information with regard to Rosedale’s claimed rights in order to properly review the impact of a change of the point of diversion, place and manner of use, and the transportation of that claimed water supply to Rosedale’s service area.

BAK-A-24

- Table 1-3 list the quantities of water “associated with the proposed project,” stated as rates of flow, and Table 1-4 lists the “actual diversion of water available from the Onyx Ranch water rights since the year 2009.” (p. 1-24.) As indicated, recent information regarding the diversion and use of water on the Onyx Ranch property does not establish a right to use or to continue to use that quantity of water. The EIR should disclose any and all additional information which evidences or supports the claimed water rights, including records of diversion and use between 1902 and 2009.

BAK-A-25

- The NOP provides that the objectives of the Project “include project elements that avoid: Unreasonably affecting fish, wildlife, or other in-stream beneficial uses; Unreasonably affecting the overall economy or environment of the South Fork Valley as well as the Kern River Valley; and Injuring any legal users of the waters

BAK-A-26

of the South Fork of the Kern River.” (p. 1-27.) The City supports the inclusion of those objectives in the Project, but maintains that Rosedale should include and review “project elements” that (1) avoid unreasonably affecting fish, wildlife and other instream beneficial uses throughout the Kern River channel, including through the Bakersfield city limits, (2) avoid unreasonably affecting the economy and environment of the entire Kern River service area and channel, including the San Joaquin Valley portion of Kern County, and (3) avoids injury to any and all legal users of water on the entire Kern River, and not just on the South Fork of the Kern River.

BAK-A-26  
(cont.)

- The NOP states that system losses for the water transferred between Lake Isabella and Rosedale’s point of diversion “would be determined” in the future. (p. 1-28.) The NOP further states:

“The channel and canal losses from the mouth of the Kern Canyon to the RRBWSD point of diversion point at their recharge areas west of Bakersfield would be assessed in proportion to the flows of other Kern River operations by the Kern River Watermaster. RRBWSD would seek to coordinate and schedule deliveries coincidental to the operations of others so as to minimize losses and maximize recharge benefits.” (Id.)

BAK-A-27

That statement does not provide basic, necessary or specific information regarding the conveyance of water through the Kern River channel. It is not sufficient for the NOP to simply state that critical components of the Project will be determined in the future. The NOP must provide specific information about critical components of the Project. The EIR cannot properly review the impacts of the Project without necessary, basic information regarding the Project, including the circumstances, timing, procedures, and process for determining conveyance losses.

- The claim that conveyance losses would be assessed in proportion to the flows of other Kern River interests is also unclear, incomplete and lacking in necessary details. The NOP fails to explain how the losses could be assessed in proportion to other flows, or other rights. The NOP also does not identify any other rights, or flows, that would be subject to some sort of proportionate reduction as a result of the Project.

BAK-A-28

- The NOP erroneously claims that the Kern River Watermaster is entitled to assess or impose conveyance losses on Kern River right holders. That assertion is inaccurate. The Watermaster does not have the authority to determine, enforce, adjust or modify any water rights. Any claim that the Watermaster could adjust flows of water in the Kern River or impose conveyance losses on existing right

BAK-A-29

holders, is misguided and incorrect. Instead, Rosedale would have to reach some agreement or arrangement with the City, as the operator and record keeper on the Kern River, and other Kern River interests, with regard to the allocation of conveyance losses associated with the movement of water through the Kern River channel pursuant to the Project.

BAK-A-29  
(cont.)

- As indicated previously, the NOP fails to provide important necessary details regarding the movement of water into Lake Isabella, the storage or conveyance of water through Lake Isabella, and the “release” of a new supply of water for distribution to Rosedale through the Kern River channel. The NOP fails to provide any information as to how, and when water will be moved through and out of Lake Isabella, and through the Kern River channel. There is no information on system losses, the capacity of the Kern River system, impacts on other Kern River water rights and supplies, and impacts on diversions from the River.

BAK-A-30

- It is inaccurate and misleading to indicate that the Watermaster could authorize or play any kind of role in the agreements or arrangements that would have to be made by Rosedale with the Kern River parties, including the City, to allow it to move water through the Kern River below Lake Isabella. As indicated, the Watermaster has no authority or role in the conveyance of water through the Kern River channel or the allocation of water within the First Point Kern River service area. The Kern River interests, primarily the City, instead own and operate the physical regulating and diversion structures in the Kern River, and hold rights to all of the water in the river, including water which percolates into the ground for later recapture and use.

BAK-A-31

- The NOP states, at page 1-29, that “To support the purpose of the proposed project, irrigated agricultural fields on the project site could be converted from high consumptive use lower value forage crops to non-irrigated uses, such as non-irrigated pasture, grazing lands, and native upland vegetation.” The EIR, of course, must review the impacts of the Project at the Onyx Ranch site, including impacts associated with the fallowing of agricultural lands, the conversion of agricultural lands to other uses, and the shift of a significant quantity of water away from the region.

BAK-A-32

- The EIR should also address local opposition to the Project and the transfer of water away from the region, and any economic impacts on the region from the loss of the water supply projected for use in the Project, as the EIR should discuss “areas of controversy” known to the parties. (14 Cal. Code Regs. §15123.) The NOP, for example, refers to potential “water rights disputes” arising from the

BAK-A-33

Project, and the EIR should identify, review and analyze those disputes in detail. (p. 1-29.)

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- The NOP explains: “In addition, more frequent coordination with the Kern River Watermaster would occur. On a weekly or even daily basis, as determined to be needed, the RRBWSD would notify downstream South Fork water users and the Kern River Watermaster of the RRBWSD diversions that would be directed to and through Lake Isabella, so that surface flow is not mistakenly diverted by others.” (p. 1-29.) Once again, that statement omits and fails to include necessary, important details regarding the Project. The vague reference to “coordination” does not provide any details or information regarding the actual agreements, circumstances or procedures which would allow Rosedale to transport its “new” water supply through the Kern River channel below Lake Isabella. The NOP fails to provide any information regarding the timing, process, procedure or conditions which would allow Rosedale to move its water through the Kern River channel.

BAK-A-34

- The information that is provided in the NOP at page 1-29, is also incomplete and misleading, as the Watermaster has no ability or authority to regulate, monitor or “coordinate” the movement of water through the Kern River channel or the distribution of water to various water right holders and interests. Instead, Rosedale would need to make arrangements and agreements with the City, as the operator and record keeper on the River, and other Kern River interests and right holders.

BAK-A-35

- At page 1-29, the NOP indicates that the Project will apparently involve a shift in water supplies within the Onyx Ranch region from surface water to groundwater supplies. The NOP states that one of the elements of the Project involves “the collection of groundwater pumping data and the preparation of data records for use by the water right holders. Coordination of groundwater data among the water right holders is a necessity to ensure good groundwater management and to preclude water rights disputes based on erroneous or lack of information.” (p. 1-29.) The NOP should have identified a shift to groundwater resources as a component of the Project. The NOP should have provided additional information regarding that component of the Project, including amounts projected to be pumped in the region to replace water transferred pursuant to the Project, groundwater conditions in the region, pumping in the region, and impacts associated with the use of groundwater in connection with the Project.

BAK-A-36

- The NOP lists, at pages 1-30 and 2-2, the “additional responsible or trustee agencies [that] may have discretionary or other permit authority over all or portions of the proposed project.” That list is incomplete, as it should have

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included the State Water Resources Control Board, Bakersfield, and other Kern River interests. All of those entities may and will likely have some sort of discretionary, approval or regulatory authority over the Project. The State Water Resources Control Board, for example, could impose terms and conditions on the conveyance of water through the Kern River channel in the course of the pending dispute over unappropriated Kern River water. The City, as the operator and record keeper on the Kern River, would also have considerable practical and legal authority over Rosedale's ability to transport water in the Kern River channel.

BAK-A-37  
(cont.)

- The NOP, and the EIR, should discuss Rosedale's pending application to appropriate Kern River water, and explain how that application would impact, affect or alter the Project, if approved by the State. The EIR, for example, should explain whether Rosedale's application is an alternative to the Project, or a separate, unrelated Project. It is particularly important that the EIR review the application to appropriate because Rosedale has failed to undertake any CEQA review in support of the application, or in connection with the project discussed in the application for the use of water requested by Rosedale.
- At page 2-1, the NOP states: "The project site consists of a total of 4,109.18 acres located in and around the unincorporated communities of Onyx and Weldon in the Kern River Valley." As indicated, that is incomplete and misleading. The Project site should also consist of the Kern River channel and surrounding environment, where the water will be conveyed, and Rosedale's service area, where the water will purportedly be used, or at least stored.
- The City disputes Rosedale's claim that the Project would not have a significant impact on greenhouse gas emissions. (pp. 2-8, 3-14, 15.) The transfer of a significant quantity of surface water away from the Onyx Ranch region would very likely result in additional groundwater pumping and use to generate replacement water. Kern River interests would additionally likely have to pump and use groundwater supplies to replace water lost or displaced as a result of the Project. Such increased pumping would generate energy and emissions which could have a significant impact on greenhouse gas generation. The EIR must identify and review those impacts.
- The Project, contrary to the claims in the NOP (see p. 2-11), could also have significant impacts on population and housing in the region. The Project, for example, could reduce or displace water supplies available to the City for municipal use. The Project could also significantly impact population and housing in the Onyx Ranch region by reducing the quantity of water available for use for those purposes in the region. The EIR should identify and review those impacts.

BAK-A-38

BAK-A-39

BAK-A-40

BAK-A-41

- The Project, contrary to the claims in the NOP (pp. 2-13, 14), could have a significant impact on utilities and service systems. The Project could reduce the quantity of water available to the City’s utility system, as well as utilities in the Onyx Ranch region. The EIR must identify and review those impacts, and any related impacts on Kern River water right holders and interests.
- The NOP states: “The implementation of the proposed project would not involve changes in the existing environment which, due to the location or nature, could result in the conversion of Farmland to non-agricultural use or the conversion of forest land to non-forest use. Therefore, no impact would occur and no mitigation measures would be required. No further analysis of this environmental issue will be provided in the Draft EIR.” (p. 3-5.) That statement is incorrect and misleading. The NOP instead indicates that the Project will likely involve the conversion of farmland to non-agricultural use as a result of the transfer of a significant quantity of surface water away from the Onyx Ranch region, and the conversion of farmland to non-agricultural uses. The EIR should therefore identify and review potentially significant adverse impacts associated with the conversion of agricultural land to non-agricultural uses.
- The NOP states: “The implementation of the proposed project has the potential to deplete groundwater supplies or interfere with groundwater recharge from the reduction in irrigation to allow for the continuation of surface water downstream. This has the potential to cause a net deficit in aquifer volume or a lowering of the local groundwater table level. Therefore, this potentially significant impact of the proposed project will be analyzed in the Draft EIR.” (p. 3-20.) That statement appears to only refer to potential groundwater impacts in the Onyx Ranch region. The EIR should additionally review potentially significant Project impacts on groundwater supplies and recharge in other areas impacted by the Project, including the Kern River channel, Bakersfield’s service area, and within Rosedale. Water from the Project which replaces or substitutes for water accruing to the City’s rights in the Kern River channel, for example, could reduce the quantities of water used by the City for recharge and banking purposes in the Kern River channel or in the City’s 2800 Acre Recharge Project. Water from the Project diverted into Rosedale would also have some sort of impact on groundwater conditions within Rosedale, which impacts must be reviewed in the EIR.
- At page 3-20, the NOP indicates that the EIR will review potential adverse water quality impacts resulting from “increased sedimentation from erosion downstream.” The NOP later indicates, however, that “implementation of the proposed project would not otherwise substantially degrade water quality. No impact would occur and no mitigation measures would be required. No further

BAK-A-42

BAK-A-43

BAK-A-44

BAK-A-45

analysis of this environmental issue will be provided in the Draft EIR.” (p. 3-21.) The City points out that the Project could have additional adverse water quality impacts, including impacts arising from a loss of surface water supplies, increased groundwater pumping and use, migration of contaminated water supplies, and reduced groundwater recharge. The City’s groundwater supply has been impacted by water quality issues, and the Project could increase or exacerbate such impacts by reducing surface and groundwater supplies available to the City. The EIR must review those potential impacts.

BAK-A-45  
(cont.)

- The NOP claims that the Project would not conflict with or impact “any applicable land use plan, policy, or regulation of an agency with jurisdiction over the proposed project or project site that was adopted for the purpose of avoiding or mitigating an environmental effect.” (p. 3-23.) The NOP concludes that “no further analysis of this environmental issue will be provided in the Draft EIR.” (Id.) Rosedale reached that conclusion, however, based solely on a consideration of land use plans and land uses in the Onyx Ranch region of Kern County. As indicated previously, the EIR should consider impacts and environmental issues throughout the entire Project area, including in Lake Isabella, the Kern River channel, and Rosedale’s service area. Rosedale should not unreasonably narrow the Project area to avoid consideration of Project impacts.

BAK-A-46

- The NOP further states that the EIR will not review impacts on and conflicts with any applicable habitat conservation plan or natural community conservation plan because “the project site is not within the boundaries of a habitat conservation plan or similar plan.” (p. 3-23.) That conclusion is based on an improperly narrow and limited view of the Project site. The Project site should include the Kern River channel and Rosedale’s service area. Those regions are within the boundaries of several habitat conservation and similar plans. The EIR should review and analyze Project impacts on those plans.

BAK-A-47

- The NOP indicates that the EIR will not consider or review growth inducing impacts from the Project, because “the implementation of the proposed project would not induce substantial growth, either directly or indirectly, in the surrounding areas.” (p. 3-27.) That conclusion is based on an improper narrow and limited characterization of the Project area as only including the Onyx Ranch region. As indicated, that is not in compliance with CEQA, as the Project area should include Rosedale’s service area, as well as the Kern River channel and surrounding areas.

BAK-A-48

- Rosedale states that its service area “contains approximately 43,000 acres of agricultural and urbanized agricultural land.” (p. 1-20.) The NOP also indicates that “urban development” within Rosedale “is anticipated to increase as the City

BAK-A-49

develops to the west.” (p. 1-23.) As the water developed and conveyed pursuant to the Project will eventually be diverted into and used within Rosedale’s service area, it certainly appears likely that the Project will impact urban development within Rosedale. The EIR should therefore review growth inducing impacts resulting from the Project, as well as related impacts on urban development.

BAK-A-49  
(cont.)

- The NOP states that “The implementation of the proposed project would not require potable water supplies that serve existing entitlements and no new or expanded entitlements are needed. No impact would occur and no mitigation measures would be required. No further analysis of this environmental issue will be provided in the Draft EIR.” (p. 3-35.) That statement is not accurate. The Onyx Ranch region will have to utilize new or expanded entitlements and supplies, including groundwater supplies, to replace water transferred to Rosedale from Onyx Ranch. Bakersfield and other Kern River interests would also have to obtain new water entitlements and supplies to replace any of their water supplies lost or diminished as a result of the Project. The EIR must review and any and all impacts associated with efforts to obtain new or expanded water supplies and entitlements.

BAK-A-50

- The NOP provides that “proposed project would not generate significant environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly. Therefore, a less than significant impact would occur and no mitigation measures would be required. No further analysis of this environmental issue will be provided in the Draft EIR.” (p. 3-37.) That statement is incorrect. The fallowing of farmland and transfer of substantial water supplies away from Onyx Ranch could have adverse economic impacts on the region and residents of the region, including impacts resulting from a loss of agricultural jobs, reduced water supplies, increased dust and risks of valley fever, and related adverse consequences. The EIR must review economic and social effects resulting from physical changes to the environment, including, in this situation, economic and social effects resulting from the fallowing of farmland and the transfer of water away from Onyx Ranch. (14 Cal. Code Regs. § 15064(e).)

BAK-A-51

#### 4. CONCLUSION

As indicated, Bakersfield has significant concerns with regard to the Project, which concerns it will raise at the appropriate time, in the appropriate forum. The statements and comments in this letter only constitute the City’s comments to the NOP. The City reserves the right to comment on and raise appropriate objections and challenges to the Project, the EIR which will be prepared in connection with the Project, and any other efforts or approvals related to the Project.

BAK-A-52

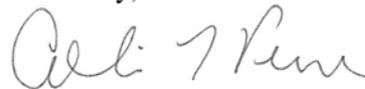
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For purposes of CEQA, however, Rosedale should at the very least disclose the material details and components of the Project in the NOP. Rosedale's failure to provide such necessary information, and failure to comply with additional CEQA requirements, raise serious concerns about Rosedale's willingness and ability to comply with CEQA and to undertake a proper and complete review of the environmental impacts of the Project. Bakersfield therefore urges Rosedale to rescind the NOP and delay preparation of a Draft EIR for the Project until it is able to identify and disclose the material components of the Project, and until it indicates it will properly review all impacts of the Project on the environment.

BAK-A-52

We thank you for consideration of these comments. Please let us know if you have any questions with regard to these comments.

Sincerely,



Colin L. Pearce  
for DUANE MORRIS LLP

CLP:bah

cc: Virginia Gennaro, City Attorney, City of Bakersfield  
Alan Tandy, City Manager, City of Bakersfield  
Art Chianello, Water Resources Manager, City of Bakersfield



State of California – Natural Resources Agency  
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**GAVIN NEWSOM, Governor**  
**CHARLTON H. BONHAM, Director**



July 27, 2020

Dan Bartel  
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 Rosedale-Rio Bravo Water Storage District  
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Dear Mr. Bartel:

**Subject: Onyx Ranch South Fork Valley Water Project (Project)  
 Draft Environmental Impact Report (DEIR)  
 State Clearinghouse (SCH) No. 2018021061**

The California Department of Fish and Wildlife (CDFW) received a Notice of Availability of a DEIR from Rosedale-Rio Bravo Water Storage District (RRBWSO) for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.<sup>1</sup> CDFW previously submitted comments in response to the Notice of Preparation of the DEIR.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

### **CDFW ROLE**

CDFW is California's **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public

<sup>1</sup> CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW’s lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in “take” as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the project proponent may seek related take authorization as provided by the Fish and Game Code.

CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include, sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

CDFW has jurisdiction over fully protected species of birds, mammals, amphibians and reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited and CDFW cannot authorize their incidental take.

**Water Rights:** The capture of unallocated stream flows to artificially recharge groundwater aquifers are subject to appropriation and approval by the State Water Resources Control Board (SWRCB) pursuant to Water Code § 1200 et seq. CDFW, as Trustee Agency, is consulted by SWRCB during the water rights process to provide terms and conditions designed to protect fish and wildlife prior to appropriation of the State’s water resources. Certain fish and wildlife are reliant upon aquatic and riparian ecosystems, which in turn are reliant upon adequate flows of water. CDFW therefore has a material interest in assuring that adequate water flows within streams for the protection, maintenance and proper stewardship of those resources. CDFW provides, as available, biological expertise to review and comment on environmental documents and impacts arising from Project activities.

## PROJECT DESCRIPTION SUMMARY

**Proponent:** RRBWSD

**Objective:** The objective of the Project is to change the point of diversion and place of use for the water rights associated with the parcels on the Project site and convert the



CDFW-1

CDFW-2

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irrigated fields to lower water use crops or allow the fields to return to their native vegetative state. RRBWSD would then allow the surface water that would have been diverted on the Project site to remain in the South Fork Kern River and flow downstream. According to the DEIR, this ostensibly would result in a net increase in flows within the South Fork Kern River and Isabella Reservoir where the water would be released through the Isabella Dam and flow downstream in the lower Kern River until the water is diverted at the RRBWSD diversion point within the San Joaquin Valley floor.

The net increase in water supplies to the RRBWSD service area as a result of the proposed Project is expected to supplement RRBWSD's contracted State Water Project water supply from the State of California.

**Project Description:** The Project includes the following specific elements:

- The collection of surface flow diversion data for the South Fork Kern River and the preparation of data records for use by downstream water right holders. The Project would include the continuation of monthly postings of daily flow and diversion records, as well as more frequent coordination with the Kern River Watermaster and City of Bakersfield Water Department.
- The collection of groundwater pumping data and the preparation of data records for use by the water right holders. RRBWSD would post daily pumping records on a monthly basis.
- The collection of groundwater level and water quality data. RRBWSD would collect data from the wells on the Project site and seek additional data from other South Fork Valley water purveyors and post the records on a monthly basis.
- The use of a comprehensive calibrated groundwater/surface water model to estimate the net difference between the amount of South Fork Kern River water reaching Isabella Reservoir in the existing condition and with the Project.
- Land management practices for the agricultural fields on the Project site. In order to reduce irrigation demand on the Onyx Ranch, previously irrigated agricultural fields would be converted to non-irrigated pasture or native vegetation, with the exception of the Boone Field on the Onyx Ranch. On Onyx Ranch, the transition to non-irrigated pasture would be achieved by planting vegetation capable of surviving a natural precipitation regime while also providing grazing forage for cattle. No substantial changes to agricultural practices at the Smith Ranch are anticipated with implementation of the Project other than a 33 percent reduction

CDFW-2  
(cont.)

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in irrigated acres. More effective use of existing available forage would be made with modifications to grazing management activities. The Project would involve development of up to 12 shallow, low-volume wells powered by solar facilities and sited at least 1,000 feet from the South Fork Kern River, with aboveground 2,000- to 4,000-gallon water tanks, to provide livestock water and improved livestock distribution for more effective use of the available forage on Onyx Ranch and Smith Ranch.

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 CDFW-2  
 (cont.)

**Location:** Communities of Weldon and Onyx, Kern County, State Route 178, Fay Ranch Road, Kelso Valley Road, Doyle Ranch Road, and Scodie Lane.

**Timeframe:** The proposed Project would have an implementation timeframe of up to three years depending on hydrology and lease terms.

## COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist RRBWSD in adequately identifying and mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife, i.e., biological resources. Editorial comments or other suggestions may also be included to improve the document. Based on a review of the Project description, a review of California Natural Diversity Database (CNDDDB) records, a review of aerial photographs of the Project and surrounding habitat, several special status species could potentially be impacted by Project activities. Please note that the CNDDDB is populated by and records voluntary submissions of species detections in areas where surveys may have been conducted, often in association with proposed projects. As a result, special status species may be present in locations not depicted in the CNDDDB where there is suitable habitat and features capable of supporting them.

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 CDFW-3

Project-related activities could impact the following special status plant and wildlife species located in the South Fork Valley:

Common Name	Scientific Name	Status*		
		Federal	State	Other
Yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	T	E	---
Southwestern willow flycatcher	<i>Empidonax trailii extimus</i>	E	E	---
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E	E	---
Tricolored blackbird	<i>Agelaius tricolor</i>	---	T	---
Kern red-winged blackbird	<i>Agelaius phoeniceus aciculatus</i>	---	SSC	---
Summer tanager	<i>Piranga rubra</i>	---	SSC	---
Loggerhead shrike	<i>Lanius ludovicianus</i>	---	SSC	---

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Common Name	Scientific Name	Status*		
		Federal	State	Other
Yellow warbler	<i>Setophaga petechial</i>	---	SSC	---
Burrowing owl	<i>Athene cunicularia</i>	---	SSC	---
Cooper's hawk	<i>Accipiter cooperii</i>	---	SSC	---
Golden eagle	<i>Aquila chrysaetos</i>	---	FP	---
Western pond turtle	<i>Emys marmorata</i>	---	SSC	---
Yellow-breasted chat	<i>Icteria virens</i>	---	SSC	---
Alkali mariposa-lily	<i>Calochortus striatus</i>	---	---	1B.2

\* Endangered (E), Threatened (T), Candidate for Listing (C), Species of Special Concern (SSC), Fully Protected (FP), California Rare Plant Rank 1B.2.

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 CDFW-4  
 (cont.)

The South Fork Valley contains the largest contiguous cottonwood-willow riparian woodland in California. CDFW owns and manages the 7,200-acre Canebrake Ecological Reserve (CBER), located on either side of Onyx Ranch. The National Audubon Society owns and manages the Audubon Kern River Preserve, a 3,275-acre preserve located on several parcels to the west of Onyx Ranch. Over 330 species of birds have been documented nesting in or migrating through the South Fork Valley and the area has the distinction of having been designated one of the first 10 Globally Important Bird Areas in the United States. Unparalleled biodiversity is evident as five out of the seven bioregions that occur within California (Mojave Desert, Central Valley, Sierra Nevada, Chaparral, and Great Basin) converge together within and adjacent to the South Fork Valley and within the CBER. Two rare community types exist along the South Fork Kern River: the Great Valley Cottonwood Riparian Forest (Riparian Forest) and the Central Valley Drainage Hardhead/Squawfish Stream. To date, approximately 2,000 species of native plants (i.e., one fourth of the state's total), 67% of the State's butterfly species, and 115 species of mammals have been documented in the South Fork Valley. Many of these species are dependent on the Riparian Forest for roosting, nesting, foraging, movement, and denning opportunities. The footprint of the CBER also forms a north-south wildlife movement corridor between the U.S. Forest Service (USFS) Domeland Wilderness, U.S. Bureau of Land Management (BLM) wilderness to the north, and Federal lands to the south, with the Riparian Forest as a key element in sustaining this critical wildlife corridor.

CDFW-5

## I. Project Description and Related Impact Shortcoming

**Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or the United States Fish and Wildlife Service (USFWS)?**

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### COMMENT 1: South Fork Kern River Riparian Habitat Restoration

Riparian habitats are among the most ecologically productive and diverse terrestrial environments by virtue of an extensive land-water ecotone, the diversity of physical environments resulting from moisture gradients, and a mosaic of habitats created by dynamic river changes (Naiman et al. 1993). Riparian habitats are especially important in semiarid regions, where the availability of moisture and a cool, shaded microclimate gives these habitats an ecological importance disproportionate to their size. The ecological importance of riparian areas to the South Fork Valley includes a range of attributes such as moisture availability, structural complexity, and linear continuity (i.e., for migration corridors).

CDFW-6

Many of the plant species composing the cottonwood-willow riparian vegetation associated with the South Fork Kern River are found only in riparian areas. Characteristics typical of obligate riparian vegetation are dependence on a high water table, tolerance to inundation and soil anoxia, tolerance to physical damage from floods, tolerance to burial by sediment, ability to colonize flood-scoured surfaces or fresh deposits, and ability to colonize and grow in substrates with few soil nutrients.

CDFW-7

The CBER lands were specifically acquired to protect more than 4.5 miles of Riparian Forest within its boundaries in the South Fork Valley. These lands were acquired through a partnership with the USFS, BLM, United States Army Corps of Engineers (USACE), Wildlife Conservation Board, Audubon Society, the Nature Conservancy, private donations, and lands acquired and donated to CDFW that serve as mitigation land to offset impacts from specific projects. One of the management goals for the CBER and Audubon Kern River Preserve is to increase suitable riparian habitat through restoration in multiple areas for several special status species that utilize the dense cottonwood-willow forest, specifically the State threatened tricolored blackbird, Kern red-winged blackbird, and the State and federally endangered southwestern willow flycatcher and western yellow-billed cuckoo. Riparian habitat restoration by CDFW and Audubon includes planting of Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), Oregon ash (*Fraxinus latifolia*), white alder (*Alnus rhombifolia*), California black walnut (*Juglans californica*), and hoary nettle (*Urtica dioica*), and the removal of damaging invasive species such as tamarisk (*Tamarix* sp.) trees and purple loose-strife (*Lythrum salicaria*)

CDFW-8

Geomorphic and hydrologic processes and conditions are important to riparian ecology. The flood regime of the South Fork Kern River is relatively unaltered and maintains near natural hydrologic conditions and floodplains in the South Fork Valley, making the area uniquely suitable for success for the riparian revegetation projects undertaken by Audubon and CDFW (Kondolf et al. 1996). Subsurface

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water abstraction for municipal or agricultural use can substantially reduce alluvial water tables, stressing or killing riparian vegetation (Kondolf and Curry 1986, Wright and Berrie 1987).

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CDFW-9  
(cont.)

**Recommended Mitigation Measure 1: Riparian Restoration and Management Plan.**

The DEIR lacks information on how crop and pasture lands fallowed for the Project will be managed to achieve a native plant community. Infestations of non-native invasive species on fallow lands could expand or spread, significantly impact adjacent lands managed by CDFW and Audubon, including areas that have recently been restored to riparian habitat. CDFW recommends that the DEIR include a riparian restoration and management plan for fallowed crop and pasture lands on Onyx Ranch and Smith Ranch lands within the Project area that at a minimum addresses: (1) actions to facilitate early identification of non-native invasive species; and (2) methods to remove and immobilize the spread of non-native invasive species such as purple loosestrife (*Lythrum salicaria*), tamarisk, dodder (*Cuscuta* sp.), Russian thistle (*Salsola tragus*), and others.

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CDFW-10

**COMMENT 2: DEIR Hydrological Analysis and Impacts to Riparian Habitat.**

The Project lands comprise a total of 4,109 acres made up of 3,418 acres of Onyx Ranch lands and 691 acres of Smith Ranch lands. The Project is a crop idling transfer that will change the points of diversion and place of use for a portion of the surface water currently diverted to irrigate Onyx and Smith Ranch lands. The un-diverted surface water will be allowed to flow downstream to the Lake Isabella Reservoir and then be delivered to RRBWSD's service area in the San Joaquin Valley where it will be used for irrigation and groundwater recharge. Lands currently being irrigated with surface water will be converted to non-irrigated pasture or native vegetation, except for the Boone Field, a 96-acre parcel (page 3.4-23). The DEIR states that the diverted surface water will not be replaced with groundwater pumped on the Project site (page ES-1).

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CDFW-11

The DEIR evaluated the potential hydrologic impacts from the Project for the 100% Project alternative, for the full conversion of irrigated fields to non-irrigated pasture or native vegetation. The DEIR did not analyze the potential impacts from converting less land, such as 50% of the irrigated land, and states that use "of only 50 percent of the agricultural operations on the project site would not be financially sustainable for the RRBWSD due to the payoff of the debt service associated with the property acquisition" (page ES-11).

The following comments regarding the DEIR hydrological analysis in relation to biological impacts focus on two main hydrologic impacts from the Project: (1) the

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CDFW-12

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potential for impacts to existing riparian vegetation and habitats as a result of changes in the groundwater levels resulting from the ceasing irrigation and converting lands to non-irrigated pasture and native vegetation; and (2) the estimates of the changes in water balance in the Onyx Ranch and Smith Ranch area as a result of the Project.

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CDFW-12  
(cont.)

To evaluate the potential hydrologic impacts to the groundwater basin in the South Fork Kern River Valley, a numerical model was developed for the DEIR that simulate the surface water and groundwater budgets for the 100% Project alternative. The technical report for the model was provided in Appendix E of the DEIR. CDFW identified the following six issues with the results of the modeling that raise questions regarding its utility at predicting the Project's impacts:

CDFW-13

1. The increase in groundwater storage from the Project with a decrease in groundwater levels in the area of Onyx Ranch.

The DEIR uses the decrease in the average annual groundwater storage deficit as the justification for concluding that the Project will not cause a significant impact to groundwater supplies or drop groundwater to a level that will not support existing planned land uses or impede the sustainable management of the groundwater basin (Potential Impact HYDRO-2; pages 3.11-35 to 40). The DEIR hydrology impacts analysis focuses mostly on the land uses that rely on groundwater pumped from wells. Impacts of changing groundwater levels on riparian vegetation and wildlife habitat are determined to be not significant and therefore no mitigation measures are proposed.

CDFW-14

The groundwater model results estimate that the 100% Project alternative will result in an increase in groundwater storage. The model estimated that over the 13-year model period of 2005 to 2017, the cumulative change in groundwater storage would go from a storage deficit of 39,704 acre-feet (AF) under the baseline condition to a deficit of 21,483 AF for the 100% Project (Appendix E Tables 4 and 6, respectively). This is a net cumulative increase of 18,221 AF in groundwater storage, or annual average reduction in deficit of 1,402 acre-feet per year (AFY). The cause of the storage increase during the 100% Project over baseline conditions appears to be the result of (1) additional groundwater in storage of 2,043 AFY from South Fork Kern River channel surface water infiltration, (2) ending most groundwater pumping, thereby stopping the storage loss of 5,582 AFY, and (3) a decrease in evapotranspiration of 656 and 400 AFY along the South Fork Kern River and other off-river areas, respectively. The cessation of most surface water irrigation counters these storage increases because the cessation of deep percolation of applied irrigation water decreases the average annual groundwater storage by 7,411 AFY. The remainder of the increase in groundwater storage comes from other minor changes in the

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groundwater budget, see Appendix E, Tables 4 and 6.

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(cont.)

The DEIR notes that despite reducing the average annual groundwater deficit of the South Fork Kern River Valley by approximately half, the 100% Project will still result in local decreases in groundwater elevation in the area of the Onyx Ranch over the baseline condition (DEIR pages 3.11-35-36). The model report demonstrates the range of the groundwater level reduction in figures and tables for two different modeled years, 2011 and 2016. These model years were selected to represent a high groundwater condition from a wet year (2011), and a low groundwater condition from a dry year (2016). Tables 8 and 9 in Appendix E give the modeled inflow and outflow estimated changes in groundwater level from the 100% Project over the baseline simulation. In addition, Figures 3.11-5 and 3.11-6 in the DEIR show the contours of the groundwater change for the modeled years 2016 and 2011, respectively. In addition to the groundwater change tables and the change figures, Appendix B of the DEIR Appendix E model report presents simulation hydrographs of the monitoring wells used for the study. Each hydrograph has the actual measured groundwater level data plotted, along with curves for the results of the calibrated model baseline and 100% Project scenarios.

CDFW-16

Enclosed with this letter are 11 of the hydrographs for the wells located closest to the South Fork Kern River (from DEIR Figure 3.11-6). On each of these hydrographs, CDFW has added a horizontal line at what approximates a 7-foot depth below ground surface, a depth that can be a critical threshold for preservation of groundwater dependent ecosystems (GDEs) (DEIR page 3.6-57).

CDFW-17

The following excerpts from the hydrology section of the DEIR discuss the extent and magnitude of the potential changes in groundwater levels with the 100% Project.

*...[T]he groundwater levels would be expected to decrease in some areas, primarily within and around the project site, and increase in other areas further downstream of the project site, depending on the season. The majority of fluctuations in groundwater levels would be on the order of a few feet. For high groundwater conditions (late rainy season), the fluctuations range from increases of up to about 2.9 feet and decreases up to about -15.6 feet, depending on the location. The increase of approximately 2.9 feet was modeled to occur at Well 20N01 located about 1 mile east of Isabella Reservoir and about 3.75 miles west of the project site, and the decrease of approximately -15.6 feet was modeled to occur within the project site at the Nicoll Field – Old Ag Well located about ½ mile north of Weldon on the boundary of the project site on Onyx Ranch (see Figure 3.11-6). However, groundwater levels throughout all of the Kern River Valley Groundwater*

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*Basin would be higher in the late rainy season and decreases in groundwater levels as a result of the proposed project would mean that groundwater levels may not rise as high as they would in the existing conditions in some areas during the late rainy season. Given that there would be such minor water level impacts of +2.9 to -15.6 feet during high groundwater conditions and that normal seasonal fluctuations are 10 to 20 feet, it is not expected that any existing groundwater wells would be prevented from accessing groundwater and likewise that pump performance (flow rate and pressure) fluctuations would be negligible and not noticeable to water users. Note that the wells that would experience the largest effect are owned by the RRBWSD. (pages 3.11-35, -36)*

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*All other wells, including those for the local community water systems, would experience temporary seasonal groundwater level decreases of less than 5 feet and may experience an increase in groundwater levels in areas farther away from the project site and closer to Isabella Reservoir. Given that there would be such minor water level changes of less than -5 feet during low groundwater conditions and that normal seasonal fluctuations are 10 to 20 feet, it is not expected that any existing groundwater wells would be prevented from accessing groundwater and likewise that pump performance (flow rate and pressure) fluctuations would be negligible and not noticeable to water users. (page 3.11-36)*

Although the groundwater modeling simulation for the Project estimated an increase in groundwater storage, the increase does not appear to eliminate the potential impacts from the estimated decline in groundwater levels. That is due to the fact that the increase in storage is not distributed uniformly across the Project area, but appears to be concentrated closer to Lake Isabella Reservoir and away from the Project lands.

CDFW-19

2. The assumption that an increase in channel infiltration from the Project will mitigate the decline in groundwater levels in the Fremont cottonwood forest areas.

DEIR Potential Impact BIO-2 (pages 3.6-56 to -60) analyzes the potential Project impacts to riparian habitat and other sensitive species and states that a change will occur in the quantity of water available to approximately 70.4 acres of the Fremont cottonwood forest because of the reduction in flow in agricultural ditches and the reduction or elimination of irrigation. The analysis also notes the potential for the Project to decrease groundwater levels of up to approximately 15.6 feet beneath the Project site (page 3.6-57). The DEIR dismisses the significance of the potential impacts to cottonwood habitat areas by stating that the groundwater decrease occurs *during wet/rainy periods when groundwater*

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*levels typically are at their highest. The DEIR also notes that [s]urface vegetation and natural communities are most affected and constrained by periods of low groundwater levels, which typically occur in late autumn or early winter, just before the beginning of the rainy season (page 3.6-57).*

The riparian habitat and sensitive species impacts analysis in Impact BIO-2 discusses that Fremont cottonwood trees have taproots up to approximately seven feet deep and that the 100% Project may cause groundwater levels to decline below the accepted root growth limit for cottonwood trees on a periodic basis, and sensitive individuals (e.g., young saplings, declining trees) (page 3.6-57). This potential impact is not considered significant because “...it is not expected that the community as a whole would be significantly affected and the decrease in surface flow within the agricultural ditches and the decrease in irrigation ... would result in the conveyance of more water into the South Fork of the Kern River, which supports the majority of Fremont cottonwood forest in the potential impact area” (page 3.6-57).

Elsewhere in the section on analysis of Project impacts on aquifer volume and groundwater levels, (Potential Impact HYDRO-2) the DEIR states that “...groundwater levels throughout all of the Kern River Valley Groundwater Basin would be higher in the late rainy season and decreases in groundwater levels as a result of the proposed project would mean that groundwater levels may not rise as high as they would in the existing conditions in some areas during the late rainy season”. The analysis then reasons that the Project groundwater level change of up to -15.6 feet is minor because it is within the range of normal seasonal fluctuations of 10 to 20 feet (pages 3.11-35, -36). This conclusion does not consider that the Project-induced declines are added to the natural seasonal fluctuations.

The above items appear to contradict the data and conclusions presented in the DEIR of no potential impacts to GDEs from reduced groundwater levels. A review of near river well hydrographs in Appendix E with the modeled groundwater level changes shows that the 100% Project will result in: (1) an almost constant decrease in groundwater level over the no Project condition; (2) a reduction in the amplitude of the important seasonal fluctuations, high to low variation, in groundwater levels; (3) an increase in the duration that the groundwater level is below a target level, such as the 7-foot depth below the ground surface; and (4) failure to recover in some areas from the 2013 to 2016 drought (see hydrographs HYD-2 and HYD-13). This suggests that the decline in groundwater levels from the 100% Project can significantly alter the existing seasonal fluctuations and in some areas create a significant increase in the duration of low water levels below a critical 7-foot depth threshold. For example, Table 9 of Appendix E shows a decline of -9.8 feet for HYD-13 and the model simulation hydrograph for that well

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(cont.)

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shows 100% Project groundwater levels are almost continuously below the critical threshold of the 7-foot depth. The model simulations appear to show that the Project will cause a decline in groundwater level for a significant duration that the Fremont cottonwood forest and other GDEs may be significantly impacted by the Project.

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CDFW-22  
(cont.)

There is also a suggestion from the water budget simulation modeling that the decline in groundwater levels with the Project will cause a measurable impact to riparian vegetation. The groundwater model water budget difference between South Fork Kern River evapotranspiration for baseline versus the 100% Project estimates an average annual decrease of 656 AFY (Appendix E Tables 4 and 6). The model report in Appendix E does not describe the area extent or hydrologic/biologic components that contribute to this groundwater river evapotranspiration, but it could be assumed that riparian vegetation is a major source of evapotranspiration. CDFW recommends that the DEIR address the cause of the overall reduction in South Fork Kern River evapotranspiration, including the area over which it will occur and whether the loss will create a potential significant impact to maintaining riparian vegetation and habitat, and other GDEs.

CDFW-23

The DEIR does identify Goals 4.2.1 and 4.2.2 from the Kern River Valley Specific Plan that require preservation and maintenance of natural ecosystems and native habitat, and protection of threatened and endangered plants and wildlife species in accordance with State and Federal Law (page 3.6-39), along with land use Policies 27 and 32 in the Kern County General Plan that require protection of threatened or endangered plant and wildlife species in accordance with State and federal laws, and management of riparian areas in accordance with the U.S. Army Corps of Engineers, and with CDFW rules and regulations to enhance the drainage, flood control, biological, recreational, and other beneficial uses while acknowledging existing land use patterns (page 3.6-39, -40). The DEIR does not specifically require any hydrologic mitigation measures for potential impacts of lowering groundwater levels with the 100% Project to the beneficial use of shallow groundwater by vegetation, i.e., GDEs and their associate habitats. The dependency of GDEs and the potential impacts from lowering the shallow water table are not specifically acknowledged, evaluated, analyzed or otherwise seen as a relevant potential impact from the anticipated changes in groundwater levels. The DEIR assumes that the increase in river flows will mitigate any impacts to GDEs and that the range of the current fluctuations in groundwater levels are similar to those caused by the Project. Of the six potential hydrology impacts analyzed in DEIR Impact Analysis and Mitigation Measures Section 3.11.3, only HYDRO-2 addresses land uses impacts from changes in groundwater levels on production from wells. Impacts to GDEs from lower groundwater levels are not considered, apparently contradicting the Goals and

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Policies of Kern County. Thus, no hydrologic monitoring or mitigation measures for protection of GDEs are considered.

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(cont.)

Although the Project will result in additional flows in the South Fork Kern River, the lowering of the groundwater table throughout the year along with a decrease in the range of seasonal groundwater level change, combined with an increase in the duration of groundwater levels deeper than 7 feet below the ground surface indicates that the Project may cause significant impacts to Fremont cottonwood forest along the South Fork Kern River at and near the Project site that would not be mitigated by the mitigation measures currently in the DEIR.

CDFW-25

**Recommended Mitigation Measure 2: Groundwater Monitoring and Reporting Plan.** CDFW recommends that the DEIR include a groundwater level monitoring and reporting plan to document seasonal changes in shallow groundwater levels. CDFW recommends combining this monitoring and reporting plan with periodic biological surveys to identify and monitor changes to vegetation and habitats, and identify areas where groundwater currently is not adequately monitored and provide data for where to locate additional monitoring wells. CDFW recommends that the DEIR provide specific mitigation for reducing the lowering of groundwater levels in areas of GDEs. Additional groundwater modeling of mitigation scenarios would be necessary to develop effective mitigations for Project impacts to GDEs.

CDFW-26

3. Discrepancies in the assumption of 17% channel flow losses from the Project with the results in the groundwater modeling tables on channel infiltration and groundwater discharge to surface water.

In the DEIR section on hydrologic impacts, Section 3.11.3, the results of the modeling estimated that approximately 7,265 AFY of net diversions to the Project site in the existing conditions would be redirected to the South Fork Kern River (page 3.11-29). The modeling also estimated that only 83% of the redirected water; 6,014 AFY, would be available to RRBWSD as new water to release from Lake Isabella Reservoir. The difference is a loss of 1,251 AFY, or a 17% loss in surface water flow due to stream channel infiltration, evapotranspiration, and subsurface outflow from the Kern River Valley Groundwater Basin that is assumed to be surface water inflow to the Reservoir (page 3.11-29). A review of the model results does not clearly document the calculation of the 17% Project river losses, and instead suggests that the cumulative Project river losses would be greater.

CDFW-27

Model water budget results for the 2005 to 2017 baseline and 100% Project are given in Table 3 and 5 for surface water and Table 4 and 6 for groundwater, respectively. The difference between the simulated baseline versus 100%

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Project average annual water budgets for South Fork Kern River infiltration to groundwater, a loss to surface water, is 2,043 AFY in both the surface water budget, Table 3 minus Table 5, and the groundwater budget, Table 4 minus Table 6. The South Fork Kern River channel evapotranspiration is only listed in the groundwater budgets with the Project resulting in a decrease in outflow of 656 AFY for the 100% Project (Tables 4 and 6). The surface water budget only lists evapotranspiration from land surfaces and estimates no change with the 100% Project (Tables 3 and 5). Both the groundwater and surface water budgets have increases in groundwater discharging to surface water of 465 AFY given under the heading of "Groundwater Discharge to Surface Water" (surface water Tables 3 and 5), and "Subsurface Outflow" (groundwater Tables 4 and 6). When these changes from baseline to the 100% Project surface water budget are summed, assuming the groundwater evapotranspiration has no effect on surface water, the result is a loss to surface water flow of 1,578 AFY not the 1,251 AFY stated in the DEIR ( $1,578 = -2,043 + 465$ ).

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 CDFW-28  
 (cont.)

Analysis Recommendation: The above analysis suggests that the estimated average annual losses in river flow into the Isabella Reservoir are approximately 22%, not 17% as stated in the DEIR. CDFW recommends that the DEIR provide a more detailed discussion of how the 17% river flow loss was determined, or that the DEIR revise the losses to approximately 22%.

CDFW-29

4. Discrepancies in Tables for Project Water Use Only for the 96-Acre Boone Field.

The DEIR Project description states that except for the Boone Field the "...currently irrigated pastures on the Onyx Ranch would be converted to drought tolerant vegetation capable of surviving a natural precipitation regime while also providing grazing forage for cattle. The existing 96-acre Boone Field would continue to be cultivated as irrigated crop or pasture (page 3.4-25). [T]he Mack Ditch would continue to be used to transport well water to the Boone Field" (pages 3.6-59, -60). The 100% Project would reduce irrigated acreage on the Onyx Ranch from 1,658 acres to 96 acres (Boone Field) (page 3.4-23).

CDFW-30

The groundwater model simulations done to estimate the effects of the proposed 100% Project on the water budget of the Study Area assumed the following actions (Appendix E page 8):

- Surface water deliveries via the Mack/Scodie, Landers, Nicoll/Pruitt, and Lieb diversions (see Appendix E Figure 11) are discontinued.
- Groundwater pumping for all of the Onyx Ranch Property except the Boone Field is discontinued.

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- Return flow associated with applied water on the Onyx Ranch Property is discontinued.
- One-third of the Smith Ranch Property surface water diversions are discontinued.

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CDFW-31

The groundwater budget summary Tables 4 and 6 show that the groundwater pumping for crop field irrigation (outflow) decreases to an annual average of 875 AFY. The inflows tables for the groundwater budget show an increase in canal losses of 299 AFY for a total average annual loss with the 100% Project of 650 AFY. Assuming that the groundwater being pumped for the Boone Field is delivered via the Mack canal and no other Onyx Ranch fields are receiving diverted surface water, CDFW recommends that the DEIR specify if the 650 AFY Project canal loss is due only to irrigation of the Boone Field. The groundwater budget also includes under the 100% Project an inflow from deep percolation of applied irrigation water at an average annual volume of 1,199 AFY (Table 6). The surface water budget has a corresponding outflow for deep percolation of 1,199 AFY for the 100% Project scenario (Table 5). CDFW recommends that the DEIR disclose the source(s) of this applied irrigation water, given that it exceeds the 875 AFY of pumped groundwater. There appears to be a discrepancy between these water budget elements with regard to how much water will be applied for irrigation during the 100% Project. If the canals are losing 650 AFY combined with the applied irrigation water loss of 1,199 AFY to deep percolation, but the groundwater is only supplying 875 AFY to irrigation, then it appears that the losses exceed the supply in the groundwater budget.

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CDFW-32

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CDFW-33

Analysis Recommendation: CDFW recommends that the DEIR include more information to more clearly state these water budget elements, such as why the canal losses in the groundwater inflow budget under the Project increase approximately 85% over the baseline loss of 351 AFY; what the source(s) of the irrigation water that supplies the 1,199 AFY of deep percolation are; on what fields, what acreage, and what crop type will this irrigation be applied; the amount of water being applied to produce 1,199 AFY deep percolation with the 100% Project; and how much of the deep percolation from applied irrigation water occurs at the Boone Field and other fields. The analysis presented in the DEIR is incomplete without a comprehensive and clear Project description that identifies the Project irrigation sources, where water is being applied, for what types of crops, and how much irrigation water is consumed, recharged, and returned to the river.

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CDFW-34

5. Discrepancies in Tables for Change in Project Water Use for the Smith Ranch.

The DEIR Table 3.4-1 lists the irrigated fields and pastures on the Onyx Ranch

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and Smith Ranch. The total Smith Ranch acreage in the 100% Project is given as 242 acres. Table 2-5 in the DEIR lists the baseline conditions and diversion changes for the ditches (canals) affected by the 100% Project. The Smith Ditch is listed as the only canal serving the Smith Ranch and the table states that the flow rate will be adjusted down 33%. Table 2 in Appendix E lists the adjusted net surface water diversions used in the model simulations. Under the Branson/Smith Ranch column the reduction in total simulated surface water diversions with the 100% Project is 4,631 AF, an approximately average annual reduction of 356 AFY, or 0.49 cubic-feet-per-second (cfs) for a full year. This is far less than the 3.313 cfs RBWSD water right listed in DEIR Table 2-2 under "Smith Ranch one-third 1861/1862". Even if the total duration of the diversion is reduced to 8 months, November to June (DEIR Table 2-5) instead of a full year, the reduction in Smith Ditch flow would not equal 3.313 cfs.

CDFW-35  
(cont.)

Analysis Recommendation: CDFW recommends that the DEIR clearly discuss the rate and timing of the change in diversions to the Smith Ranch that are used in the groundwater model. If the modeled change in diversion differs from the one-third reduction in water right, CDFW recommends that the DEIR identify where the remaining un-diverted water will be used and whether that use was part of the Project groundwater model.

CDFW-36

#### 6. Discrepancies in Tables for Baseline and Project Water Use

The DEIR Table 2-3 provides a list of the Onyx Ranch diversions from the South Fork Kern River from 2009 to 2017 along with the water year type and the measured flows at the USGS Onyx gauge. The average annual Onyx Ranch diversion is listed as 15,332 AFY from 2009 to 2017. This equates to approximately 21.2 cfs assuming a full year. This diversion is approximately 18.7% of the flows measured at the USGS Onyx gauge (#11189500). Table 2 in Appendix E gives the modeled average annual diversions from 2005 to 2017 for apparently both the Onyx Ranch and Smith Ranch at 15,662 AFY, or 21.56 cfs for a full year. During the years 2009 to 2017 the Appendix E table gives the average annual diversion at 15,966 AFY. Both of the Appendix E values are greater than the 15,322 AFY listed in the DEIR Table 2-3.

CDFW-37

The DEIR Table 2-4 provides a list of the monthly cfs water demand at Onyx Ranch and one third of the Smith Ranch for years 2009 to 2017. This demand equates to approximately 25,981 AFY, or 35.9 cfs, assuming that the water demand occurs each day of the year. This demand exceeds the 15,332 AFY surface water diversion listed in Table 2-3, by 10,649 AFY. The assumption in the DEIR is that this demand on Onyx Ranch can be met by pumping groundwater. Table 4 in Appendix E lists the modeled outflow for average annual groundwater pumped for the Onyx Project from years 2005 to 2017 at 6,457

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AFY, and from years 2009 to 2017 at 6,242 AFY. Both of these averages are less than the amount needed to meet the water demand of the Project by approximately 40%.

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CDFW-38  
(cont.)

Another issue related to the Project water is that the amount of water applied per acre to meet the demand listed in Table 2-4 appears to be excessive. For example, if the 25,981 AFY is applied to the 1,900 irrigated acres for the Onyx Ranch and one third of the Smith Ranch listed in DEIR Table 3.4-1, it is equivalent to approximately 13.67 feet of water applied to each acre. Assuming that the surface water applied is 15,322 AFY or approximately 8.07 feet to each acre, then the amount of groundwater needed to meet demand is approximately 6.42 feet to each acre, assuming the water is spread over the entire 1,658 irrigated acres of the Onyx Ranch (Table 3.4-1). The groundwater model in Appendix E assumed that the groundwater pumping supplied approximately 3.40 feet, again assuming this water is spread over the entire 1,900 irrigated acres of the Onyx Ranch and one third of the Smith Ranch.

CDFW-39

Analysis Recommendation: The discrepancies between the DEIR and the groundwater model in Appendix E in the amounts of the water diversions and groundwater pumped, along with the apparent excessive amount of applied water, appear to question the validity of the groundwater model and the estimates of potential impacts. It is also possible that the amount of water to be applied per acre is excessive, potentially constituting a waste and unreasonable use under the California Constitution. CDFW recommends that the DEIR explain these discrepancies and provide the appropriate values, and then revise and re-run the groundwater model to provide a more accurate estimate of potential Project impacts. In addition, CDFW recommends that the model also be run assuming 50% Project diversions as well as different scenarios that might be needed to mitigate the impacts to GDEs from the decline in groundwater levels caused by the Project.

CDFW-40

CDFW-41

## II. Project Description and Related Impact Shortcoming

**Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or the USFWS?**

### **COMMENT 3: Southwestern Willow Flycatcher and Western Yellow-Billed Cuckoo**

**Issue:** SWFL and WYBC are addressed together in the DEIR because of similar habitat use. Both SWFL and WYBC are known to occur in the Project vicinity (CDFW 2020), and the DEIR states that suitable breeding and foraging habitat is

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present within the Project boundary, including flood-irrigated ditches and riparian habitat composed of mulefat thickets, red willow thickets, sandbar willow thickets tamarisk thickets, and Fremont cottonwood forest.

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CDFW-42  
(cont.)

**Specific Impact:** Without appropriate avoidance and minimization measures for SWFL and WYBC, potential significant impacts associated with well development include nesting, foraging habitat loss, nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

**Evidence impact would be significant:** Willow flycatcher was historically widespread in riparian willow thickets and montane meadow complexes within its range; however, the quantity and quality of suitable habitat was significantly reduced by the removal and destruction of riparian vegetation, over-browsing by livestock, cowbird parasitism, and water diversions and groundwater pumping that alter riparian vegetation upon which the species relies (Serena 1982, Ehrlich et al. 1988, USFWS 2014). Their nesting territories are exclusively in vegetation communities that are adjacent to wetlands such as rivers, streams, or lakes (Zeiner et al. 1990, USFWS 2014).

CDFW-43

WYBC is a Neotropical migrant that breeds in riparian forests of California. Their populations declined significantly in the last 150 years primarily due to habitat loss, as they are riparian forest obligates (Laymon and Halterman 1987). Loss and degradation of their habitats has come from land clearing, fire, flood controls, water diversions, groundwater pumping, and livestock grazing. The species is considered to be declining in California (Dettling et al. 2015).

**Recommended Potentially Feasible Mitigation Measure(s)**

To evaluate potential impacts to SWFL and WYBC associated with subsequent development, CDFW recommends conducting the following evaluation of Project areas and implementing the following mitigation measures.

**Recommended Mitigation Measure 3: SWFL and WYBC Habitat Assessment**

CDFW-44

CDFW recommends that a qualified biologist conduct a habitat assessment in advance of ground disturbing activities, to determine if the Project area or a 500-foot buffer area contains suitable habitat for SWFL or WYBC.

**Recommended Mitigation Measure 4: SWFL and WYBC Surveys**

In areas of suitable habitat where ground-disturbing activities will occur during the nesting season of SWFL (February 15 through September 15) or WYBC (May 1 through September 15), CDFW recommends that a qualified biologist conduct focused surveys for SWFL and WYBC according to established protocols, within

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Project-related work areas and a 500-foot survey buffer, during the year of proposed Project work. For SWFL, CDFW recommends following “A Natural History Summary and Survey Protocol for the Southwestern Willow Flycatcher” (U.S. Geological Survey 2010). For WYBC, CDFW recommends the USFWS-recommended “A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo” (Halterman et al. 2016 (draft), found at [https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/YellowBilledCuckoo/YBCU%20Survey%20Protocol\\_%20DRAFT\\_2016.pdf](https://www.fws.gov/southwest/es/arizona/Documents/SpeciesDocs/YellowBilledCuckoo/YBCU%20Survey%20Protocol_%20DRAFT_2016.pdf)).

CDFW-45  
(cont.)

**Recommended Mitigation Measure 5: SWFL and WYBC Avoidance**

If suitable habitat is present and surveys are not feasible, CDFW recommends establishing and maintaining a 500-foot no-disturbance buffer around suitable habitat during the nesting seasons for SWFL and WYBC. If protocol surveys detect either species, CDFW likewise recommends avoiding the habitat and a 500-foot buffer until the end of the nesting season of the species.

CDFW-46

**Recommended Mitigation Measure 6: SWFL and WYBC Take Authorization**

If SWFL or WYBC are detected and avoidance of the habitat is not feasible, consultation with CDFW is warranted to discuss how to avoid take or, if avoidance is not feasible, to acquire a State ITP prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081(b).

CDFW-47

**COMMENT 4: Least Bell’s Vireo (LBVI)**

**Issue:** LBVI are known to occur in the Project vicinity (CDFW 2020), and the DEIR states that suitable breeding and foraging habitat is present within the Project boundary, including riparian habitat composed of mulefat thickets, red willow thickets, sandbar willow thickets tamarisk thickets, and Fremont cottonwood forest.

CDFW-48

**Specific Impact:** Without appropriate avoidance and minimization measures for LBVI, potential significant impacts associated with well development include nesting, foraging habitat loss, nest abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

**Evidence impact would be significant:** Least Bell’s vireo were abundant and widespread in the U.S. until the 1950s (Grinnell and Miller 1944). By the 1960s, they were considered scarce (Monson 1960), and by 1980, there were fewer than 50 pairs remaining, although this number had increased to 2,500 by 2004 (Kus and Whitfield 2005). The primary cause of decline for this species has been the loss and alteration of riparian woodland habitats (USFWS 2006). Fragmentation of their preferred habitat has also increased their exposure to brown-headed cowbird

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(*Molothrus ater*) parasitism (Kus 2002). Current threats to their preferred habitat include colonization by non-native plants such as *Arundo donax* and altered hydrology (diversion, channelization, etc.) (USFWS 2006).

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CDFW-49  
(cont.)

**Recommended Potentially Feasible Mitigation Measure(s)**

To evaluate potential impacts to LBVI associated with subsequent development, CDFW recommends conducting the following evaluation of Project areas and implementing the following mitigation measures.

**Recommended Mitigation Measure 7: LBVI Habitat Assessment**

CDFW-50

CDFW recommends that a qualified biologist conduct a habitat assessment in advance of ground disturbing activities, to determine if the Project area or a 500-foot buffer area contains suitable habitat for LBVI.

**Recommended Mitigation Measure 8: LBVI Surveys**

In areas of suitable habitat where ground-disturbing activities will occur during the nesting season of LBVI (February 15 through September 15), CDFW recommends that a qualified biologist conduct focused surveys for LBVI according to established protocols, within Project-related work areas and a 500-foot survey buffer, during the year of proposed work. CDFW recommends following the USFWS (2001) Least Bell's Vireo Survey Guidelines.

CDFW-51

**Recommended Mitigation Measure 9: LBVI Avoidance**

If suitable habitat is present and surveys are not feasible, CDFW recommends establishing and maintaining a 500-foot no-disturbance buffer around suitable habitat during the nesting season for LBVI. If protocol surveys detect the species, CDFW likewise recommends avoiding the habitat and a 500-foot buffer until the end of the nesting season.

CDFW-52

**Recommended Mitigation Measure 10: LBVI Take Authorization**

If LBVI is detected and avoidance of the habitat is not feasible, consultation with CDFW is warranted to discuss how to avoid take or, if avoidance is not feasible, to acquire a State ITP prior to ground-disturbing activities, pursuant to Fish and Game Code section 2081(b).

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**COMMENT 5: Tricolored Blackbird (TRBL)**

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**Issue:** TRBL are known to occur in the Project vicinity (CDFW 2020, UC Davis 2020), and the DEIR identifies suitable breeding and foraging habitat for TRBL within the Project area in flood-irrigated agricultural land and ditches, riparian habitat composed of cattail marsh, mulefat thickets, red willow thickets, sandbar willow thickets, tamarisk thickets, and Fremont cottonwood forest, as well as some of the agricultural fields and irrigated hayfields growing alfalfa. The DEIR also notes that a TRBL colony has been documented in the area of “Gibboney Ponds” (i.e., Givney Pasture) on Onyx Ranch.

CDFW-54  
(cont.)

**Specific Impact:** Without appropriate avoidance and minimization measures for TRBL, potential significant impacts associated with well development include nesting, foraging habitat loss, nest and/or colony abandonment, reduced reproductive success, and reduced health and vigor of eggs and/or young.

**Evidence impact would be significant:** Flood-irrigated agricultural land is an increasingly important nesting habitat type for TRBL (Meese 2017) and this nesting substrate is present within the Project vicinity. Wetlands are an important component of tricolored blackbird habitat, particularly for nest sites but also for roosting sites in the nonbreeding season (Beedy 2008), and water diversions can impact them through dewatering of wetland. TRBL nesting can occur synchronously, with all eggs laid within one week (Orians 1961). Depending on timing, disturbance to nesting colonies can cause nest entire colony site abandonment and loss of all unfledged nests, significantly impacting TRBL populations (Meese et al. 2014). The DEIR concludes that drier conditions created by the Project could significantly reduce breeding and foraging habitat.

CDFW-55

**Recommended Potentially Feasible Mitigation Measure(s)**

To evaluate potential impacts to TRBL associated with subsequent development, CDFW recommends conducting the following evaluation of Project areas and implementing the following mitigation measures.

**Recommended Mitigation Measure 11: TRBL Habitat Assessment**

CDFW recommends that a qualified biologist conduct a habitat assessment in advance of ground disturbing activities, to determine if the Project area or a 500-foot buffer area contains suitable habitat for LBVI.

CDFW-56

**Recommended Mitigation Measure 12: TRBL Surveys**

If Project activity that could disrupt nesting must take place during the avian nesting season of February 1 through September 15, CDFW recommends that a qualified wildlife biologist conduct surveys for nesting TRBL no more than 10 days prior to the

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start of activity related to a ground-disturbance, to evaluate presence or absence of TRBL nesting colonies in proximity to Project activities and to evaluate potential Project-related impacts.

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CDFW-57  
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**Recommended Mitigation Measure 13: TRBL Avoidance**

If suitable habitat is present and surveys are not feasible, CDFW recommends establishing and maintaining a 300-foot no-disturbance buffer around suitable habitat during the nesting season for TRBL. If protocol surveys detect the species, CDFW likewise recommends avoiding the habitat and a 500-foot buffer until the end of the nesting season.

If an active TRBL nesting colony is found during surveys, CDFW recommends implementation of a minimum 300-foot no-disturbance buffer around the colony, in accordance with CDFW’s “Staff Guidance Regarding Avoidance of Impacts to Tricolored Blackbird Breeding Colonies on Agricultural Fields in 2015” (CDFW 2015), until the breeding season has ended or until a qualified biologist has determined that nesting has ceased and the young have fledged and are no longer reliant upon the colony or parental care for survival. It is important to note that TRBL colonies can expand over time and for this reason, CDFW recommends that an active colony be reassessed to determine its extent within 10 days prior to Project initiation.

CDFW-58

**Recommended Mitigation Measure 14: TRBL Take Authorization**

In the event that a TRBL nesting colony is detected during pre-construction or annual focused surveys, consultation with CDFW is warranted to discuss whether the Project can avoid take; if take avoidance is not feasible, to acquire an ITP, pursuant to Fish and Game Code section 2081(b), prior to any Project activities.

CDFW-59

**COMMENT 6: Indirect Impacts to Special-Status Species**

**Issue and Potential for Impact to Be Significant:** DEIR Mitigation Measure (MM) BIO-1 describes a five-year Assessment and Monitoring Program that will use the CDFW-California Native Plant Society Rapid Assessment / Relevé method of vegetation sampling to monitor and categorize impacts to natural communities and riparian habitat. Impacts will be categorized as light (less than 33 percent), moderate (between 33 and 66 percent), and heavy (above 66 percent). No mitigation is proposed for impacts categorized as light. MM BIO-1 proposes on- and/or off-site preservation, creation, restoration, and/or enhancement of sensitive natural communities or riparian habitat at a ratio no less than 1:1 for moderate disturbance impacts, and no less than 2:1 for heavy disturbance impacts, with a habitat mitigation plan developed at that time.

CDFW-60  
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MM BIO-1 defers the development of Assessment and Monitoring Program and associated mitigation until after a five-year monitoring period, which may not be sufficient length of time to determine impacts to riparian habitat from cessation of surface water application to riparian habitat and marsh land. A longer period of monitoring may be necessary to capture Project-related impacts to habitat based on other environmental factors including water year types. Conversely, impact levels identified in the DEIR could be realized in fewer than five years and exceed those limits, and impacts would not be addressed until after the five-year monitoring period and a subsequent planning effort to determine suitable mitigation. Because impacts that result in habitat losses would result in a reduction of breeding and foraging sites for species and potentially significant reductions in on-site populations, the DEIR could therefore require those impacts to exceed significance thresholds prior to triggering minimization or compensatory mitigation measures; or, potentially significant Project effects could become evident only after five years of monitoring and fail to be identified and minimized or mitigated with compensatory habitat.

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CDFW-60  
(cont.)

**Recommended Mitigation Measure 15: Habitat Assessment, Monitoring, and Compensatory Mitigation Program.**

CDFW recommends that the DEIR include a habitat assessment, monitoring, and compensatory mitigation program that allows flexibility to provide for compensatory mitigation sooner than five years after monitoring commences, to prevent additional habitat and corresponding species losses at prior to five years of monitoring; that continues for more than five years, to account for a wide range of environmental conditions and water year types (i.e., wet, normal, dry, and critically dry) and longer-term Project impacts to habitats; and that includes specific compensatory mitigation options in the form of potential lands to acquire (if necessary) or set aside, and to enhance, manage, and monitor over the long term to ensure successful mitigation according to clearly established performance criteria that are determined in coordination with CDFW and USFWS.

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CDFW-61

**ADDITIONAL COMMENTS AND RECOMMENDATIONS**

**Overlying Groundwater Rights:** CDFW has a vested interest in the sustainable management of groundwater because many sensitive ecosystems and public trust resources are dependent on groundwater and interconnected surface waters, including ecosystems on CDFW-owned and managed lands that fall within the Sustainable Groundwater Management Act (SGMA)-regulated basins. Overlying groundwater rights are analogous to riparian rights; they attach to land overlying a groundwater basin. Similar to riparian rights, the water can only be used on the overlying land and cannot be exported outside the groundwater basin. RRBWSD has overlying groundwater rights, and thus cannot export any groundwater from its Onyx Ranch property outside of

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CDFW-62

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the Kern River Valley Groundwater Basin. Section 2.7 of the DEIR states that the proposed Project would not include pumping groundwater to meet irrigation demand on the Project site. In order to reduce irrigation demand on the Onyx Ranch, previously irrigated agricultural fields would be converted to non-irrigated pasture or native vegetation. The Project description does not specify that RRBWSD will curtail current groundwater pumping practices on its Onyx property or Smith Ranch due to the Project.

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Analysis Recommendation: CDFW recommends that the DEIR disclose all current and proposed groundwater pumping practices by RRBWSD, in addition to any proposed groundwater transfer outside of the Kern River Valley Groundwater Basin by RRBWSD. CDFW advises that the DEIR disclose the location and pumping rates of all existing wells, and any plans to close those wells in order to not pump and then transfer overlying groundwater outside the Kern River Valley Groundwater, in violation of California water law. If the Project proceeds and involves out-of-basin groundwater transfers, the Department advises an immediate reevaluation of the Kern River Valley SGMA prioritization to account for Basin Prioritization criteria 8.d.2, which ranks all basins with out-of-basin groundwater transfers as high priority, thus requiring a Groundwater Sustainability Plan.

CDFW-63

**Lake and Streambed Alteration:** Project activities have the potential to substantially extract or divert stream flow that is subject to CDFW’s regulatory authority pursuant Fish and Game Code section 1600 et seq. Fish and Game Code Section 1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake (including the removal of riparian vegetation); (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. “Any river, stream, or lake” includes those that are ephemeral or intermittent as well as those that are perennial. Substantial diversion of stream flow from any diversions currently in place, in addition to those proposed in the DEIR, are subject to this notification requirement.

CDFW-64

CDFW is required to comply with CEQA in the issuance of a Lake and Streambed Alteration Agreement (LSAA); therefore, if the CEQA document approved for the Project does not adequately describe the Project and its impacts to lakes or streams, a subsequent CEQA analysis may be necessary for any LSAA issuance. For information on notification requirements, please refer to CDFW’s website (<https://wildlife.ca.gov/Conservation/LSA>) or contact CDFW staff in the Central Region Lake and Streambed Alteration Program at (559) 243-4593 or R4LSA@wildlife.ca.gov.

CDFW-65

**Water Storage:** The DEIR states (page 2-22) that temporary storage in Lake Isabella may need to be secured, or that RRBWSD would coordinate with the Kern River Watermaster, Kern River Interests, and the U.S. Army Corps of Engineers (USACE) to facilitate water movement through Lake Isabella. Storage in Lake Isabella will need to

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be secured by RRBWSD as a part of the Project, as it is not possible to contemporaneously discharge to Lake Isabella and release from Isabella Dam the intended amount of water each time. CDFW recommends that this contract and its terms be included in the DEIR analysis for storage in Lake Isabella. Further, CDFW advises that changes in lake elevation as a result of increasing the water storage capacity be analyzed as well. This would include the impacts of continuous inundation of riparian habitats in areas that currently see seasonal fluctuations and mitigation measures to offset these impacts to less than significant.

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CDFW-66  
(cont.)

CDFW-67

**Water Rights Holders:** DEIR Section 2.6 Table 2.2 that summarizes RRBWSD water rights does not appear to be complete and requires correction. The 1902 Decree referenced in a footnote was a voluntary agreement and not an adjudication, and additional water rights holders are not included and likewise not disclosed. Thus, the information presented may be misleading and not wholly accurate. CDFW advises that the DEIR discuss how the Project could affect other water right holders both Senior and Junior to the rights asserted. For example, the DEIR would disclose how adequate water will be available to all water right holders under conditions of a low water or a drought year and what, if any, threshold for diversion suspension there will be to maintain flows sufficient for habitat, fish, wildlife, and other beneficial uses.

CDFW-68

**Instream Flow Dedication:** To maximize the benefit to fish and wildlife, CDFW recommends that the DEIR address the dedication of the Project diversion as instream flow from the point of diversion (POD) to place of use (POU), pursuant to Water Code section 1707.

CDFW-69

**Cumulative Impacts:** It appears that this Project is being undertaken as a series of actions related to the Kern Fan Groundwater Supply Project (SCH No. 2020049019), for which RRBWSD is also Lead Agency. CDFW provided comments on the Notice of Preparation for the Kern Fan Groundwater Supply Project. The Kern Fan Groundwater Supply Project would capture, recharge, and store water from the State Water Project (SWP) and other available water supplies for later use (emphasis added). The proposed Kern Fan Groundwater Supply Project would consist of construction of up to 1,300 acres of recharge basin facilities and approximately 12 recovery wells. The Kern Fan Conveyance Facilities would consist of pipelines, pump stations, and a new turnout at the California Aqueduct to convey water between the project facilities and the California Aqueduct. Water stored by the proposed Project would be recovered when needed to provide ecosystem and water supply benefits.

CDFW-70

Project-related construction activities within the Kern Fan Groundwater Supply Project boundary including but not limited to construction and operation of additional water banking facilities and introduction of surface water flows for storage could impact the following special-status plant and wildlife species and habitats known to occur in the area: the State threatened and federally endangered San Joaquin kit fox (*Vulpes*

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*macrotis mutica*); the State and federally endangered Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*); the State and federally endangered and State fully protected blunt-nosed leopard lizard (*Gambelia sila*); the State threatened Swainson's hawk (*Buteo swainsoni*), Nelson's antelope squirrel (*Ammospermophilus nelsoni*), and tricolored blackbird (*Agelaius tricolor*); the federally endangered and California rare plant rank (CRPR) 1B.2 San Joaquin woollythreads (*Monolopia congdonii*) and Kern mallow (*Eremalche parryi kernensis*); the CRPR 4.2 Hoover's eriastrum (*Eriastrum hooveri*); the CRPR 1B.2 recurved larkspur (*Delphinium recurvatum*) and Munz's tidy-tips (*Layia munzii*); the CRPR 1B.1 Mason's neststraw (*Stylocline masonii*); and the State species of special concern American badger (*Taxidea taxus*), Tulare grasshopper mouse (*Onychomys torridus tularensis*), burrowing owl (*Athene cunicularia*), San Joaquin coachwhip (*Masticophis flagellum ruddocki*), California glossy snake (*Arizona elegans occidentalis*), western spadefoot (*Spea hammondi*), and coast horned lizard (*Phrynosoma blainvillii*).

CDFW-71  
(cont.)

The cumulative impacts analysis of the DEIR does not include the foreseeable and likely use of water from this Project being used in the Kern Fan Groundwater Supply Project. CDFW therefore recommends that the Kern Fan Groundwater Supply Project be addressed in the DEIR for this Project as part of the cumulative impacts analysis.

CDFW-72

**Nesting Birds:** CDFW has jurisdiction over actions with potential to result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Fish and Game Code sections that protect birds, their eggs and nests include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird). CDFW encourages Project implementation to occur during the bird non-nesting season; however, if Project activities must occur during the breeding season (i.e., February through mid-September), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Codes as referenced above.

CDFW-73

To evaluate Project-related impacts on nesting birds, CDFW recommends that a qualified wildlife biologist conduct pre-activity surveys for active nests no more than 10 days prior to the start of ground disturbance to maximize the probability that nests that could potentially be impacted by the Project are detected. CDFW also recommends that surveys cover a sufficient area around the work site to identify nests and determine their status. A sufficient area means any area potentially affected by a project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment could also affect nests. Prior to initiation of construction activities, CDFW recommends that a qualified biologist conduct a survey to establish a behavioral baseline of all identified nests. Once construction begins, CDFW recommends that a qualified biologist continuously monitor nests to detect behavioral

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changes resulting from the project. If behavioral changes occur, CDFW recommends that the work causing that change cease and CDFW be consulted for additional avoidance and minimization measures.

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CDFW-74  
(cont.)

If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance from these no-disturbance buffers is possible when there is compelling biological or ecological reason to do so, such as when the construction area would be concealed from a nest site by topography. CDFW recommends that a qualified wildlife biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

CDFW-75

**Federally Agency Consultation:** CDFW recommends consultation with USFWS prior to Project implementation due to potential direct and indirect impacts to federally listed species. Take under the Federal Endangered Species Act (FESA) is more stringently defined than under CESA; take under FESA may also include significant habitat modification or degradation that could result in death or injury to a listed species, by interfering with essential behavioral patterns such as breeding, foraging, or nesting. Consultation with the USFWS in order to comply with FESA is advised well in advance of Project implementation.

CDFW-76

CDFW recommends consultation with USACE, USFS, and BLM, as they may have regulatory authority over the Project activities and jurisdiction over wildlife area lands that may be directly impacted by the Project.

CDFW-77

**ENVIRONMENTAL DATA**

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDDB. The CNDDDB field survey form can be found at the following link: [http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB\\_FieldSurveyForm.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf). The completed form can be mailed electronically to CNDDDB at the following email address: [CNDDDB@wildlife.ca.gov](mailto:CNDDDB@wildlife.ca.gov). The types of information reported to CNDDDB can be found at the following link: [http://www.dfg.ca.gov/biogeodata/cnddb/plants\\_and\\_animals.asp](http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp).

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**FILING FEES**

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CDFW-79

**CONCLUSION**

CDFW appreciates the opportunity to comment on the DEIR to assist RRBWSD in identifying and mitigating Project impacts on biological resources. Questions regarding this letter and further coordination can be directed to Annette Tenneboe, Senior Environmental Scientist (Specialist), at (559) 243-4014 extension 231 or by email at [Annette.Tenneboe@wildlife.ca.gov](mailto:Annette.Tenneboe@wildlife.ca.gov).

CDFW-80

Sincerely,

DocuSigned by:  
*Bob Stafford*  
5343A684FF02469...

Bob Stafford for Julie A. Vance  
Regional Manager

CDFW-81

Attachment 1

cc: See Page Twenty-Nine

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cc: Office of Planning and Research  
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ec: Michael Frif, Acting Field Supervisor  
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Linda Connolly  
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California Department of Fish and Wildlife

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**Attachment 1**

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE  
RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM  
(MMRP)**

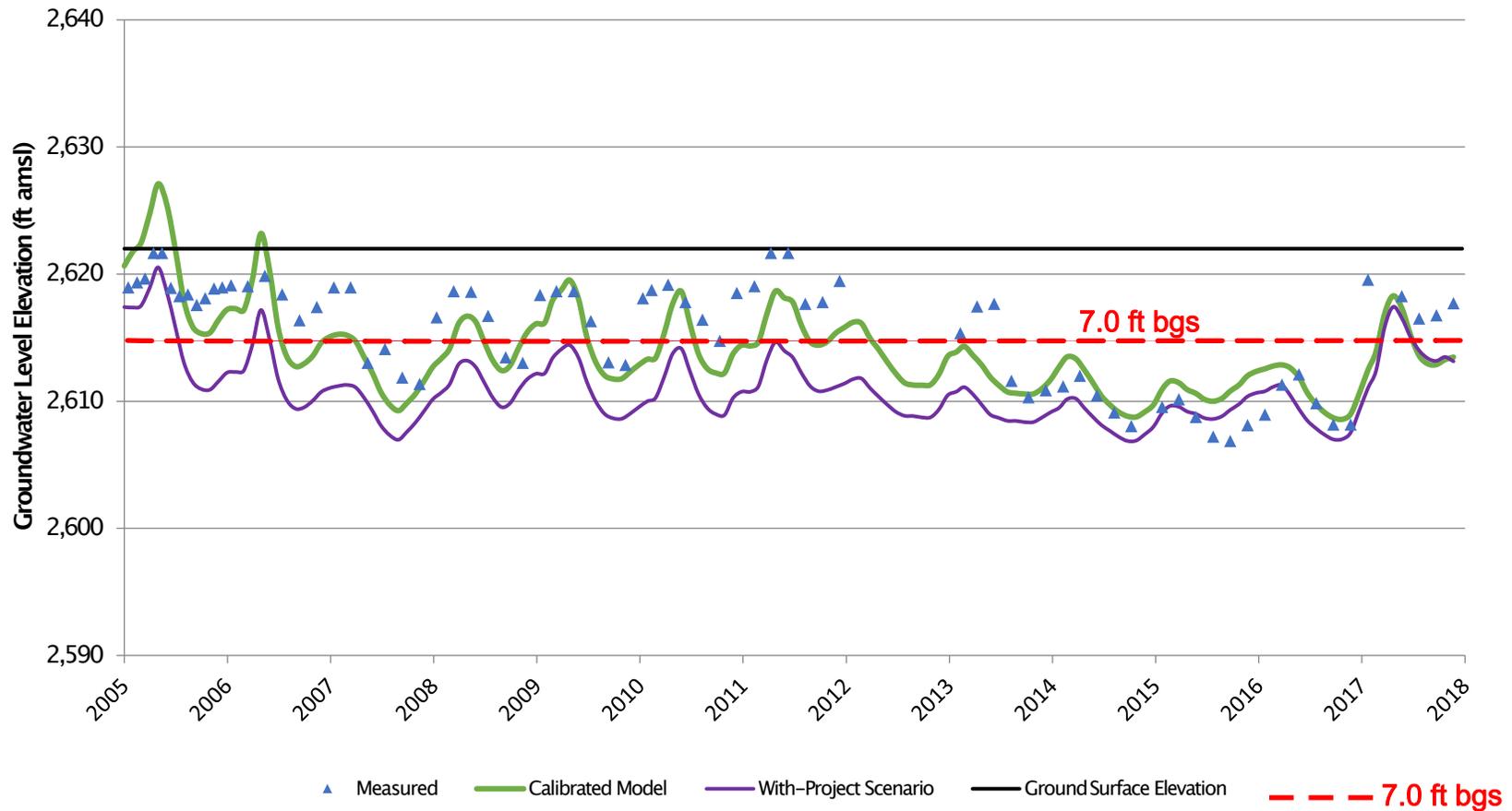
**PROJECT: Onyx Ranch South Fork Valley Water Project  
State Clearinghouse (SCH) No. 2018021061**

<b>RECOMMENDED MITIGATION MEASURES</b>	<b>STATUS/DATE/INITIALS</b>
<b><i>Before Project Activity</i></b>	
Recommended Mitigation Measure 1: Riparian Restoration and Management Plan	
Recommended Mitigation Measure 2: Groundwater Monitoring and Reporting Plan	
Recommended Mitigation Measure 3: SWFL and WYBC Habitat Assessment	
Recommended Mitigation Measure 4: SWFL and WYBC Surveys	
Recommended Mitigation Measure 6: SWFL and WYBC Take Authorization	
Recommended Mitigation Measure 7: LBVI Habitat Assessment	
Recommended Mitigation Measure 8: LBVI Surveys	
Recommended Mitigation Measure 10: LBVI Take Authorization	
Recommended Mitigation Measure 11: TRBL Habitat Assessment	
Recommended Mitigation Measure 12: TRBL Surveys	
Recommended Mitigation Measure 14: TRBL Take Authorization	
Recommended Mitigation Measure 15: Habitat Assessment, Monitoring, and Compensatory Mitigation Program	
<b><i>During Project Activity</i></b>	
Recommended Mitigation Measure 5: SWFL and WYBC Avoidance	
Recommended Mitigation Measure 9: LBVI Avoidance	

<b>RECOMMENDED MITIGATION MEASURES</b>	<b>STATUS/DATE/INITIALS</b>
Recommended Mitigation Measure 13: TRBL Avoidance	

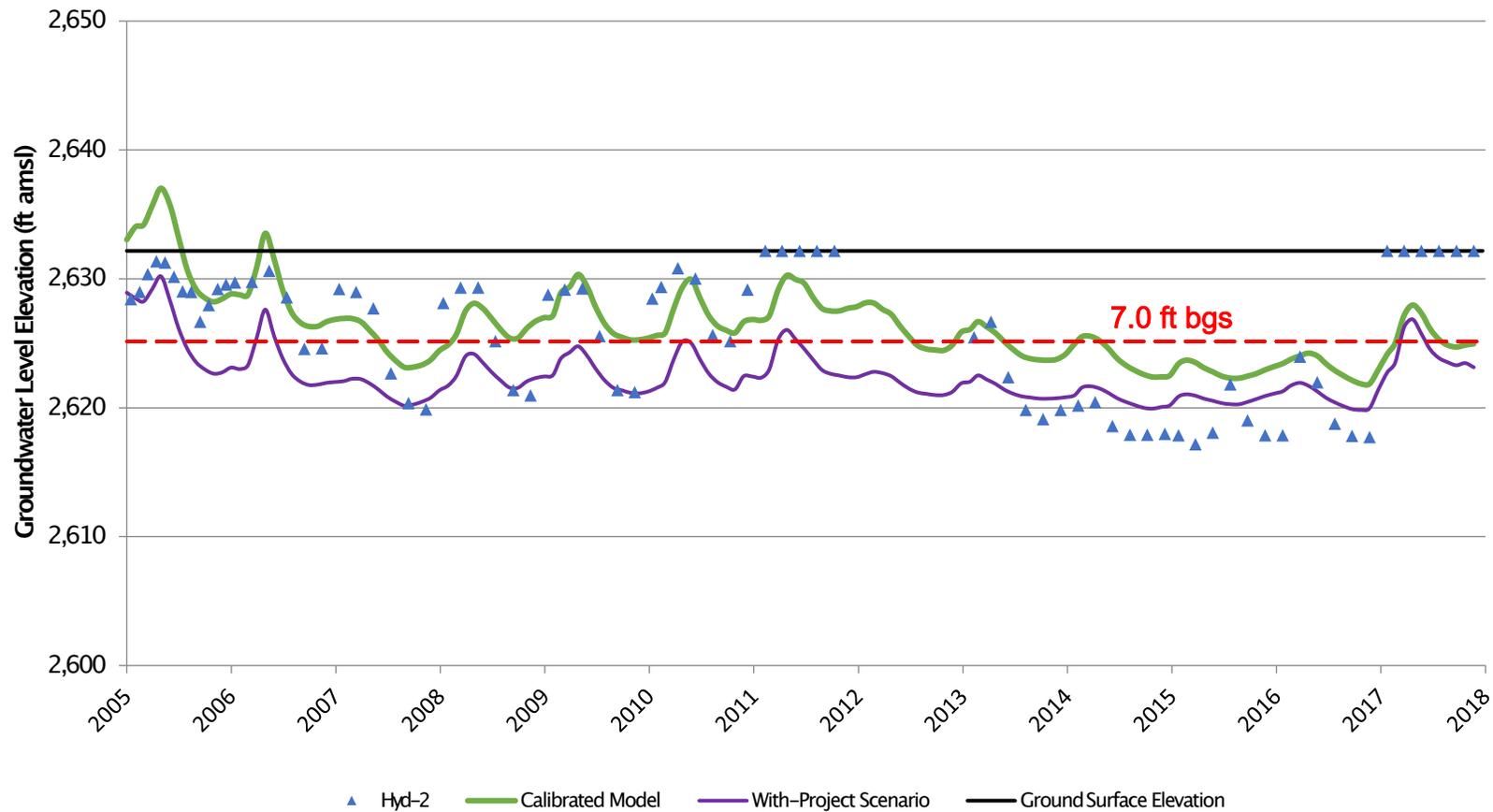
### Calibration vs. Scenario Hydrographs

#### Hyd-1

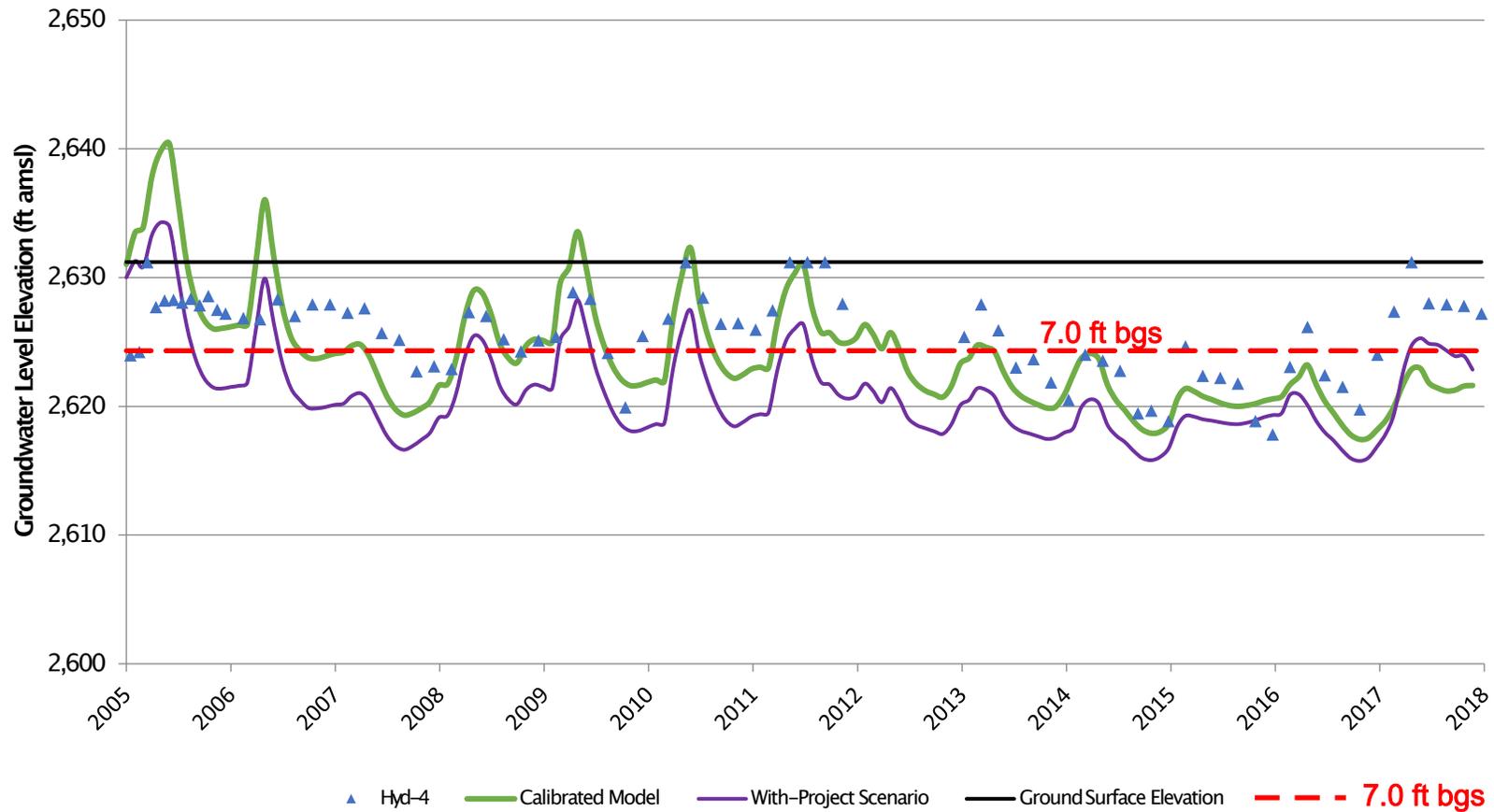


### Calibration vs. Scenario Hydrographs

#### Hyd-2

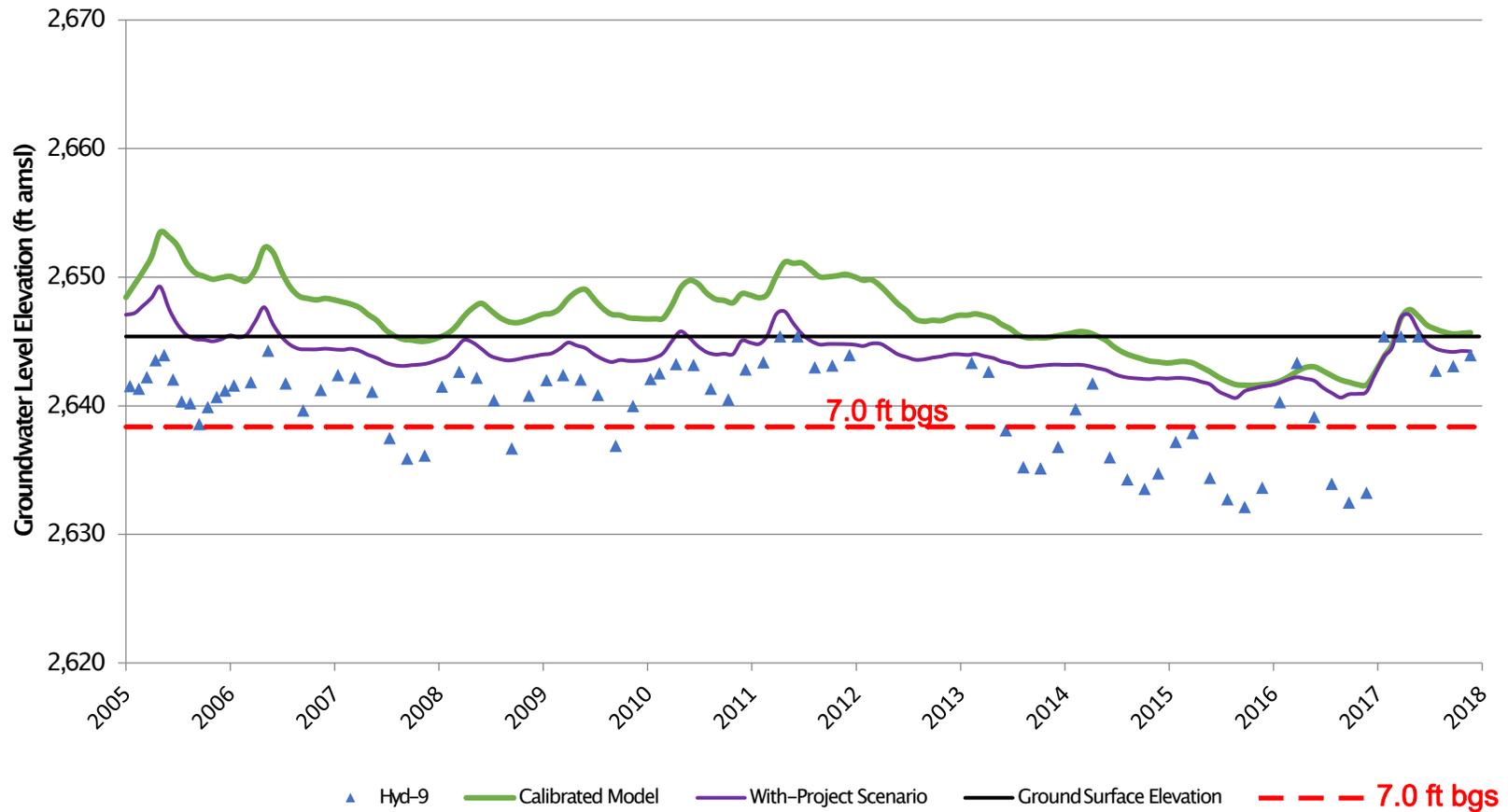


### Calibration vs. Scenario Hydrographs Hyd-4



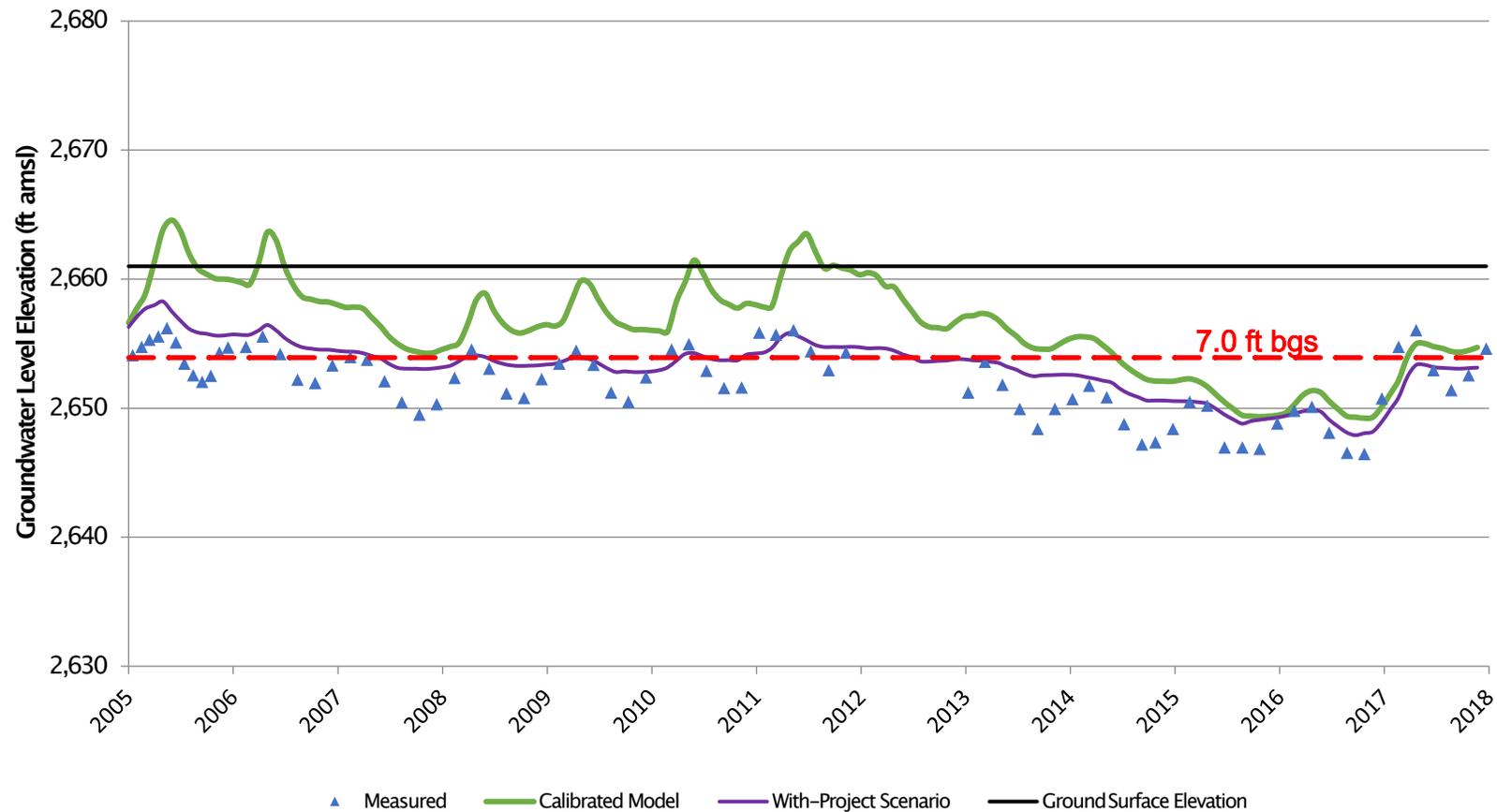
### Calibration vs. Scenario Hydrographs

#### Hyd-9



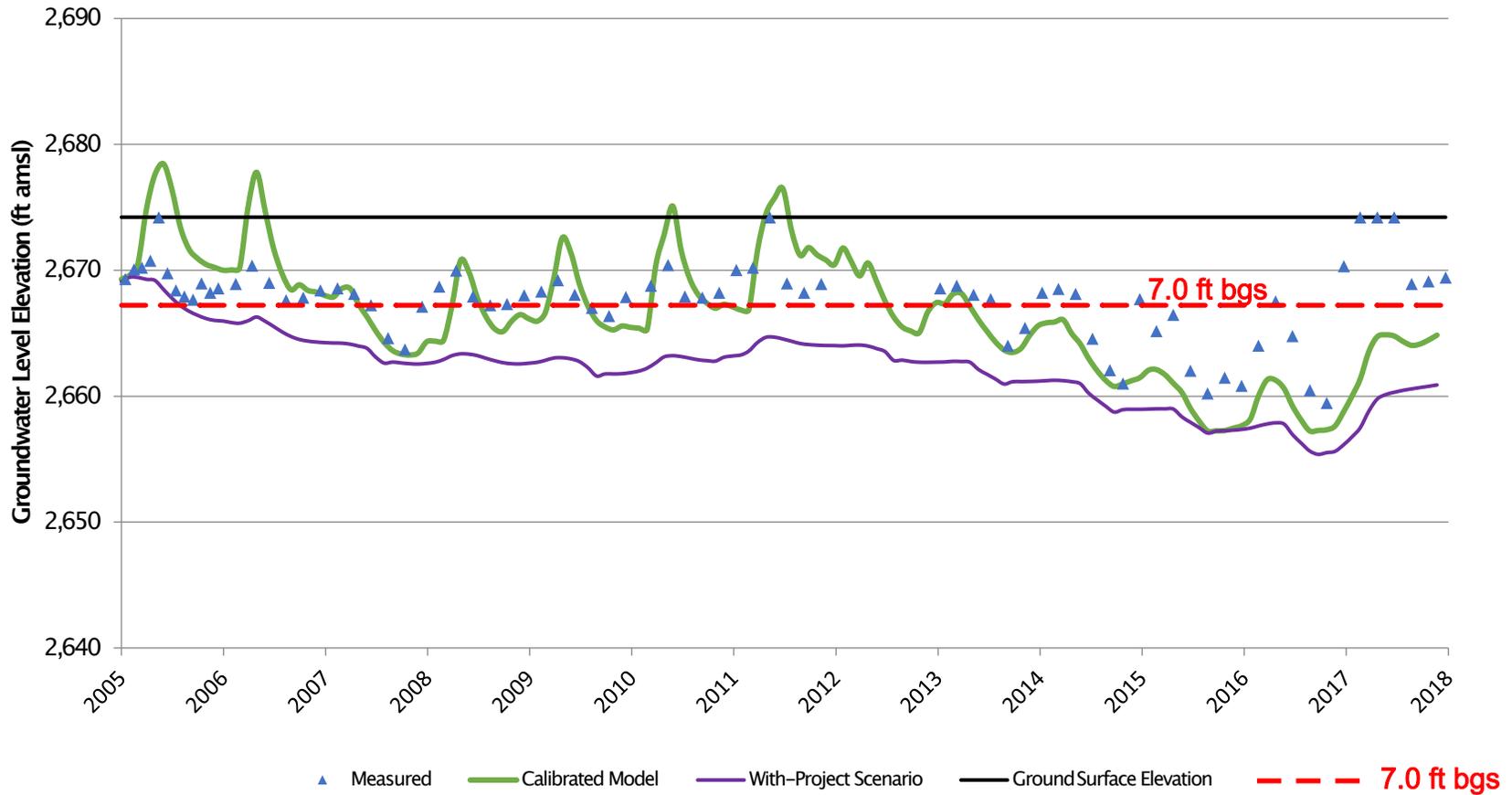
### Calibration vs. Scenario Hydrographs

#### Hyd-11



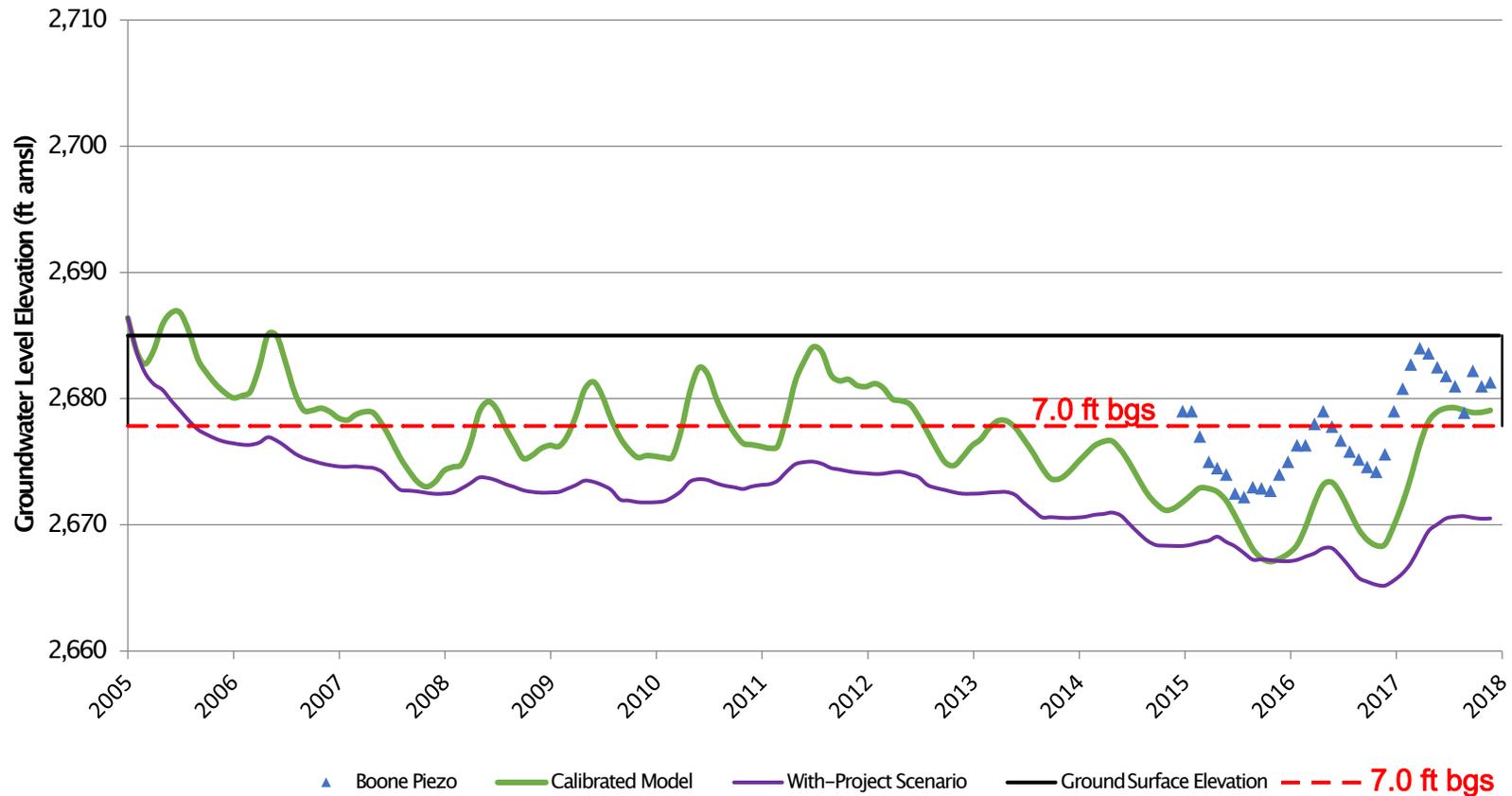
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#### Hyd-13



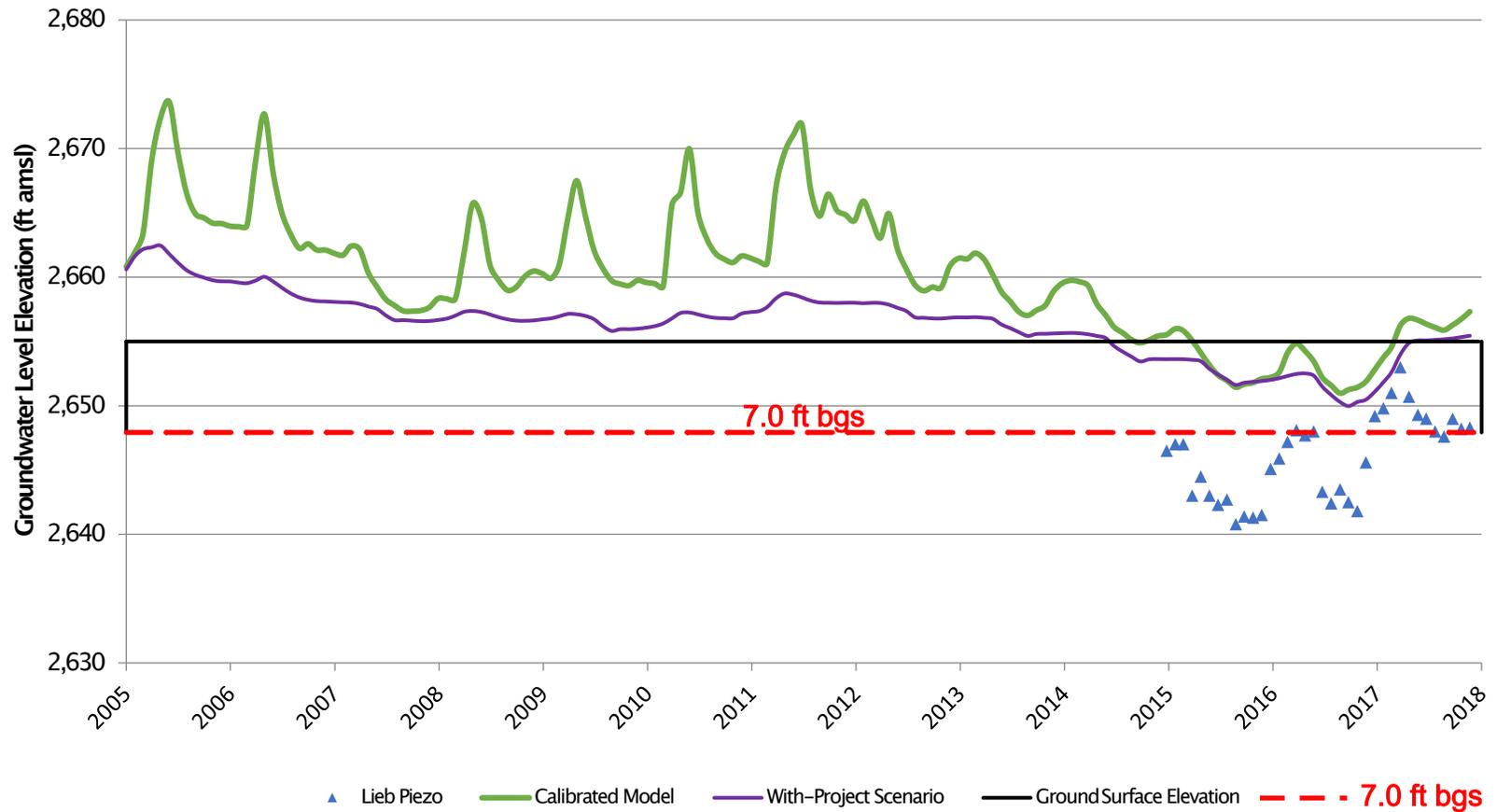
### Calibration vs. Scenario Hydrographs

#### Boone Piezo



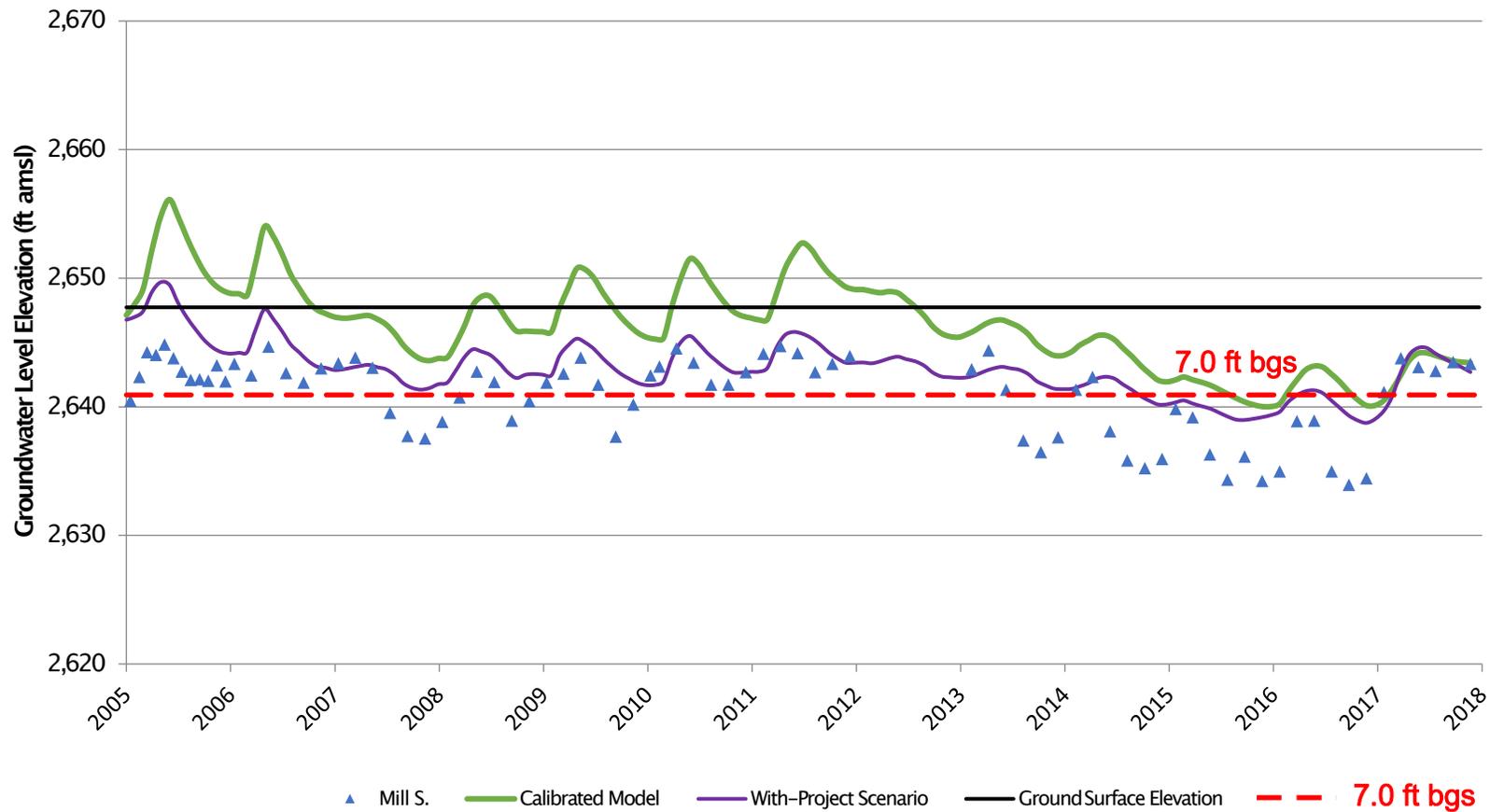
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#### Lieb Piezo



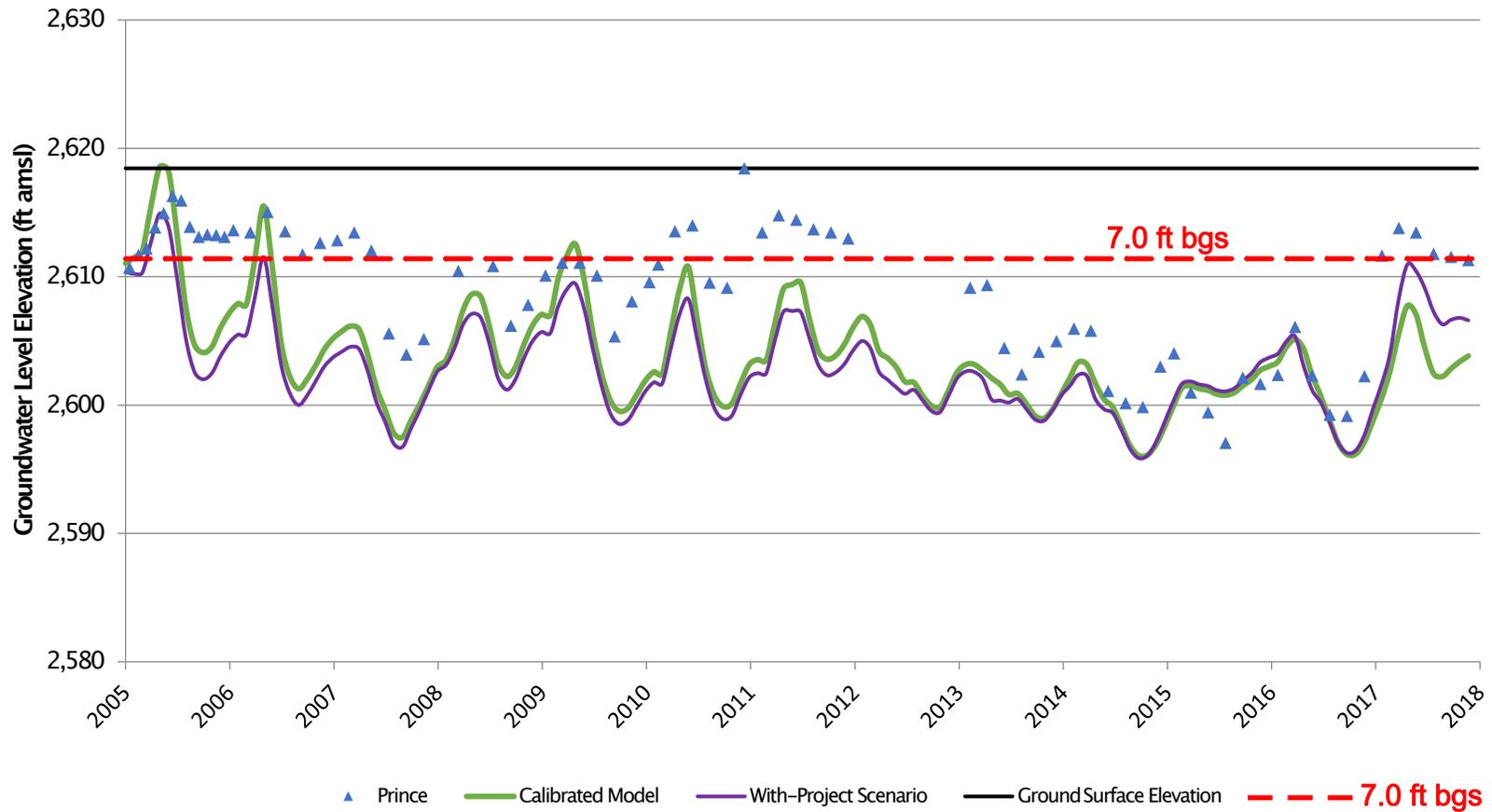
### Calibration vs. Scenario Hydrographs

#### Mill S.



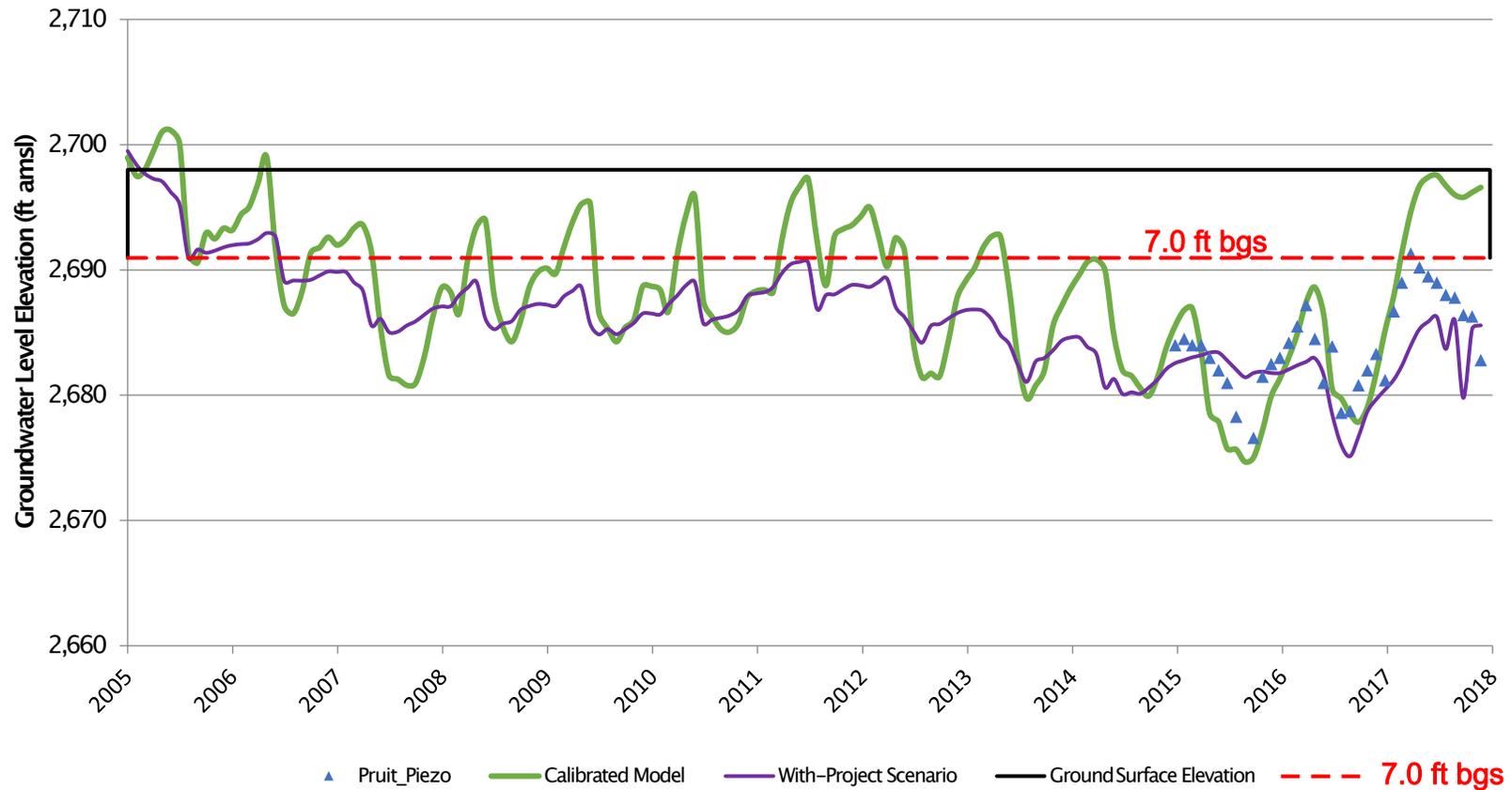
### Calibration vs. Scenario Hydrographs

#### Prince



### Calibration vs. Scenario Hydrographs

#### Pruitt Piezo



***Sent via email***

July 27, 2020

Dan Bartel, Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
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**RE: Comments on Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report (SCH No. 2018021061)**

Dear Mr. Bartel,

These comments are submitted on behalf of the Center for Biological Diversity (the “Center”) regarding the Onyx Ranch South Fork Valley Water Project and its Draft Environmental Impact Report. The Center has reviewed the Draft Environmental Impact Report (“DEIR”) closely and is concerned about the impacts to rare species and plant communities and federally designated critical habitat for southwestern willow flycatcher and western yellow billed cuckoo. The Center urges the Rosedale-Rio Bravo Water Storage District to address the issues this letter raises below to better inform the public and decisionmakers about the proposed project’s impacts in a revised and recirculated Draft Environmental Impact Report.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 1.7 million members and online activists throughout California and the United States. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in Kern County and has engaged in previous projects in the scenic and wildlife-rich Kern River Valley.

The proposed project description states:

“The RRBWSD proposes to change the points of diversion and place of use for the water rights associated with these parcels so that the water can be delivered in the RRBWSD service area on the San Joaquin Valley floor and used for irrigation and groundwater recharge. The RRBWSD proposes to reduce the diversion and use of surface water on the project site by converting irrigated fields to non-irrigated pasture or native vegetation. The proposed project would not replace reduced surface water diversions with groundwater pumped on the project site. With the proposed project, surface water that is diverted under the existing condition would remain in the South Fork of the Kern River and flow downstream. This would result in a net increase in the South Fork flows that would run downstream to the Isabella Reservoir. The increased flows resulting from the proposed project would be released through the Isabella Dam and flow downstream in the Lower Kern River until the water is diverted at the RRBWSD diversion points.”

CBD-1

## **I. Effects of Abandoning Irrigation and Diversions Not Fully Analyzed.**

While at first blush more water remaining in the south fork of the Kern River may seem to have benefits to streamside and downstream water-dependent plants and animals, existing diversions have resulted in establishment of mesic/riparian habitats that are now proposed to have less water availability, potentially shrinking the riparian corridor and therefore impacting sensitive species and riparian habitats. The DEIR does not fully address potential effects of those proposed changes on the sensitive species and habitats, in violation of the California Environmental Quality Act (“CEQA”). (Pub. Res. Code § 21100(b)(1); 14 Cal. Code Regs. [hereinafter “Guidelines”] § 15126.2(a).)

CBD-2

### **A. Inadequate Seasonal Surveys**

The basis for any impact analysis is to fully and carefully document the existing conditions. (Guidelines § 15125(a).) The proposed project area is noted to support numerous rare species – 31 special status animal species of which sixteen have moderate to high potential to occur on site (DEIR Table 3.6-2), and 55 special status plant species of which ten have a moderate to high potential to occur on site (DEIR Table 3.6-3). According to the Biological Resources (Appendix B, pg. 10) only five days of reconnaissance surveys were done (July 10-13, 2018 and August 31, 2018). Despite federally designated critical habitat for southwestern willow flycatcher and western yellow-billed cuckoo occurring on part of the project area, no protocol level surveys were completed for southwestern willow flycatcher (Sogge, Ahlers, and Sferra 2010) and western yellow-billed cuckoo (Halterman et al. 2016). Eight of the ten rare plants that are identified as having moderate to high probability of on-site occurrence would have been undetectable during the surveys because the plants are either annual plants or herbaceous perennials. While the proposed mitigation measures (Bio-1 through -4) require monitoring and surveys and only certain species will be targeted, these types of surveys should have been done as a basis for the impact analysis. An inadequate demonstration of existing conditions and present sensitive species on the project site undermines the DEIR’s impact analysis, subverting the purpose of CEQA. (Pub. Res. Code § 21002; see also *Save Our Peninsula Committee v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 125 [“Environmental conditions may vary from year to year and in some cases it is necessary to consider conditions over a range of time periods”].) Therefore additional, seasonally appropriate and protocol level surveys need to be implemented and the potential impacts fully analyzed.

CBD-3

### **B. Failure to Comprehensively Analyze Impacts from the Proposed Project**

As noted above, the DEIR seems to depend on the increased flow in the Kern River from reductions in diversions to reduce all impacts to sensitive species and habitats. However, the current/historic diversions for agricultural and other purposes inadvertently changed the hydrology of the area and potentially provide adequate water to expand the width of the riparian vegetation beyond the river’s channel. Water transfers from adjacent agriculture to non-agricultural uses have caused the loss of both ephemeral and permanent wetlands in other areas (Peck et al. 2004). The DEIR notes that much of the project currently support riparian pasture or are irrigated agriculture:

CBD-4

CBD-5

“Of the 3,418.54 acres of land on the Onyx Ranch portion of the project site, 2,312 acres are currently used for an agricultural purpose, with approximately 611 acres of riparian pasture and the remaining approximately 1,701 acres are used for irrigated agricultural purposes. The remainder of the Onyx Ranch is mountainous or otherwise not suitable for agriculture. For the Smith Ranch portion of the project site, of the approximately 690.76 acres, approximately 290 acres are riparian pasture and mountainous areas and approximately 400 acres are used for irrigated agricultural purposes.”

(DEIR at Appendix A, pdf page 22)

CBD-5  
(cont.)

The existing 2,101 acres of irrigated agriculture and 901 acres of riparian pasture are proposed to have water removed from them, and have that currently diverted water flow down the Kern River channel instead. The DEIR does not provide any quantitative analysis of how the removal of the water will decrease the riparian pastures or the ponding areas of the “Givney Pasture” (also known as the Gibboney Ponds) which have provided breeding habitat for the State threatened tri-colored blackbird. The DEIR impermissibly defers the analysis of the impact to the project implementation via Mitigation Measure Bio-1 (see comments below on mitigation measures). (See *Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal.4th 310, 321 [project impacts are ordinarily compared to the “actual environmental conditions existing at the time of CEQA analysis...”).) Instead the DEIR should have used the hydrological modeling to estimate the impacts to these important riparian and aquatic resources in order to potentially avoid and minimize impacts instead for writing off creative solutions and relying on future mitigation.

CBD-6

The DEIR is unclear on how the acres of impact to sensitive vegetation communities was determined. For example, Table 3.6-1 (DEIR at pg.3.6-6) identifies that 698.6 acres of Fremont cottonwood forest, 399.4 acres of creeping rye grass tufts and 34.3 acres of red willow thickets occur in the proposed project area. Table 3.6-5 Existing Vegetation Communities/Land Cover within the Potential Impact Area (DEIR at 3.6-43) identifies 70.4 acres of Fremont cottonwood forest (10%), 399.4 acres of creeping rye grass tufts (100%) and 11.4 acres of red willow thickets (33%) will be impacted by the proposed project. The DEIR needs to be transparent on how the impact calculations were determined, such that the public and decision makers can follow the DEIR’s “analytical route the agency traveled from evidence to action.” (*North Coast Rivers Alliance v. Marin Municipal Water Dist. Bd. of Directors* (2013) 216 Cal.App.4th 614, 639-40.) Regardless of the acres of impacts for each of the special-status vegetation communities, the impacts are presumed significant and thus mitigation must be proposed. (Guidelines § 15065; see also Guidelines Appendix G (I.V.)(a).) The DEIR concludes that Bio-1 will reduce all potentially significant impacts to these sensitive vegetation communities to a less than significant level, but the DEIR fails to identify how this determination is reached.

CBD-7

Other, more localized sensitive habitat types, including 19 acres of cattail marsh (Table 3.6-5 Existing Vegetation Communities/Land Cover within the Potential Impact Area, DEIR at 3.6-43) will be totally impacted. Again, the DEIR relies on Bio-1 stating that “Mitigation Measure BIO-1 would reduce this potential significant impact to this riparian habitat to a less than significant level.” (DEIR at 3.6-59). How does the DEIR justify that Bio-1 will reduce significant impacts of removing 19 acres of cattail marsh, that in the past has been used as breeding habitat for tri-colored blackbirds?

CBD-8

Based on hydrological modeling, the proposed project anticipates “an average of 7,265 net acre-feet per year of redirected flows from the Onyx Ranch and the Smith Ranch results in an average of 6,014 net acre-feet per year of new water in the Isabella Reservoir.” (DEIR at 2-22). This increase in the amount of “new water” will increase the surface area and potentially back up surface water into existing riparian forests and impacting them by drowning the vegetation. Impact areas may include federally designated critical habitat. The DEIR violates CEQA by failing to identify, much less analyze, this impact. (Guidelines § 15126.2(a).) For this reason, the DEIR needs to be revised and recirculated.

CBD-9

### **C. Failure to Adequately Evaluate Impacts to Federally Designated Critical Habitat**

As Figure 3.6-4 in the DEIR identifies, the proposed project significantly overlaps with federally designated critical habitat for the southwestern willow flycatcher and the western yellow-billed cuckoo. Yet the DEIR concludes without any analysis that:

“Therefore, the conveyance of more water in the South Fork of the Kern River would be a benefit to the southwestern willow flycatcher and western yellow-billed cuckoo and their nesting and foraging habitat, as well as critical habitat designated for these species.” (DEIR at 3.6-4.)

CBD-10

The DEIR fails to identify the actual acres of critical habitat that will be affected by the proposed project and does not adequately evaluate the effects of dewatering the Smith Fields 2, and 4 through 9, the Givney Pasture, Hochman 2 Pasture and Mack Pasture – all of which are within federally designated critical habitat. Dewatering these fields and pastures may very likely eliminate or at least degrade the Primary Constituent Elements (PCEs) that are the basis for the critical habitat designation. Based on Peck et al (2004), significant impacts to critical habitat and the species are likely to occur and those impacts must be identified and analyzed for their ability to be avoided, minimized and if necessary, mitigated. The DEIR needs to analyze the impacts of dewatering these areas on the PCEs in the revised and recirculated DEIR.

### **D. Mitigation Measures Fall Short of Effective Mitigation**

In general, the mitigation measures primarily focus on monitoring, however, monitoring is not a “stand alone” mitigation measure; it is a necessary part of evaluating the success of mitigation measures and adaptive management to ensure the success of mitigation. Monitoring itself does not provide mitigation. For the biological resources, the DEIR only identifies four mitigation measures which are woefully inadequate for the following reasons:

CBD-11

#### ***i. Bio-1 Assessment and Monitoring Program***

Bio-1 is not adequate for a number of other reasons. First, the pre-project assessment and monitoring should have been implemented as part of the baseline surveys and impact assessment for the proposed project’s DEIR. Second, five years of monitoring is potentially inadequate to evaluate the impacts to the riparian forests because it often takes a number of years for dewatering impacts to manifest in the vegetation (Willms et al. 1998; Rood, Braatne, and Hughes 2003). The post-project monitoring needs to be continued for the life of the project,

CBD-12

CBD-13

although after the initial 5 years of monitoring, the intervals between post-project monitoring may warrant an increase to every third year, but no less than every 5 years. Third, the results of the monitoring must identify conservation criteria that triggers adaptive management if/when impacts are detected. These criteria must be crafted to prevent additional degradation of the riparian resources, the riparian-dependent plants and the critical habitat. Fourth, it is unclear which entities outside of the Rosedale Rio Bravo Water Storage District would receive the reports. Fifth, the “Protocol for the Combined Vegetation Rapid Assessment (Rapid Assessment) and Relevé methods (CDFW, 2019b)” (DEIR at 3.6-52) may not be appropriate for detecting the change in the plant communities. Winward (2000) focuses exclusively and exhaustively on riparian monitoring and Winward’s monitoring protocols should be reviewed and used as a basis for and included in the Assessment and Monitoring Program. We disagree that “light disturbance” (DEIR at 3.6-53) does not require mitigation, because if the project causes an impact to sensitive resources that cannot be avoided, mitigation is triggered. In addition, the mitigation ratios for “moderate disturbance” (1:1) and “heavy disturbance” (2:1) (DEIR at 3.6-53) are inadequate and unjustified in the DEIR. Recent science identifies a much more robust mitigation strategy is necessary to realistically offset impacts (Moilanen et al. 2009; Norton 2009). Bio-1 identifies that a Habitat Management Plan (HMP) will also be developed as part of the mitigation strategy, but little additional information is provided on the contents of the HMP. Lastly, both the Assessment and Monitoring Program and the HMP should be included as Appendices in the revised and recirculated DEIR, so that the interested public and decision makers can evaluate the adequacy of the program. (See *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4<sup>th</sup> 412, 442 [information in an EIR must be presented so as to adequately inform the public and decision makers].)

↑ CBD-13 (cont.)  
 CBD-14  
 CBD-15  
 CBD-16  
 CBD-17

**ii. Bio-2 – Tri-colored Blackbird**

As with Bio-1, the surveys for tri-colored blackbirds should have been implemented as part of the baseline surveys and impact assessment for the proposed project’s DEIR. A single year survey to determine if tri-colored blackbirds are using onsite resources for nesting is inadequate. Several years of surveys are necessary in order to evaluate if tri-colored blackbirds are using onsite resources. For the same reasons as described for Bio-1, the mitigation ratio for impacts to nesting habitat for tri-colored blackbirds (2:1) is inadequate and needs to be increased to at least 5:1, based on the importance of breeding habitat for this state threatened species. In addition, the mitigation needs to occur within the Kern River Valley in order to preserve the range of the species.

CBD-18  
 CBD-19

**iii. Bio-3 is Too Constrained and Narrow**

Bio-3 is focused on “special-status plant survey throughout the creeping rye grass turfs for alkali mariposa lily during the appropriate blooming period (April - June) to determine the presence/absence of the species.” As with Bio-1 and -2, these surveys should have been implemented as part of the baseline surveys and impact assessment for the proposed project’s DEIR. In addition, six sensitive annual plant species and one other herbaceous perennial plant species also have moderate to high probability of presence in the proposed project area. Why aren’t these plants being included in the surveys?

CBD-20  
 CBD-21

Bio-3 proposes translocation of alkali mariposa lily bulbs. Unfortunately rare plant translocation has an abysmal success rate (Fiedler 1991). Bio-3 does not include any mitigation ratio for impacts to the alkali mariposa lily. It should also address the other rare plants that have potential to occur on site. In addition, if avoidance and minimization of impacts is not exercised, all mitigation for the rare plants needs to occur within the Kern River Valley in order to preserve the range of the species.

CBD-22

*iv. Bio-4 - Saltgrass*

Bio-4 focuses on “saltgrass flats,” yet the DEIR does not discuss where the saltgrass flats are located or how much is present on the proposed project site. Saltgrass meadows are often representative of a high groundwater table and considered a wetland area and regulated as a Water of the State. (Cal. Water Code § 13050(e).) Additional information on this unique wetland habitat needs to be included in the revised and recirculated DEIR.

CBD-23

**II. Conclusion**

Thank you for the opportunity to submit comments on the EIR for the Onyx Ranch South Fork Valley Water Project. Because of the numerous shortcomings in the DEIR, including inadequate seasonal biological surveys, inadequate analysis of impacts to biological resources from project implementation, inadequate analysis of impacts to federally designated critical habitat and inadequate mitigation measures to offset impacts from the proposed project, we request that the Rosedale-Rio Bravo Water Storage District revise the inadequacies in the biological surveys and impact analysis and recirculate the DEIR.

CBD-24

Please add the Center to your notice list for all future updates to the Project and do not hesitate to contact the Center with any questions.

Sincerely,



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## References:

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July 27, 2020

50 - Environmental

Mr. Dan Bartel  
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Re: Draft Environmental Impact Report for the Onyx Ranch South Fork Valley Water Project

Dear Mr. Bartel:

The Kern County Water Agency (Agency) would like to thank you for the opportunity to review and comment on the Draft Environmental Impact Report (DEIR) for the Onyx Ranch South Fork Valley Water Project (Project) proposed by Rosedale-Rio Bravo Water Storage District (Rosedale).

The Agency was created by the California State Legislature in 1961 to contract with the California Department of Water Resources for State Water Project (SWP) water. The Agency has contracts with water districts throughout Kern County to deliver SWP water. The Agency also manages and/or is a participant in multiple groundwater banking projects, including the Kern Water Bank (KWB), Pioneer Property and Berrenda Mesa banking projects. The Agency also owns the Kern River Lower River water rights.

In addition to the comments below, the Agency joins the comments of the Kern River Watermaster; Buena Vista Water Storage District, Henry Miller Water District and Olcese Water District; Kern Delta Water District; and the City of Bakersfield.

**Comment 1: The DEIR fails to adequately analyze the Project’s potential impacts to the Kern Subbasin.**

The DEIR fails to adequately analyze the potential impacts to the Kern Subbasin from reduced or altered Kern River water supplies. The Project has the potential to reduce the amount of groundwater recharged in the Kern Subbasin, including the Kern Water Bank, Pioneer and Berrenda Mesa banking projects. The Kern Subbasin is critically overdrafted and reductions in water supplies may cause direct, indirect and cumulative effects from increased groundwater pumping or reduced groundwater recharge and may accelerate the rate of decline in the depth to groundwater as well as reduce groundwater storage levels. Reductions in recharge and increases in pumping may also deteriorate groundwater quality from increased concentration of salts or other minerals. Therefore, the DEIR should be recirculated to include an analysis of the potential impacts of the Project on reduced deliveries of Kern River water to the Kern Subbasin.

KCWA-1

KCWA-2

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Mr. Dan Bartel  
Onyx Ranch South Fork Valley Water Project  
July 27, 2020  
Page 2 of 2

**Comment 2: The DEIR fails to identify the location(s) of the proposed new low volume wells.**

The Project proposes to construct “up to 12 shallow, low volume wells” on an “existing dirt road or in an already disturbed area” (DEIR, p. 3.8-28). The DEIR refers to the proposed well locations very broadly and does not specify the location of the proposed new low volume wells within the Project site. Should any wells be constructed on the Mack Ranch sites, the wells will be within the Kelso Creek floodplain and subject to periodic inundation from flood flows, which may result in damage or periods of inoperability. Therefore, the DEIR should be amended to identify proposed well sites and any potential impacts from the proposed site locations. The amended DEIR should be recirculated for review.

KCWA-3

**Comment 3: It is unclear whether the proposed Project will be integrated with existing Rosedale projects for operational flexibility.**

The DEIR does not specify whether Rosedale intends to integrate the Project into Rosedale’s Master EIR Groundwater Storage, Banking, Exchange, Extraction and Conjunctive Use Program, Rosedale’s Environmental Compliance Summary of District Operations or the Kern Fan Authority Integration project. Integration of the proposed Project with Rosedale’s existing programs has the potential to significantly impact groundwater in the Kern Subbasin and other water users in Kern County. Therefore, the DEIR should be amended to clarify whether the proposed Project will be integrated with existing Rosedale programs and include analyses to address the potential impacts posed by integrated operations. The amended DEIR should be recirculated for review.

KCWA-4

As you know, the Agency is generally supportive of projects that seek to improve the water supply and reliability of Kern County water users. However, the DEIR does not adequately analyze the proposed Project and the Agency objects to the Project’s approval without recirculation of an amended DEIR addressing all comments.

KCWA-5

Thank you for your consideration of these comments. Agency staff is available to meet with Rosedale staff to ensure the Agency’s concerns are adequately addressed. If you have any questions, please contact Monica Tennant of my staff at (661) 634-1419.

Sincerely,



Holly Melton  
Water Resources Manager



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File No. 083079

July 27, 2020

**VIA E-MAIL**

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Re: Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report (SCH No. 2018021061) – Comments on Behalf of Kern Delta Water District

Dear Mr. Bartel:

On behalf of Kern Delta Water District, this letter provides comments on the Draft Environmental Impact Report (“Draft EIR”) for the proposed Onyx Ranch South Fork Valley Water Project (“Project”), prepared by the Rosedale-Rio Bravo Water Storage District (“RRB”) pursuant to the California Environmental Quality Act. We and Kern Delta appreciate the opportunity to review the Draft EIR and offer the following comments.

According to the Draft EIR, the Project proposes to change the points of diversion and place of use for the water rights associated with several parcels of land along the South Fork of the Kern River in the Kern River Valley. RRB proposes to deliver this water to the RRB service area, located on the San Joaquin Valley floor, for irrigation use and groundwater recharge. The Draft EIR further provides that the diverted surface water would remain in the South Fork of the Kern River and flow downstream, resulting in a net increase in flows in the South Fork that enter the Isabella Reservoir. The increased flows would then be released through the Isabella Dam and flow downstream in the Lower Kern River until the water is diverted at the RRB diversion points. RRB would then deliver the water to recharge basins and channels within and near its service area west of the City of Bakersfield.

The most critical issue presented by this Project is whether the proposed changes in water diversion will result in a loss of available Kern River water or water rights that would otherwise be available to Kern Delta in the absence of the Project. As explained below, in multiple respects, there simply is not sufficient information in the Draft EIR to evaluate this issue. The Project is not sufficiently defined, and the potential impacts are not fully evaluated. The Draft

KDWD-1

EIR needs to be substantially revised and overhauled, and a new draft EIR circulated with an adequate project description and impact analysis.

KDWD-1  
(cont.)

**I. The Project Description is Fundamentally Inadequate and Fails to Fully and Accurately Describe the Proposed Project**

The Draft EIR’s Project Description fails to meet CEQA’s requirements for an accurate, stable, and finite project description and does not provide the public or decisionmakers with the requisite information to review and analyze the Project’s anticipated environmental impacts. (See *Sierra Club v City of Orange* (2008) 163 Cal.App.4th 523, 533; *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) The Project Description is therefore fundamentally inadequate.

Rather than delineate the amount of water proposed for diversion from the Onyx Ranch and Smith Ranch sites, the Draft EIR sets forth several “elements” as the Project Description:

- “Project Element 1” proposes to collect surface flow diversion data for the South Fork of the Kern River and prepare data records for use by downstream water right holders;
- “Project Element 2” proposes to collect groundwater pumping data and prepare data records for use by the water right holders;
- “Project Element 3” proposes to collect groundwater level and water quality data;
- “Project Element 4” proposes a comprehensive calibrated groundwater/surface-water model that will be used to estimate the net difference between the amount of water in the South Fork of the Kern River reaching Isabella Reservoir under existing conditions and with the proposed project. According to the Draft EIR, the estimate would include a “no-injury factor,” which accounts for: (a) evapotranspiration between the Onyx Ranch and the Isabella Reservoir; and (b) the portion of the prior diverted and applied surface water that was previously reaching Isabella Reservoir as return flow;
- “Project Element 5” contemplates that RRB will coordinate with the U.S. Army Corps of Engineers, Kern River Watermaster, and the Kern River Interests to release diverted RRB water through the Isabella Reservoir and ensure it is not diverted by others between the Isabella Reservoir and the downstream diversion points in the RRB service area; and
- “Project Element 6” proposes to incorporate land management practices for the agricultural fields on the project site.

KDWD-2

These “Project Elements”—in particular Elements 1 through 4—do not constitute an adequate project description that can serve as the basis for an adequate and complete assessment of the Project’s environmental impacts. Instead, many of the Project Elements are essentially a process for developing a project description, rather than presenting a completed description, and they are steps that should be implemented and completed prior to the circulation of the Draft EIR. In other words, the Draft EIR should provide historical surface flow diversion data for the South Fork of the Kern River, substantiate and justify the no-injury factor and detail the harms it is intended to protect, quantify the amount of water RRB will divert from the Project site, and present that information for public and stakeholder review now. Instead, the Draft EIR defers these critical determinations to a later point in time, and outside of CEQA’s public review and comment process.

KDWD-2  
(cont.)

By failing to define how much water RRB will divert upstream or to substantiate and explain the “no-injury factor,” the Draft EIR cannot adequately evaluate downstream impacts. In fact, the “Project Location” in the Draft EIR does not include any downstream diversion sites, but rather is limited to the “Onyx Ranch and Smith Ranch where points of surface water diversion and place of use would change as a result of the proposed project.” Given that the underlying purpose of the Project is to replenish groundwater in the RRB service area, the Draft EIR must include a discussion of how downstream diversions will be achieved, and what new or expanded structures will be required. These are necessary components of any future groundwater recharge activities, yet they are absent from the Draft EIR.

KDWD-3

## **II. The Draft EIR Leaves Many Questions Unanswered Regarding RRB’s Claimed Water Rights**

The Draft EIR fails to provide adequate evidence to support the Project’s water rights and leaves several questions unanswered regarding RRB’s rights to, and ability to transfer and convey the water and water rights that are the subject matter of the Project (see Draft EIR, section 2.6). If needed, the ultimate resolution of questions regarding the Project’s water rights will take place in another forum other than this EIR process, and Kern Delta reserves its rights to assert all claims necessary to protect its rights in an appropriate water rights forum. These water rights issues also need to be evaluated and disclosed, however, in the Project EIR in order to provide the meaningful disclosure that CEQA requires, and thus we raise these issues as comments on the Draft EIR.

KDWD-4

Based on the lack of information provided in the Draft EIR, it is impossible for RRB, Kern Delta, other Kern River water rights holders, or any other member of the public to fully and completely evaluate and analyze the extent to which a water supply is legally and/or physically available to RRB for this Project, and how the Project may impact the water supply and water rights of others. Additional information is needed to make a legitimate review of the water supply which RRB believes is available to satisfy its Project. Until additional, conclusive information is provided regarding RRB’s claimed water rights, the Project’s water supply remains wholly speculative and does not provide a sufficient basis for analyzing the Project’s

reasonably foreseeable environmental impacts. Future water supplies identified and analyzed by the Draft EIR must actually prove available; speculative sources are insufficient bases for decision making under CEQA. (*See Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 430-32.)

Attached as **Exhibit A** is a detailed list of questions that should be addressed in order to provide decisionmakers and the public with adequate information to evaluate the likely environmental impacts associated with RRB’s claimed right to transfer and convey water. RRB also should provide as an appendix to a recirculated draft EIR all documents and evidentiary materials that clearly evidence RRB’s right to water in the South Fork of the Kern River, and its right to transfer and convey that water downstream. This appendix should include, at minimum, a detailed analysis of the amount and priority of the claimed water rights, historic records of diversions and beneficial use, known disputes and adverse claims, agreements, and a complete analysis of how the Project could impact and possibly interfere with all other established Kern River rights and interests. The water rights analysis should further include a detailed discussion of the claimed rights in relation to what is commonly referred to as the “Law of the River,” which includes but is not limited to the Miller-Haggin Agreement (and its various amendments), the Shaw Decree (an actual judicial determination of certain rights), the Kern River Water Rights and Storage Agreement, and numerous other agreements and judicial opinions. These agreements and decrees currently are absent from the Draft EIR, but are of paramount importance in determining whether and to what extent RRB may divert water.

KDWD-4  
(cont.)

### III. The Project Purpose and Objectives are Too Narrowly Defined

The underlying purpose of the Project is to increase water supplies in RRB’s service area to mitigate shortages in RRB’s contracted SWP water supply and to assist RRB in meeting its sustainability goals under SGMA. The Draft EIR, however, narrows this goal, providing that the “purpose of the proposed project is to enable the RRB to change the points of diversion and place of use of the surface water on the Onyx and Smith Ranches in order to move the water downstream for diversion and use in the RRB’s service area.”

KDWD-5

By narrowing the Project purpose in such a fashion, the Draft EIR improperly limits the analysis of the Project and possible project alternatives, and confuses the means of meeting the objective with the objective itself. This type of narrow statement of project objectives is invalid. (*See North Coast Rivers Alliance v. Kawamura* (2015) 243 Cal.App.4th 647, 668.)

The Draft EIR includes only two alternatives: the No Project Alternative and the 50 Percent Diversion Alternative. However, the Draft EIR rejects alternative locations for the Project without sufficiently explaining why other sources of water were unavailable or infeasible. The Draft EIR simply dismisses possible alternative locations by asserting that the proposed Onyx and Smith ranch locations are “critical to the implementation of the project.” However, without as much as a list of possible alternative water sources, it is impossible to analyze whether those sources would meet Project objectives or result in reduced impacts.

KDWD-6

As evidenced by other sections of the Draft EIR (*see, e.g.*, Section 3.2.4, listing the “Kern Fan Groundwater Storage Project” as a related project), RRB is attempting to drastically increase its groundwater storage capacity. To satisfy this objective, the Draft EIR should thoroughly analyze a much broader range of alternatives, rather than limit its analysis to two alternatives. As it currently stands, the Draft EIR does not appear to meet CEQA’s requirement that RRB consider a range of reasonable alternatives that would feasibly attain most of the basic objectives of the Project. (14 Cal Code Regs § 15126.6(a).) This deficiency requires revision and recirculation. (*See North Coast Rivers Alliance*, 243 Cal.App.4th at 669-70.)

KDWD-6  
(cont.)

#### IV. The Draft EIR Fails to Describe or Analyze Downstream Impacts

The proposed Project includes at least three major components: (1) the change of points of diversion from the Onyx and Smith Ranch parcels along the South Fork of the Kern River; (2) the change in downstream water flow in the South Fork of the Kern River, Isabella Reservoir, and Lower Kern River; and (3) the development and/or use of downstream diversion and conveyance facilities in and near the RRB service area. The Draft EIR, however, limits its analysis to only the first component. The other components are absent from the Draft EIR, as the Draft EIR simply assumes that existing downstream diversion facilities have adequate capacity to accept increased diversions following the change of points of diversion upstream. Without evidence supporting this assumption, Kern Delta and other interested members of the public cannot adequately consider all potential environmental impacts which may result from the Project, nor can they rely on RRB’s assertions that downstream facilities will not be expanded or that new facilities will not be required to accommodate downstream diversions. This oversight infects each environmental impact section, requiring substantial revision and recirculation.

KDWD-7

##### A. Aesthetics

The Draft EIR’s discussion of aesthetic impacts is limited to a consideration of whether the Project would “substantially degrade the existing visual character or quality of the project site and its surroundings” or “have a substantial adverse effect on a scenic vista.” However, because the “project site” is limited to the Onyx and Smith ranch locations, the Draft EIR does not provide an aesthetics analysis of any downstream diversion locations or facilities required for the Project.

Without a detailed understanding and description of the proposed downstream diversion and conveyance facilities, the Draft EIR cannot properly consider all potential aesthetic impacts associated with the Project, including whether the Project will have a substantial adverse effect on scenic vistas, substantially degrade scenic resources, substantially degrade the existing visual character of quality of the site and its surroundings, or create a new source of light that would adversely affect views. (*See Appendix G, CEQA Guidelines.*)

KDWD-8

Further, by avoiding analysis of downstream Project elements, the Draft EIR ignores potentially applicable thresholds of significance and regulatory requirements. The Draft EIR’s discussion of the regulatory framework is limited to local plans and policies affecting only the

South Fork of the Kern River and does not include any discussion of downstream policies, namely those implemented by the City of Bakersfield. Based on figures provided in the Draft EIR, downstream diversions may occur along portions of the Kern River that are located within the City’s boundaries; therefore, City plans and regulations should be included and analyzed in the Draft EIR.

KDWD-8  
(cont.)

B. Agricultural Resources

Similarly, the Draft EIR’s agricultural resources section is inadequate. The Draft EIR analyzes only those agricultural resources located on the Onyx and Smith Ranch properties. There is no discussion of whether the expansion or construction of downstream diversion, conveyance, and recharge facilities will convert prime farmland, unique farmland, or farmland of statewide importance, conflict with existing zoning for agricultural use or Williamson Act contracts, or result in the cancellation of open space contracts. (See Appendix G, CEQA Guidelines.)

KDWD-9

As recognized by the Draft EIR, agriculture is a “vital component of the character and rural lifestyle” of Kern County. Kern County also is “recognized as the top of the State’s 57 agricultural counties in total value.” Yet, the Draft EIR does not discuss whether any prime farmland or protected open space exists or will be impacted by downstream facilities. The Draft EIR should be recirculated after properly considering whether new or expanded downstream facilities may result in substantial changes to agricultural practices.

C. Air Quality

Without identifying downstream diversion points and any needed improvements to structures or facilities, it is impossible to fully analyze the Project’s potential air quality impacts. The thresholds of significance identified in the Draft EIR do not account for the construction, operation, and maintenance of expanded or newly created downstream diversions, or the extraction and farming operations associated with an increased water supply placed in the ground; therefore, the Draft EIR does not properly consider all applicable plans and policies relating to air quality. By limiting the Project location to the Onyx and Smith ranches, the Draft EIR improperly disregards applicable Air Quality Management Plans implemented by the San Joaquin Valley Air Pollution Control District, whose jurisdiction covers the RRB service area.

KDWD-10

Accordingly, the Draft EIR fails to properly analyze whether the Project will “conflict with or obstruct implementation of the applicable air quality plan,” “violate any air quality standard ... or contribute substantially to an existing or projected air quality violation,” “result in a cumulatively considerable net increase of any criteria pollutant for which the project region is designated non-attainment,” or “expose sensitive receptors to substantial pollutant concentrations.” In particular, the Draft EIR provides no analysis on whether the construction and operation of downstream diversion facilities will result in emissions that exceed thresholds established by all relevant air pollution control districts. The Draft EIR also does not consider

KDWD-11

sensitive receptors that may be negatively impacted by the construction and operation of diversion facilities in the City of Bakersfield or the RRB service area.

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KDWD-11  
(cont.)

The Draft EIR’s cumulative air quality analysis is similarly deficient in scope. The Draft EIR accounts only for projects located within one to six miles of the Project site, i.e., the Onyx and Smith ranches. Thus, it fails to identify any projects located near downstream diversion points or analyze whether emissions from the Project, when considered in addition to other projects in the area, exceed established air quality thresholds.

KDWD-12

D. Biological Resources

The protection of biological resources is a fundamental policy underlying CEQA. (Pub. Res. Code § 21001(c) [“[I]t is the policy of the state to . . . [p]revent the elimination of fish or wildlife species due to man’s activities, insure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities.”].) Accordingly, the Draft EIR must provide a detailed discussion of any special-status species and their habitat located on or in the vicinity of the Project site, as well as any wetlands or other protected waters that exist and may be impacted by Project activities.

The Draft EIR does not satisfy CEQA’s requirements for analyzing impacts to biological resources. According to the Draft EIR, the “biological study area” is limited to the Onyx and Smith ranch sites. More specifically, the Draft EIR provides that the “potential impact area” is limited to the study area that “may be affected by the proposed project including: agricultural fields and ditches that would see a reduction in flow, including a 50-foot buffer.” This is inadequate.

Given the significant downstream impacts associated with the Project, the study area should be much broader and include the South Fork of the Kern River, Isabella Reservoir, Lower Kern River, and any areas impacted by downstream diversion, conveyance, and recharge facilities. Due to its strictly limited scope, the Draft EIR does not properly analyze the following biological resources impacts:

KDWD-13

- Whether any vegetation communities and special-status plants exist along other portions of the Kern River, and whether they will be impacted by the proposed Project;
- Whether any special-status species exist within the lower sections of the Kern River or in the area surrounding downstream diversion facilities;
- Whether increased river flows will affect special-status fish or other aquatic species;
- Whether Project construction or operation will impact critical habitat in the Kern River or in the areas surrounding downstream diversion facilities;

- Whether downstream diversion and conveyance facilities will adversely impact wildlife movement and habitat linkage;
- Whether downstream diversion and conveyance facilities will result in the “take” of protected species;
- Whether the Project will impact waters of the United States in relation to the construction of new or expanded downstream facilities;
- Whether the Project will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake in relation to the construction of downstream facilities;
- Whether downstream facilities will impact protected wetlands or riparian habitat;

KDWD-13  
(cont.)

This list is by no means exhaustive, but rather illustrates the number of potentially significant environmental impacts that are entirely missing from the Draft EIR. Revision and recirculation are necessary to adequately assess the Project’s likely impacts to biological resources.

E. Cultural Resources and Tribal Cultural Resources

The Draft EIR’s analysis regarding the potential impacts to cultural resources is limited to an Area of Potential Effect (“APE”) that includes only a portion of the Onyx and Smith ranches, as well as the channel and floodplain of the South Fork of the Kern River. Thus, no archival research or site surveys were conducted for any potential changes to downstream diversion facilities. Without this information, it is impossible to determine whether the Project may cause a substantial adverse change in the significance of historical or archaeological resources.

KDWD-14

Further, by limiting the scope of analysis to the Onyx and Smith ranches, it appears that RRB has failed to comply with Assembly Bill 52 (“AB 52”) in preparing the Draft EIR. AB 52 requires that RRB provide formal notification to the designated contact, or a Tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the Project. RRB must also engage in good faith consultation with any responding Tribe regarding potential impacts to tribal cultural resources in the Project area. However, the Draft EIR does not evidence that any Tribes traditionally and culturally affiliated with the geographic area of downstream diversion facilities were contacted, or that potential tribal cultural resources in that area were considered and analyzed. Accordingly, additional AB 52 notification procedures should be completed, and the Draft EIR should be recirculated following proper consideration of any tribal cultural resources located in the area of downstream diversion facilities.

KDWD-15

F. Geology and Soils

The Draft EIR’s discussion of potential impacts to geology, soils, and paleontological resources is limited in geographical scope to the Onyx and Smith ranches. Accordingly, the Draft EIR fails to provide a complete review of the Project’s potential impacts to geology soils, and paleontological resources that may result from the construction and operation of new or expanded downstream diversion facilities.

The Draft EIR does not indicate whether downstream diversion facilities are located near any active earthquake faults, nor does it consider whether those downstream diversion facilities would directly or indirectly cause potential adverse effects, including the risk of loss, injury, or death, due to the rupture of a known earthquake fault or strong seismic ground shaking. Similarly, the Draft EIR does not provide any information on the type of soils underlying downstream diversion facilities and, therefore, does not consider whether those facilities would be adversely impacted by liquefaction, lateral spreading, subsidence, or collapse.

KDWD-16

G. Greenhouse Gas Emissions

The Draft EIR’s review of greenhouse gas (“GHG”) emissions takes into account only the construction of groundwater wells, field and pasture transitions, and general operation and maintenance of the wells and cattle transport. It does not consider the construction or operation and maintenance of new or expanded downstream diversion and conveyance facilities, which likely will result in significant GHG emissions. Thus, the Draft EIR underestimates the amount of GHG emissions that would result from the Project, and its conclusion that the Project would result in a net decrease of emissions is likely inaccurate. Accordingly, the Draft EIR should be revised and recirculated in order to consider whether the entire Project will result in the generation of GHG emissions that exceed existing conditions or otherwise have a significant impact on the environment.

KDWD-17

Further, the Draft EIR does not consider applicable guidance established by the San Joaquin Valley Air Pollution Control District (“SJVAPCD”), whose jurisdiction covers the RRB service area. SJVAPCD has adopted a Climate Action Plan, which uses performance-based standards to assess project-specific GHGs and requires projects to demonstrate a 29 percent reduction in GHG emissions to be considered less than significant. The Draft EIR, however, ignores these requirements and does not indicate whether the Project—including the construction and operation and maintenance of new or expanded downstream facilities—would implement performance-based standards or otherwise result in a reduction in GHG emissions consistent with SJVAPCD standards. These impacts should be thoroughly reviewed in a revised and recirculated EIR.

H. Hazards and Hazardous Materials

Pursuant to the Draft EIR, the scope of the Project’s Phase I Environmental Site Assessment (“ESA”) was limited to the Onyx and Smith ranches. The same is true of the

KDWD-18

Project’s search of the State Water Resources Control Board GeoTracker and Department of Toxic Substances Control EnviroStor databases. Thus, the Draft EIR does not disclose whether there are hazardous materials in the vicinity of new or expanded downstream diversion and conveyance facilities, nor does it indicate whether those areas include any listed hazardous materials sites under Government Code Section 65962.5. These issues should be addressed in a recirculated EIR.

KDWD-18  
(cont.)

I. Hydrology and Water Quality

The hydrological study area presented in the Draft EIR is limited to a rectangular area that is approximately 19 miles long and 9 miles wide, surrounding the Onyx and Smith ranches. Accordingly, the Draft EIR does not consider any hydrological impacts to surface water or groundwater downstream of Isabella Reservoir. Further, and as more particularly described in the attached technical analysis prepared by Todd Groundwater (*see Exhibit B*), there are various inaccuracies and uncertainties associated with the modeling used in the Draft EIR to determine Project diversions, the no-injury factor, and impacts to surface and groundwater in the hydrological area. These issues require substantial additional analysis and should be addressed in a revised and recirculated Draft EIR.

KDWD-19

J. Land Use and Planning

In determining whether the Project would conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect, the Draft EIR considers only the Onyx and Smith ranch sites. Additionally, the Draft EIR primarily addresses the Kern River Valley Specific Plan, since the majority of the Onyx and Smith ranches are located within the Specific Plan’s boundaries. However, there is no discussion regarding whether new or expanded downstream diversion facilities would be consistent with the Kern County General Plan, relevant specific plans, including the Western Rosedale Specific Plan, or applicable City of Bakersfield land use regulations. These issues should be analyzed in a revised and recirculated Draft EIR.

KDWD-20

K. Utilities, Service Systems, and Energy

The Draft EIR concludes that there would be no impacts or less than significant impacts to surface or groundwater supplies available to serve adjacent land uses. Please refer to Exhibits A and B requesting additional information to fully analyze the Project’s potential impact on other Kern River water interests in the South Fork Valley and downstream of Isabella Reservoir.

Additionally, the Draft EIR limits its discussion on potential energy consumption impacts to the operation of existing onsite electrical wells, transportation of cattle between pastures, and construction of new solar-powered wells. The Draft EIR does not discuss energy and fuel consumption required for the construction of new or expanded downstream facilities, the conveyance of water from the Kern River to the RRB service area, or the discharge of water in the RRB service area for groundwater recharging activities. These downstream activities likely

KDWD-21

will result in significant energy and fuel consumption and should be properly analyzed in the Draft EIR.

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KDWD-21  
(cont.)

#### **V. The Draft EIR Ignores Possible Growth Inducement From Additional Water Supplies**

Chapter 4 of the Draft EIR on growth-inducing impacts does not include any analysis of the possible growth-inducing impacts of additional water supply in RRB's service area. Instead, the Draft EIR focuses only on whether the Project would develop new housing, build or extend roads or other infrastructure, or result in increased employment, ignoring the recognized fact that increased water supply is a key factor that can induce growth. By providing "water supply reliability" to the RRB service area, the Project may remove an obstacle to population growth and foster increased housing in the area. (See 14 CCR § 15126.2(e).) The Project also may encourage and facilitate other activities that could have a significant impact on the environment. The Draft EIR should be revised to appropriately consider these issues.

KDWD-22

#### **VI. A Corrected EIR Must Be Recirculated**

In response to the above comments, RRB must both prepare specific responses, and also prepare substantial additional analysis for a revised Draft EIR. CEQA requires that an EIR must be recirculated for a second round of public review and comment if significant new information is added to the EIR before it is certified. (Pub. Res. Code § 21092.1; 14 CCR § 15088.5; *Laurel Heights Improvement Ass'n v. Regents* (1993) 6 Cal.4th 1112 [lead decision by California Supreme Court on EIR recirculation]). While RRB must evaluate recirculation based upon the additional information that is added to the EIR in response to comments, based on the above comments, the information to be added will be substantial, and is the type of information that will require recirculation. (See, e.g., *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1120 [requiring recirculation for amendment to EIR mitigation measure when feasibility of measure was not evaluated in original draft EIR]). Here, there are a number of analytical gaps and instances of missing information, similar to the missing feasibility analysis in *Gray*.

KDWD-23

Given the scope of our comments on the EIR, and the amount of information required to address these comments, we ask that the entire EIR be recirculated so that the public and all stakeholders can evaluate a more complete analysis of the proposed Project and its environmental impacts and potential mitigation measures and alternatives.

Mr. Dan Bartel  
July 27, 2020  
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## VII. Conclusion

On behalf of Kern Delta Water District, we appreciate the opportunity to comment upon the Draft EIR, and we look forward to reviewing a substantially revised Draft EIR. In responding to this letter, please also respond to each point noted in Exhibits A and B attached to this letter. Please provide the undersigned with any notices relating to the EIR and the proposed Project.

KDWD-24

Sincerely,

Michael H. Zischke

cc: Steven L. Teglia, General Manager  
Richard Iger, General Counsel  
L. Mark Mulkay, Water Resources Manager  
Robert W. Hartsock, Esq.  
Robbie Hull, Esq.

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 July 27, 2020  
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**EXHIBIT A**

As noted above, this Exhibit A provides a detailed list of questions and comments that should be addressed in order to provide decisionmakers and the public with adequate information to evaluate the likely environmental impacts associated with RRB’s claimed right to water in the South Fork of the Kern River, and its right to transfer and convey that water downstream.

KDWD-A-1

Water Rights

- The Draft EIR does not provide sufficient information to determine if the “1902 Decree” is a judicial decree, which truly adjudicates the claimed water rights, or if it is merely the result of an agreement amongst some of the then-existing landowners in the Kern River Valley in the 1900s. If merely an agreement, it binds only those who were parties. Those who were not parties to the agreement are not bound.

KDWD-A-2

- The Draft EIR does not provide sufficient information to determine the extent to which there are other rights in and to the Kern River in the Kern River Valley that were not included in the 1902 Decree. The DEIR is silent as to such other rights, and whether or not they may have a priority over the Project’s water supply rights.

KDWD-A-3

- The Draft EIR does not provide sufficient information to determine which lands were subject to the 1902 Decree.

KDWD-A-4

- The Draft EIR does not provide sufficient information to determine if any of the claimed diversion rights have ever been perfected as pre-1914 appropriative rights. The Draft EIR should evaluate whether some or all of these rights are riparian rights, and the impact this may have on the availability of water for the Project.

KDWD-A-5

- The Draft EIR does not provide sufficient information to determine if there are any disputes as to allocation of water supplies in the Kern River Valley amongst Kern River Valley interests. If the 1902 Decree did not adjudicate all water rights in the Kern River Valley, what other rights exist, and what are their priorities?

KDWD-A-6

- RRB states that it acquired a “one-third interest in Smith Ranch and the associated pre-1914 appropriative water rights...” Is RRB’s ownership as a co-owner? Has the property been parceled between RRB and the other owners? Who controls the ranch operations and the water rights, if any, that are associated with the property? If the Smith Ranch has appropriative rights, why were they not included in the 1902 Decree? Were such rights ever perfected? Have they otherwise been impacted? Smith Ranch contains mountainous lands as well as riparian lands. Which land did RRB acquire? How is title held? Is the acreage owned by RRB severable from the other Smith Ranch acreage? Were the riparian or other rights to the Smith Ranch ever adjudicated? If so, when and

KDWD-A-7

how? There is insufficient information to determine the scope of the water rights associated with the Smith Ranch.

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KDWD-A-7  
(cont.)

- Of the one-third of the Smith Ranch lands that RRB acquired, were those acres riparian? Were they farmed? Was groundwater used? Based upon the information given, it is not possible to determine what RRB controls (water rights, land rights, irrigation practices, etc.) and therefore not possible to evaluate this part of the Project or the Project site.

KDWD-A-8

- The Draft EIR does not provide sufficient information to determine which properties in the Kern River Valley area were or are subject to the “1902 Decree.” The Draft EIR provides that the Wirth/Lieb and Boone Fields were not covered by the “1902 Decree.” Why were such properties not included? Were or are there any disagreements or disputes (in the past or presently) regarding the “1902 Decree” or other water rights to the Kern River?

KDWD-A-9

- There are no documents included in the Draft EIR that explain how water rights associated with the Wirth/Lieb Fields, the Boone Field, and the Smith Ranch parcels were calculated or determined. How were such rights determined? If the historic documents describe the priority dates for the water rights, “but do not specifically quantify these rights”, on what factual and legal basis does RRB claim any particular amount of water from such rights. Were any of these rights perfected? Do all property owners in the Kern River Valley agree with these rights, or are there any disagreements or competing claims for such water supply?

KDWD-A-10

- The Draft EIR does not provide sufficient information to determine which Project properties and fields are entitled to which water right and which priority as is set forth in the 1902 Decree, nor is there sufficient information to determine if the supply is appropriative or riparian in nature.

KDWD-A-11

- The Draft EIR does not provide sufficient information to determine if any of the claimed water rights have already been transferred, or if there has been a prior change in point of diversion, place, or purpose of use.

KDWD-A-12

- The Draft EIR does not provide sufficient information to determine if any of the claimed rights have been impacted, such as by abandonment, prescription, non-use, transfer, forfeiture, or otherwise, or if there are more senior upstream or downstream rights (appropriative or riparian) that could impact the Project.

KDWD-A-13

- Does the Project intend to take and divert water which otherwise would end up in Isabella Reservoir and otherwise be available to downstream Kern River users? How would such diversion impact such entities, including those entities subject to the Miller-Haggin Agreement, Shaw decree, and other various agreements and judicial determinations,

KDWD-A-14  
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commonly known as the Law of the River. How would such diversions impact other South Fork water users and water rights?

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KDWD-A-14  
(cont.)

- Figure 2-3 appears to depict lands outside of the Onyx and Smith Ranches. Are such lands irrigated with Kern River Water and if so, what quantity is available to such lands? If RRB proposes to leave water in the river, may lands outside of the Onyx and Smith Ranches use such water that RRB intends to use for the Project? What restrictions are in place to stop others from taking water that may belong to RRB?

KDWD-A-15

- Figure 2-4 has portions of Smith Ranch; Landers 1; Boone Ditch; Lieb Ditch; Mack Ditch; Hillside Ditch; Smith Ditch; and certain “Points of Diversion” not included within the project site. Are such areas not covered by the Draft EIR and were environmental consequences not considered for such non-Project area lands or facilities? Why were certain lands, ditches, and points of diversion excluded from the Project site?

KDWD-A-16

- RRB’s proposed change in point of diversion does not appear to be consistent with how other “Kern River Interests” have managed their Kern River water supplies (Draft EIR 2-7). The other Kern River interests have taken over a century of litigation and agreements to measure, allocate, divert, use, and account for their supplies. RRB’s Draft EIR does not provide any evidence or documents regarding its alleged supplies, nor how such supplies would reasonably be measured, allocated, diverted, used, and accounted for vis a vis all other Kern River interests. A complete appendix is needed to document RRB’s claimed water right, and how such right would be measured, allocated, diverted, used, and accounted for in relation to all other Kern River Interests.

KDWD-A-17

- How does RRB allocate and account for other water users on the river, including those with water right disputes (for example Tribal claims and other local claims), and those users and water right holders downstream of Isabella? How does RRB guarantee that its project will not impact other legal users of Kern River water, including but not limited to the measurement, allocations, diversion, distribution, storage, and recovery of such water?

KDWD-A-18

- Table 2-1 goes back only to 2009. What crops were grown historically prior to such time? What water source was used for such land prior to 2009. Prior to 2009, water rights may have been impacted due to non-use or other changes. A complete history of field, crop type, and water source use (appropriative, riparian, well water) is needed to accurately consider and analyze what water rights may exist for the Project.

KDWD-A-19

- There is no table similar to Table 2-1 for the Smith Ranch. A complete history of field, crop type, and water source use (appropriative, riparian, well water) is needed to accurately consider and analyze what water rights may exist for the Project.

KDWD-A-20

- There is no analysis of the past, present, and future uses of well water regarding the Onyx or Smith Ranch fields. Such information would be helpful to analyze past, present and future water use on such fields. If well water was used on the properties, it may influence the amount of Kern River water rights that may exist. | KDWD-A-21
- The list of RRB water right priorities on Table 2-2 does not allow Kern Delta or others to determine which right (or priority) goes with which property, nor is it possible to designate which Onyx and Smith Ranch fields are associated with which right listed in the Table. Because RRB proposes to change the points of diversion and place of use for the water rights associated with the parcels, a cross reference should be provided to make a full and complete analysis of water rights and prior water use on all project parcels. | KDWD-A-22
- It is our understanding the “1902 Decree” lists specific canals and ditches and their priorities to receive water. Are the canals and ditches listed on Table 2-5 the same canals and ditches listed in the 1902 Decree? A cross reference to the “1902 Decree” should be provided for (1) each of the diversion points, and (2) each of the canals that will be used for the project in order to accurately analyze what water supply or rights may be available for the project. Additionally, if the Lieb, Scodie, and or other ditches are not used, what impact will discontinued use have on the water rights, if any, and have any such rights already been diminished or lost? | KDWD-A-23
- The Draft EIR should disclose the extent to which water rights or available water for the project may be affected by the provisions of the Miller-Haggin agreement (recorded October 13, 1888), as amended. Part Fourteen of that agreement binds the signatories to oppose and legally challenge certain diversions from the Kern River, and Part Seventeen specifies that such agreements are perpetual and run with the land. We understand some of the properties within RRB may be subject to the provisions of this Agreement. | KDWD-A-24
- By whom, how often, how, and when are measurements taken of flows within the various ditches, and to the various fields. What historic measurement records are available? This information should be provided to determine which fields receive which water, and from which ditch, and under which water right. Without this information, one cannot determine the water supply which might be available for the project. | KDWD-A-25
- Have any water rights associated with the Boone Field been adjudicated? If so, how was such adjudication accomplished, and when? The Draft EIR states that such land is riparian (Draft EIR 2-16). What is the historic water use/demand on the Boone field? Why will Kern River water previously used on the Boone Field be replaced with groundwater (see Table 2-5 and Draft EIR 2-25) when it is stated groundwater would not be used to replace surface water (e.g. Draft EIR 3.4-22)? What will the impacts be to groundwater levels if wells are used to supply the Boone Field? | KDWD-A-26

- If groundwater will be used to replace prior surface water used on the Boone field, from which well will such groundwater originate, and where is it located? If Boone Field has riparian rights, and if such rights will not be used, the riparian water cannot be transferred, as acknowledged by RRB (Draft EIR 2-16). Please explain how RRB intends to legally transfer riparian water after acknowledging such supply cannot be legally transferred. Is it possible other riparian right holders (or others) will divert such supply if RRB leaves such water in the river channel? KDWD-A-27
  
- Do the diversion quantities in Table 2-3 include diversions to Smith Ranch? Do the amounts include riparian diversions? To which fields were diversion made? A historic accounting of the amounts and types of diversion (riparian, appropriative, and prescriptive) should be provided for each field to allow a full analysis of the prior use of the water, which may impact existing and future water use, and the availability of water for the project. KDWD-A-28
  
- By whom, how, and where were the diversions referenced in Table 2-3 measured and verified? KDWD-A-29
  
- Table 2-4 does not provide sufficient information to determine how much of each field in the project has its demands met by well water, riparian water right supplies, and appropriate water right supplies. This information is needed to determine historic application of such supplies and the ongoing use (or lack of use) of same, which could impact the availability of such supplies. Additional clarification is needed because RRB may not move water based upon prior needs that were met by riparian or groundwater supplies. KDWD-A-30
  
- It is our understanding that the ditches referenced in Table 2-5, which have been used to deliver water (presently or in the past) under Project Implementation, are not necessarily the same ditches as are referenced in the “1902 Decree.” Please explain the specific diversion rights, if any, that are available to each of the ditches in Table 2-5 as apparently allowed pursuant to the “1902 Decree” with some type of cross reference and documents supporting such information. Also, Table 2-5 mentions a reduction in ditch use or flow rate but does not explain what the volumes of water would be under that reduction. What were the historic volumes used (based upon the claimed water right diversion) and what would the proposed flow be under the project, and to which properties (flow and acre-feet per acre)? This information is needed to verify the project’s operations and diversion reductions. KDWD-A-31
  
- Because a right to water often depends upon continued beneficial use, when cattle ranching was the main economic activity in the Kern River Valley (Draft EIR 3.4-3), how much surface water was used for such purposes on each field/tract, and has the water demand increased or decreased since that time? KDWD-A-32

- The Smith Ranch acreage is unclear because the Draft EIR has inconsistent acreage amounts specified for such property (see for example Draft EIR 3.12-2 compared to Draft EIR 2-13).

KDWD-A-33

- The DEIR does not adequately explain how a range of 2,000 to 12,000 acre-feet per year is made available under the project. Within the Draft EIR, there appear to be only four references to the amount of water RRB proposes to move: *“The total amount of surface water would range from about 2,000 acre-feet per year to 12,000 acre-feet per year, depending on year type.”* (Draft EIR 2-19); *“The approximately 2,000 to 12,000 AFY of water to be supplied by the proposed project would help replace the 10,000 AF of imported water, thereby augmenting the groundwater basin with a sustainable local supply to support agricultural irrigation.”*(Draft EIR 3.12-30); *“Based on the 13-year modeled period of 2005 to 2017, the proposed project would make approximately 2,000 to 12,000 AFY available for recharge into the San Joaquin Valley Groundwater Basin (groundwater basin).... The approximately 2,000 to 12,000 AFY to be supplied by the proposed project would help replace the 10,000 AFY of imported water, thereby augmenting the groundwater basin with a sustainable local supply.”* (Draft EIR 4-4) However, and considering the other comments made on behalf of Kern Delta, there are no documents attached or provided with the Draft EIR that support the proposition that RRB has a water right that can be moved, that competing water rights have been adequately addressed (in fact there is no real discussion about competing water rights), the acreage numbers included within the Draft EIR are inconsistent, and the diversion amounts claimed are inconsistent. The Draft EIR contains no clear indication as to how the proposed diversion amount is calculated (such as hourly, daily, weekly, monthly flow and diversion records.) Additionally, if the diversion is 12,000 acre-feet per year, then over a 50-year period approximately 600,000 acre-feet would be diverted from the Kern River Valley to the Kern subbasin. How much will be diverted in perpetuity? The Draft EIR includes no analysis that considers how moving this amount of water would impact the local Onyx area, nor the RRB service area.

KDWD-A-34

- When considering alternatives to the project, there is concern that the project as originally proposed is made necessary as a result of RRB’s financial situation. The Draft EIR notes that the “no project alternative” was dismissed at least partially because of finances: *“Furthermore, continuing the existing agricultural operations on the Onyx and the Smith Ranch under the No Project Alternative is not economically feasible for the RRBWSD. Continuing the agricultural operations on the project site alone would not be financially sustainable for the RRBWSD as the payoff of the debt service associated with the property acquisition is required.”* (Draft EIR 5-15) The same financial considerations also eliminated the 50 percent project alternative: *“Furthermore, continuing only 50 percent of the existing agricultural operations on the Onyx Ranch and reducing irrigation by 16.5 percent on the Smith Ranch under the 50 Percent Diversion Alternative is not economically feasible for the RRBWSD. Continuing only 50 percent of the agricultural operations on the project site would not be financially sustainable for the*

KDWD-A-35

*RRBWS* due to the payoff of the debt service associated with the property acquisition.” (Draft EIR 5-24.) Given the vast presumed cost and scope of this project (potentially up to 600,000 AF over 50 years), why was a full EIR not prepared prior to the acquisition of the Onyx and Smith Ranches, especially if finances dictate whether or not to proceed with the project?

KDWD-A-35  
(cont.)

Quantity of Water to be Transferred

- RRB states that it is using a three-step process to determine the amount of water that would flow downstream for use in their service area, but it is unclear if the time frame included in the Draft EIR (2009-2017) accurately reflects 100% of normal.
- Based on Table 2-1, only approximately 1,643 acres of the project area included irrigated crops, with a majority of those acres being used for “Irrigated Pasture”, yet diversions for 2010 and 2011 were 27,435 acre-feet per year and 41,119 acre-feet per year respectively. There is no information or evidence tying those diversions to the consumptive use of the water at Onyx and Smith Ranches.
- It is unclear why RRB uses limited water measurement information in the Draft EIR. Table 2-3 uses only nine years of information (2009-2017); other areas of the Draft EIR reference water during 2005-2017 (Draft EIR 2-8); and during 1947-2014 (Draft EIR 2-9). All historical diversions must be included for a complete understanding of the project’s water supply. The historical diversion information should include the diversion structure, the diversion ditch or canal used, and the property to where the water was diverted. The information should also include a cross reference to the right from which such water is derived, and the nature of the diversion should be included (whether appropriate, riparian, prescriptive, or other.)
- If there is no formal water master organization for the South Fork (Draft EIR 2-10), who is responsible for record keeping? Who has rights to the water supply? How and where are measurements taken? By whom? Have all water users on the Kern River agreed to the RRB process? Have any users disagreed with RRB’s claimed water rights? How often are measurements taken? Weekly measurements are not sufficient to detail water use or delivery, and substantial inaccuracies can occur if only weekly measurements are taken. For example, measurements taken on weekends may not be a true representation of water used during the course of a work week. If water not taken by a right holder is available to others, how does RRB ensure water left in the river is not taken by another user (appropriative/riparian/prescriptive/other)?
- It appears the Onyx Ranch contains only 1,658 acres of non-riparian irrigated lands (3,418 total, less 1,149 mountainous, less 611 riparian) and the Smith Ranch contains only 242 acres of non-riparian irrigated lands (691 total, less 171 mountainous, less 278 riparian.) (Draft EIR 2-10 through 2-13). Combined, such properties have 1,900 acres of

KDWD-A-36

KDWD-A-37

KDWD-A-38

KDWD-A-39

KDWD-A-40

non-riparian irrigated lands. The Boone field is elsewhere stated as also being riparian (Draft EIR 2-16), but it is not indicated as such on Table 2-1. If the Boone field is riparian, then it appears that only 1804 acres are non-riparian irrigated acres over the entire project site. Accordingly, it is unclear exactly how much water is intended to be moved for the Project.

KDWD-A-40  
(cont.)

- An historic analysis of type of water used should be given for each field listed on Table 2-1, which should include how much was surface water (either appropriative or riparian), and how much well water was used. RRB acknowledges that it cannot move riparian rights, and it does not intend to move groundwater, so it is not clear from the Draft EIR exactly how much water RRB intends to move.
- How are diversions to Smith Ranch calculated? (Draft EIR 2-18). In determining the water that might be available, why would only two-thirds of the Smith Ranch diversion be excluded from the analysis? Why would not all diversions onto Smith Ranch be included in the calculation of water available for diversion under the project?
- How are “accretions” that occur below the USGS Onyx Gage measured, and by whom and how often are such measurements taken? (Draft EIR 2-18)
- The claimed diversions in Table 2-3 for the Onyx Ranch appear to be inaccurate. For example, a claimed diversion of 41,119 acre-feet took place in 2011. Onyx Ranch has only 2,269 irrigated acres (including riparian acres) (Draft EIR 2-10). This calculates to a diversion rate of over 18 acre-feet per acre. This amount seems excessive, especially considering Water Code 1004 and the limitations contained therein. This example shows why historic diversion records and use data for each field are necessary for a complete analysis of the water available for the project.
- Why is the amount claimed to be diverted in 2017 by Onyx Ranch in Table 2-3 (309,727 AF) different from the diversion of the same year as referenced in the Harder Report (appendix E, page 3)? Why are there additional inconsistencies between Table 2-3 and the Harder Report Table 2? Harder Report Table 2 [without project] has lower total annual diverted amounts in 2010, 2011, and 2012 for multiple ditches and properties compared to those shown as diverted solely to Onyx Ranch in Table 2-3 of the Draft EIR. How were such diversion records obtained and which diversion amounts are accurate, and how would this impact the water balance, budget, and the calculation of available water for the project?
- With regard to the typical irrigation demand by month information in Table 2-4, what are the calculated demands in acre-feet? Other information in the Draft EIR shows water supply in acre-foot volumes.

KDWD-A-41

KDWD-A-42

KDWD-A-43

KDWD-A-44

KDWD-A-45

KDWD-A-46

- Why are such a limited number of years used in Table 2-4? How are the demands in Table 2-4 allocated among the various fields and tracts of the project properties? Without this information, one cannot determine if the demand is reasonable, especially considering Water Code 1004 and the requirement that water be put to beneficial use. | KDWD-A-47
- Are the demands in Table 2-4 consistent with the various diversion quantities in Draft EIR Table 2-3 and the diversion amounts referenced in the Harder Report (noting the apparent inconsistencies referenced elsewhere in this letter)? Given the inconsistencies between Table 2-4 and the Harder report, is the information contained in Table 2-4 still correct? | KDWD-A-48
- The Draft EIR does not provide sufficient information to determine how much water is proposed to be moved from the Smith Ranch on a daily, weekly, monthly, or annual basis. Can this information be clearly and succinctly provided? | KDWD-A-49
- The Draft EIR does not provide sufficient information to determine how much water is proposed to be moved from the Onyx Ranch on a daily, weekly, monthly, or annual basis. Can this information be clearly and succinctly provided? | KDWD-A-50
- Table 2-1 indicates some of the project properties contain fallow lands. Does Table 2-4 irrigation demand information incorporate the fallow land referenced in Draft EIR Table 2-1? If so, how? | KDWD-A-51
- It is noted that facilities consisting of metering devices have already been installed. Have any other improvements occurred on the project property (such as gages, weirs, diversion structures, wells) since RRB acquired ownership, and has CEQA review been completed with respect to such improvements? | KDWD-A-52
- The Draft EIR states, when discussing the model: “For this 13-year period, the model shows that reducing 94,452 acre-feet per year of previous net diversions to the project site results in 78,183 acre-feet per year more water in the Isabella Reservoir, without impacting other reservoir storage amounts.” (Draft EIR 2-22) A review of the various Tables included in the Draft EIR and in the Appendix does not indicate any diversions of such a quantity of water, and a diversion of that amount onto all of the irrigated acres of the project would seemingly be an unreasonable use of water ( $94,452 \text{ acre-feet per year} \div 2,789 \text{ total irrigated acres (including riparian)} = 33.86 \text{ acre-feet per acre per year}$ ). If riparian lands are eliminated from the equation,  $94,452 \text{ acre-feet per year} \div 1,900 \text{ total non-riparian irrigated acres} = 49.71 \text{ acre-feet per acre per year}$ . Why was a diversion factor of 94,452 acre-feet per year used in the model if such a diversion never previously occurred? | KDWD-A-53
- The discussion under operation and maintenance (Draft EIR 2-26) references that water will be diverted by RRB into and through Isabella Reservoir, but there is no indication of | KDWD-A-54

how much water would be moved, when such water would be moved, what facilities would be used downstream of Isabella Reservoir to transport such water, how such water will be measured and allocated, and how such water would ultimately arrive at the RRB service area and into underground storage. Where, when, and how does RRB intend to take delivery of the water and in what “facility” will the water be placed for underground storage? It seems these are fundamental project components that have not been clearly described, discussed, or analyzed in the Draft EIR.

KDWD-A-54  
(cont.)

- The total acreage of Smith Ranch and associated riparian acres are uncertain because different amounts are referenced for the ranch at Draft EIR 2-13 and Draft EIR 3.3-2.

KDWD-A-55

- It appears one of the purposes of the Upper Taylor Meadow Gully Repair Project is to spread water onto a meadow upstream of the project property, as opposed to allow the continued channelization of the water. Will the Upper Taylor Meadow Gully Repair Project reduce flows into the Onyx area, and if so, what are the cumulative impacts? (See: Preliminary Environmental Assessment Kern River Ranger District, Sequoia National Forest Tulare County, California.)

KDWD-A-56

- Regarding the Model Results, what is the basis for using 94,442 acre-feet of net diversion (Draft EIR 3.11-28)? If this amount was from the Harder Report (Table 2), why was such a limited time period (13 years) chosen for the analysis? Also, in Table 2, why do non-project entities (Prince and Hafenfeld) divert different amounts of Kern River water depending upon whether or not the project occurs? Why does Smith Ranch divert more Kern River water under the no project analysis in years 2013 and 2017? Why does Draft EIR Table 2-3 use only nine years of data? The Draft EIR should provide all information regarding historic and proposed future diversions, because existing supplies may be impacted by historic use and/or non-use.

KDWD-A-57

- What other riparian rights exist in the South Fork area that may impact the amount of water available to RRB?

KDWD-A-58

#### Impacts to Other Kern River Water Interests

- It is unclear whether the water to be moved pursuant to the Project would be limited to the consumptive use of the Onyx and Smith Ranches. If the Project proposes to move more than the consumptive use, would diversions greater than the consumptive use impact all other Kern River water right holders, including downstream diverters (such as the City of Bakersfield, Kern Delta, North Kern Water Storage District, Buena Vista Water Storage District, Kern County Water Agency, and others)?

KDWD-A-59

- Regarding Project Element 1, when will this element be implemented and by whom, how, and how often? If water flow fluctuates on a daily, weekly, and monthly basis, how does monthly posting and coordination accurately document what is occurring? How is monthly posting accomplished? How does monthly posting prohibit downstream users

KDWD-A-60

from taking water which RRB intends for its project? Do downstream users have Kern River rights, and by what method are they prohibited from taking water that is claimed by RRB?

↑  
KDWD-A-60  
(cont.)

- Regarding Project Element 2, when will this element be implemented? By whom, how, and how often will such data be developed? Why are pumping records not already part of this CEQA analysis? Was surface water historically used for livestock, landscape, and dust control? Will groundwater be used to replace surface water for such purposes? How does the development of groundwater pumping records “preclude water rights disputes” as to surface water? There is an inconsistency in the Draft EIR regarding replacing surface water with well water (see other comments regarding the Boone Field.)

KDWD-A-61

- Regarding Project Element 3, when will this element be implemented? By whom, how, and how often will such data be developed? How will such records “preclude water rights disputes” as to surface waters? What agreements are in place to obtain data regarding properties and wells not located on the Project site? What actions will occur if groundwater levels begin to change? What is the trigger point for actions if groundwater levels drop?

KDWD-A-62

- Regarding Project Element 4, the Draft EIR should substantiate and justify the basis for the estimated 17 percent no-injury factor, which appears to be significantly underestimated. (See Exhibit B.) The Draft EIR should further explain what harms the no-injury factor is intended to protect.

KDWD-A-63

- With respect to the model contemplated in Project Element 4, how is it calibrated if direct measurement into Isabell Reservoir cannot be done (Draft EIR 2-21)? Calibration is a critical component of the no-injury requirement of the project.

KDWD-A-64

- Would the no-injury factor change depending upon temperature, flow, time of year, vegetation, or other conditions? If so, the Draft EIR should discuss and analyze these issues.

KDWD-A-65

- The model results appear to be entirely dependent upon the 78,183 acre-feet referenced at Draft EIR 3.11-28 because such amount is the “...estimated volume of surface water that could be released downstream of the Isabella Dam without creating a change in the volume of water in the Isabella Reservoir...” Is this the criteria used as the basis for the 17 percent no-injury factor? How were these calculations verified and how was the model calibrated?

KDWD-A-66

- Regarding Project Element 5, when will this element be implemented? How will coordination with the USACE, Kern River Watermaster, and other Kern River Interests actually occur? What specific agreements are in place to facilitate movement of Project water? Many issues would need to be addressed, including but not limited to

KDWD-A-67

measurement, allocation, diversion, distribution, and storage of the project water. Each agreement will require conditions that may also have environmental consequences that should be considered (loss calculations as an example.) Additionally, how does RRB ensure water is not diverted by others downstream of the project?

KDWD-A-68

- The discussion under Project Schedule (Draft EIR 2-26) merely provides for an “implementation timeframe of up to approximately 3 years depending on hydrology and lease terms.” How does hydrology affect the project’s implementation? What leases affect the project’s implementation, and how do they affect implementation? When will the project Elements be implemented?

KDWD-A-69

- Will RRB need the approval or concurrence of any public agency(ies) downstream of Isabella Reservoir to convey the project water? If so, the agency(ies) should be listed under Section 2.10, with a description of the necessary approval(s).

KDWD-A-70

- The Draft EIR says the Project does not include new diversion structures (Draft EIR 3.11-25). Have new diversion structures already been created or have other diversion structures been modified and improved by RRB or its tenants? If so, please explain.

KDWD-A-71

- It is noted “the project site consists of the Onyx Ranch and Smith Ranch where the points of surface water diversion and place of use would change as a result of the proposed project.” (Draft EIR 2-10.) The project site and the analysis should include areas downstream of Onyx and Smith Ranches, including but not limited to Isabella Reservoir, Hart Park, Lake Ming, transportation facilities, storage and extraction facilities, and the place of ultimate use, the RRB service area. The Draft EIR should include a description of how the project and its water supply will impact such areas. For example, where, when and by how much will transportation losses decrease the project’s supply? How will the project’s supply impact operations of Isabella Reservoir, Hart Park, Lake Ming, transportation facilities, and whatever storage and extraction facilities would be used? Will the project impact operations of RRB’s storage facilities? Will the project impact well usage within RRB? If so, when, where, and by how much?

KDWD-A-72

- How will the transportation of the project water actually be accomplished, and through which specific facilities? With whom will agreements be structured, when will the transportation occur, and what environmental consequences will occur downstream of Onyx Ranch?

KDWD-A-73

- There is no discussion regarding the agreements, or the terms thereof, that would be necessary to transport the project water to its ultimate location within RRB’s service area. With whom would such agreements be implemented, and what would be the terms thereof? What facilities will be used to transport the project water, when would they be used, and how would losses be calculated, and at what locations?

KDWD-A-74

- Because there are approximately 1,500 farmed acres downstream of the Onyx and Smith Ranches (Draft EIR 2-15), how does RRB ensure that such downstream users do not take water that is left in the river by RRB, especially if water not taken by one right holder can be taken by another? KDWD-A-75
  
- Are there any property owners downstream of the Onyx and Smith Ranches with riparian rights who may take and use all water remaining in the river? KDWD-A-76
  
- Despite the premise that the project would not cause “injury to other water right holders” (Draft EIR 2-7), there is no discussion regarding how such non-injury would occur. There is no discussion regarding what is commonly referred to as the Law of the River (Miller-Haggin Agreement and amendments, Shaw decree, Kern River Water Rights And Storage Agreement, and a myriad of other agreements and court decisions of which RRB is fully aware), nor how the RRB project would impact the measurement, allocations, diversion, distribution, storage, recovery and use associated with Kern River supplies amongst those burdened and protected by the Law of the River. KDWD-A-77

Groundwater Conditions and Use

- If the alluvial aquifer system of the South Fork Valley is relatively shallow and extremely permeable (DEIR 2-10), it is unclear how removing a (presumably) substantial amount of water from the area will “result in a net increase of groundwater in storage” or improved groundwater conditions. KDWD-A-78
  
- How much groundwater will be used for cattle grazing purposes (Draft EIR 3.4-23)? What is the total possible production of the new wells described in the Draft EIR? KDWD-A-79
  
- Does the permanent removal of a long-term surface water supply from the area assist in meeting sustainability for the Kern River Valley (Draft EIR 3.12-22)? If water levels are anticipated to drop in certain areas and for community water systems (Draft EIR 3.11-30), will such levels also impact small individual domestic water users over the long term? Will lowering groundwater levels eventually stop, or will the groundwater levels continue to decrease in perpetuity? Kern River Valley overdraft conditions should be discussed, including groundwater sustainability. KDWD-A-80
  
- The Draft EIR notes that groundwater levels may decrease by 15.6 feet (Draft EIR 3.11-30). Will such decreases continue over time, or continue in perpetuity? Do such decreases account for a cumulative impact of less water in the project area as a likely result of the Upper Taylor Meadow Gully Repair Project? KDWD-A-81
  
- Since the proposed project water would increase supplies to the RRB service area (Draft EIR 1-5), where is the detailed discussion regarding future storage of the project water underground, and later extraction of such water? How will the project impact KDWD-A-82

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|---|------------------------------------|
| <p>groundwater in RRB and in the Kern subbasin? For example, what will happen with groundwater levels, and will pumping depressions occur upon extraction of such water?</p>  | <p>↑<br/>KDWD-A-82<br/>(cont.)</p> |
| <ul style="list-style-type: none"> <li>• Will the project water be stored in the newly proposed Kern Fan Groundwater Storage Project? Who will extract the project water?</li> </ul>  | <p>KDWD-A-83</p>                   |
| <ul style="list-style-type: none"> <li>• It appears that approximately 17 percent of RRB land is residential, commercial, and industrial. (Draft EIR 4-2) Will the project water ultimately be extracted and used for domestic, municipal, and/or industrial purposes, and therefore encourage urban growth in the RRB service area? Will the project support increased agricultural activity? Will domestic, municipal, and industrial users pay for a portion of the project, and if so, will they be allocated a proportionate share of the supply? This may impact growth in the RRB area.</li> </ul> | <p>KDWD-A-84</p>                   |
| <ul style="list-style-type: none"> <li>• RRB intends to take 2,789 acres out of production in the Kern River Valley and move such supply to RRB. Will the project water encourage continued or any additional farming in the RRB area?</li> </ul>   | <p>KDWD-A-85</p>                   |
| <ul style="list-style-type: none"> <li>• Will any of the project water be sold outside of RRB? If so, how much, when and to whom?</li> </ul>  | <p>KDWD-A-86</p>                   |
| <ul style="list-style-type: none"> <li>• RRB is involved with various groundwater banking programs. Will any of the project water be used to meet any of its return obligations? How would RRB ensure such project water is not used for its out of county commitments?</li> </ul>  | <p>KDWD-A-87</p>                   |
| <ul style="list-style-type: none"> <li>• Has RRB considered any mitigation measures or considered taking any actions in the event water levels drop in the project area more than anticipated?</li> </ul>   | <p>KDWD-A-88</p>                   |

Future Uses on the Project Site

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|--|------------------|
| <ul style="list-style-type: none"> <li>• Regarding Project Element 6, when will this element be implemented? It is unclear from the Draft EIR what will happen with the Boone Field. Will it continue to receive riparian water supplies (Draft EIR 2-23)? Will it be fallowed (Draft EIR 2-23)? Will it receive well water (Table 2-5; Draft EIR 2-25)? If it receives well water, how much water will be applied, and from which well?</li> </ul>  | <p>KDWD-A-89</p> |
| <ul style="list-style-type: none"> <li>• What is the Grazing Management Plan as applied to the Onyx Ranch, and how will it change grazing practices, performance standards, soil conservation, weed management, and agricultural productivity? The Draft EIR is silent as to how such activities will occur and the environmental consequences of such activities. Will groundwater ever be used during a prolonged drought or dry period? When and under what circumstances would such a decision be made, and what impacts would occur, including but not limited to impacts to the project's water supply?</li> </ul> | <p>KDWD-A-90</p> |

- What actual land management changes will occur on the Smith Ranch? The Draft EIR notes that no “substantial changes” would occur other than a “33 percent reduction in irrigated acres” (Draft EIR 2-23). Which acres will no longer receive a water supply, and are they riparian pasture, mountainous areas, or irrigated pasture (Draft EIR 2-13)? What is the difference between an irrigated pasture and a riparian pasture? | KDWD-A-91
- What is the Grazing Management Plan as applied to the Smith Ranch, and how will it change grazing practices, performance standards, soil conservation, weed management, and agricultural productivity? The Draft EIR is silent as to how such activities will occur and the environmental consequences of such activities. Will groundwater ever be used during a prolonged drought or dry period? When and under what circumstances would such a decision be made, and what impact would occur, including but not limited to impacts to the project’s water supply? | KDWD-A-92
- During the field and pasture transition (Draft EIR 2-25), specifically what fields will be converted? The Draft EIR mentions conversion of irrigated fields and pastures to non-irrigated fields and pastures. What specifically will be planted, and in which specific fields? The Draft EIR also mentions conversion to non-irrigated row crops. What fields will be converted to such crops? The Draft EIR should specify by field/tract what will occur under the proposed project. Without such information, an informed environmental review and decision cannot be made. After the transition, is any well water intended to be used on the converted acreage during prolonged periods of drought? If so, what criteria are used to determine when such action would occur? After the project’s full implementation, what is the anticipated consumptive use for the new crops and/or native growth on the converted fields, and will it impact the local groundwater conditions? | KDWD-A-93
- Draft EIR page 3.11-27 notes, “The existing diversions that deliver surface water to the Onyx Ranch via the Mack/Scodie, Landers, Nicoll/Pruitt, and Lieb ditches would be discontinued...” However, Table 2-5 indicates the Mack Ditch will continue to be used for irrigating a portion of the Onyx Ranch. An explanation and clarification are needed as to the intended use (or nonuse) of the Mack Ditch. | KDWD-A-94
- The Draft EIR notes that the Boone Field would still receive 875 acre-feet per year during the project (Draft EIR 3.11-27). Table 2-1 indicates the Boone Field contains only 96 acres, which means the Boone Field would receive approximately 9.11 acre-feet per acre per year. This amount seems excessive and may be an unreasonable use of water, especially considering Water Code 1004. Please explain why such a small field would receive such a large amount of groundwater. Additionally, if the Boone Field is entitled to riparian rights, it is impermissible to transfer such supply. Please explain exactly what RRB intends to do with any riparian supplies available to Boone field. | KDWD-A-95



July 17, 2020

## DRAFT TECHNICAL MEMORANDUM

**To:** Richard Iger, General Counsel  
Kern Delta Water District

**cc:** Steve Teglia, General Manager  
Kern Delta Water District

**From:** Phyllis Stanin, Vice President/Principal Geologist  
Michael Maley, Senior Engineer/Modeler

**Re:** Review of Onyx Ranch South Fork Valley Water Project  
Draft Environmental Impact Report (DEIR)

In May 2020, Rosedale-Rio Bravo Water Storage District (RRBWSD) released a Draft Environmental Impact Report (DEIR) on its proposed Onyx Ranch South Fork Valley Water Project (Proposed Project) (ESA, May 2020). The Proposed Project involves RRBWSD use of water from the South Fork of the Kern River that was previously used on ranch lands adjacent to the river and about five miles upstream of Isabella Reservoir. In brief, RRBWSD proposes to leave previously-diverted water in the South Fork channel, allowing it to flow downstream into Isabella Reservoir and be subsequently released into the lower Kern River channel. The water released to the Kern river channel would be diverted into the RRBWSD service area at an existing diversion point for irrigation of crops or groundwater replenishment.

Kern Delta Water District (KDWD) relies on its allocation of the Kern River as a critical water supply for agricultural and urban land uses throughout its 129,000-acre service area. In addition, KDWD relies on its right to store water in Isabella Reservoir, including the ability to access carryover storage, to better manage its water supplies. Optimization of the use of its Kern River water rights and Isabella storage rights are the cornerstones of KDWD's water management and key components of its Groundwater Sustainability Plan (GSP) as prepared by the Kern River Groundwater Sustainability Agency (GSA), of which KDWD is a member.

KDWD has requested Todd Groundwater to conduct a technical review and analysis of the Proposed Project to better understand the potential for impacts to Kern River flows and associated water rights holders. The technical analysis presented herein has identified issues and questions that KDWD may consider for submittal to RRBWSD during the public comment period of the DEIR; public comments on the DEIR are due on July 27, 2020.

KDWD-B-1

## BACKGROUND

RRBWSD proposes to change the points of diversion and place of use for the water rights associated with RRBWSD-owned parcels located in the upper Kern River Valley, about 50 miles from the RRBWSD service area. RRBWSD plans to leave previously-diverted water in the South Fork of the Kern River, allowing it to flow into Isabella Reservoir and be released from Isabella Dam into the Lower Kern River channel. RRBWSD would divert the water from the Kern River channel in the City of Bakersfield to provide irrigation and groundwater replenishment in its service area.

RRBWSD owns about 4,109 acres in the South Fork of the Kern River Valley and plans to use the associated water rights to supply the water for the Proposed Project. These lands lie within larger ranch lands referred to as the Onyx Ranch (including 3,418 acres owned by RRBWSD) and the Smith Ranch (including 691 acres owned by RRBWSD); RRBWSD parcels are collectively referred to as the *Project Site*.

KDWD-B-2A

The amount of water delivered to RRBWSD as a result of the Proposed Project would vary from month to month (and year to year) based on water year type and estimated losses during conveyance. Over a 13-year period (based on conditions from 2005-2017), the DEIR concludes that a total of about 78,183 AF would be available for release at Isabella Dam as a result of the Proposed Project, averaging about 6,014 AFY (Appendix E, p. 9; DEIR).

The DEIR specifically identifies “potential impacts to flow and injury to water rights holders in the Lower Kern River, downstream of Isabella Reservoir” as an area of controversy or issue of concern to be analyzed in the DEIR (ESA, p. ES-13, May 2020). The DEIR subsequently concludes that there are no significant impacts on hydrology and no mitigation measures are required.

## APPROACH FOR THE TECHNICAL REVIEW

This review of the DEIR focused on the hydrologic and hydrogeologic analyses and presentation of information related to the Proposed Project, including the following:

- Amounts of water available for the Proposed Project
- Accounting of water losses
- Surface water and groundwater budgets with and without the Proposed Project
- Development and application of a numerical MODFLOW model
- Documentation of key information
- Proposed Project impacts on surface water, groundwater, and storage in Isabella Reservoir.

KDWD-B-2B

Potential impacts and losses in the Kern River channel downstream of Isabella Dam were not analyzed in the DEIR.

The DEIR relies on a hydrogeologic evaluation of the Proposed Project conducted by Thomas Harder & Co., included in the DEIR as Appendix E. The evaluation incorporated the development, calibration, and application of a numerical model. This review of the evaluation in Appendix E focused on the methodology – and embedded assumptions – and the adequacy of the model based on the data and information presented, as well as the model application and results.

KDWD-B-2C

The review also considers a supplemental technical memorandum relevant to the DEIR. That memorandum, dated April 15, 2010 and prepared by Davids Engineering Inc., provided an independent analysis of transferrable water for Onyx Ranch separate from the RRBWSD Proposed Project (Davids, 2010). The analysis was apparently prepared at the request of Kern County.

KDWD-B-2D

A discussion of issues of concern and related comments are provided below. Additional comments are compiled at the end of the memorandum.

### **HISTORICAL DIVERSIONS AND PROJECT WATER**

There appears to be significant uncertainty associated with the historical diversions for irrigation on the Project Site parcels. According to the analysis in Appendix E, diversion amounts appeared to be over-stated and subject to significant downward adjustment. In some cases, reported diversions even exceeded the capacity of the diversion structure. Adjustments were noted at the bottom of Table 2 (page 6 of Appendix E) and are summarized as follows:

1. Adjusted diversion downward if reported data exceeded diversion capacity.
2. Excess diversions would be distributed to other canals if South Fork River gage minus the total diversions was less than the inferred ACOE flow into Lake Isabella
3. If diverted water exceeded crop demand, 50% was returned to South Fork and 50% was applied to return flows.

KDWD-B-3

To better understand what modifications were made, we recommend that the DEIR include the original data and show the annual volumetric modification made at each diversion for each of the 3 diversion adjustments listed above. Even though diversions were reduced, the inability of these water amounts to balance in a reasonable manner suggest significant uncertainty associated with the historical diversions and the resulting Proposed Project water rights, as discussed in more detail in the following sections of this review.

The analysis in Table 2 (Appendix E) provides a summary of adjusted diversions with and without the Proposed Project. The annual differences between the two diversions amounts (before adjustments for conveyance losses associated with a “No-Injury” analysis) are summarized in the following table for each year of the 13-year study period 2005 – 2017. (Note that the adjusted total diversions in Appendix E used in the subtraction for amounts in this table do not match the diversions listed in DEIR Table 2-3 for the years 2009-2017).

KDWD-B-4

***Difference between Adjusted Diversions Without and With the Proposed Project  
(using data from Table 2 in Appendix E)***

Year	Project Water before correction for Losses
2005	9,665
2006	6,843
2007	2,731
2008	6,825
2009	7,689
2010	6,412
2011	11,961
2012	5,490
2013	7,113
2014	5,192
2015	2,988
2016	6,871
2017	14,661
Total	94,441
Average	<b>7,597.44</b>

KDWD-B-4  
(cont.)

As explained in Appendix E, a No-Injury analysis indicated that this amount of water requires further adjustments to account for losses associated with changes in the Proposed Project water budget (discussed in more detail in the Model Analysis Review section below). The total amount of 94,441 AF as shown above was reduced to 78,183 AF (6,014 AFY) after application of these losses. In order to better understand the adjustments and Project Water amounts over time, we request that a similar table showing the amounts of Project Water corrected for the losses over the 13-year period be provided.

In Section 2.7 of the DEIR (Description of the Proposed Project), there is a significant typographical error in *Project Element 4 – Groundwater/Surface-Water Model to Estimate No-Injury Factor* (p.2-22, 3<sup>rd</sup> paragraph). The water budget in the second sentence is listed as 94,452 acre-feet per year and the project water budget is listed as 78,183 acre-feet per year. These are not annual rates but cumulative 13-year volumes as shown on Appendix E Table 2; units should be corrected to acre-feet, not acre-feet per year.

KDWD-B-5

**IRRIGATION DEMAND OF CROPS**

DEIR Table 2-1 provides a summary of crops associated with the Onyx Ranch portion of the Project Site from 2009-2017. Primary crops include irrigated pasture, grains, alfalfa, and other miscellaneous crops covering approximately 2,269 acres. The total acreage includes both irrigated and non-irrigated (riparian) lands. Riparian pasture is not irrigated and relies on precipitation, local surface water, and shallow groundwater, which would not add to the

KDWD-B-6A

availability of water for the Proposed Project. Therefore, this water is not included in the Project water.

The total amount of riparian pasture cannot be fully segregated because there are 70 acres of mixed irrigated and riparian pasture, but the minimum amount of riparian pasture on Table 2-1 appears to cover 541 acres. When the total acreage is adjusted for these riparian pasture lands, the maximum amount of irrigated lands decreases to 1,728 acres. Although several fields listed on Table 2-1 indicate some fallowing of the acreage, data are insufficient to determine where, when, or how much land is fallowed over the 13-year study period.

The overall total acreage and the irrigated and riparian acreage represented on DEIR Table 2-1 compares well with the total amount of acreage analyzed in an independent study by Davids Engineering (Davids, 2010). For that study, Davids Engineering conducted a root zone water balance for Onyx Ranch irrigated fields consisting of 1,725 acres (compared to 1,728 acres in DEIR Table 2-1) to determine the evapotranspiration (ET) associated with the irrigated crops. The analysis was performed to determine the amount of water that might be transferable if irrigated fields were fallowed – an objective similar to those of the Proposed Project.

The Davids Engineering analysis was conducted to obtain a hypothetical maximum of the amount of applied water to satisfy irrigation demands. The analysis focused on the root zone and assumed there was sufficient surface water available for irrigation. No consideration was given to the source of the irrigation water, which historically has included both surface water and groundwater. Results for the analysis from 1985 through 2008 indicated an irrigation demand of about 5,480 AFY of applied water ( $ET_{aw}$ ).

KDWD-B-6A

This average is substantially lower than the crop consumptive use and additional applied water presented in Appendix E from the model water budget analysis. In that water budget, the average  $ET_{aw}$  was 15,640 AFY and consisted of an average crop ET of 7,031 AFY and average deep percolation of irrigation water of 8,609 AFY. This large volume of applied water suggests an irrigation rate of more than 9 AF/acre, even if no fallowing was occurring throughout the 1,728 acres.

The large variation between the two estimates for  $ET_{aw}$  is not readily understood because the analysis of the crop ET ( $ET_c$ ) including crop type, location, contribution of precipitation, and irrigation efficiency are not presented in Appendix E. That analysis should be presented and described to explain the annual crop consumptive use volumes in Table 3. A report by the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo, CA (ITRC, 2013) is referenced in the footnote of Table 3; that report should be described, along with included data and its use in the crop ET analysis of Appendix E.

As mentioned above and shown in Table 3, the average amount of deep percolation of applied irrigation water is 8,609 AFY, an amount much larger than typically expected with irrigation practices. Typically irrigation inefficiencies combined with permeable soils can lead to some percentage of irrigation water percolating beyond the root zone, either unavailable to or not needed by the crop at that time. However, in this case, the amount of deep

KDWD-B-6B

percolation is 122 percent of the crop ET and seems inexplicably excessive. The analysis should acknowledge this large amount of percolating water and explain why the percolation amounts are reasonable.

KDWD-B-6B  
(cont.)

Neither the DEIR nor the Davids Engineering analysis provides a time series assessment of irrigated acreage to allow a reviewer to determine how irrigation demand has varied over time. Two coverages of agricultural land use from DWR, 2014 and 2016, were reviewed with respect to irrigated lands in the Project Site. Although these coverages were mapped after the land purchase by RRBWSD, both years are part of the 13-year study period used to determine the Project water.

KDWD-B-6C

The DWR 2014 land use map indicates that irrigated acreage on the Project Site was only about 492 acres in July of 2014. Yet, diversions for 2014 were estimated at 9,620 AFY, even after downward adjustment (Table 2, Appendix E). During that year, crop consumption and deep percolation of irrigation water suggested an applied irrigation of 12,652 AFY (consisting of surface water and groundwater – see Table 3, Appendix E), equivalent to 25 AF/acre. Based on this assessment, the change in cropping patterns over time does not appear to have been considered in the model water budget analysis.

Given the long distances of the unlined canals associated with these diversions, there may be much larger amounts of canal losses than estimated in the water budget analysis (Tables 3 and 5 in Appendix E). This could also account for the large amounts of water diverted that do not appear to be needed for crop ET and beneficial use. In addition, canal losses would likely be returning back into the shallow groundwater-surface water system and continuing to flow downstream to Isabella Reservoir even though it was recorded as diverted water.

KDWD-B-6D

## MODEL ANALYSIS REVIEW

As mentioned previously, Appendix E describes the development and application of a MODFLOW groundwater model to support analysis of the Proposed Project. The groundwater model was developed to provide a means to evaluate groundwater-surface water interactions along the South Fork of the Kern River as part of the technical analysis for the Onyx Ranch Project by RRBWSD. The stated purpose of the modeling analysis is:

“to estimate changes in the water budget anticipated from discontinuing some or all of the existing diversions of surface water from the South Fork of the Kern River to the Project site and, instead, allowing the water to flow in the river channel downstream into Isabella Reservoir.”

KDWD-B-7

This review identifies uncertainties and potential inadequacies with model development, data sets, and results for this application of the model.

### Model Overview

The model was constructed over a 171 square mile Onyx Ranch Project study area as a 19 by 9 mile rectangle. The active simulation area of the model includes the portion of the Kern River Valley Groundwater Basin within the Study Area, accounting for less than half of the

model domain. The model simulation includes portions of both the South and North Forks of the Kern River, the entire Isabella Reservoir, and a small area of the Kern River downstream of Isabella Dam. Although the model extends over this larger area, the model results presented in Appendix E are limited to the portion of the Kern River Valley Groundwater Basin in the South Fork watershed.

The model grid uses a 100 by 100 foot simulation grid, and the aquifer is defined as a single model layer. The groundwater-surface water interactions for the South Fork of the Kern River and the diversion canals off of the South Fork were simulated using the Stream Flow Routing Package. Other boundary conditions were added to simulate groundwater pumping, precipitation recharge, irrigation return flow and tributary recharge. Subsurface inflow and outflows were tracked by MODFLOW. Although Isabella Reservoir is located within the MODFLOW model domain, there is no mention of how it was simulated or whether it was included in the simulation.

The Proposed Project consists of discontinuing irrigated crop production in most areas of the Onyx Ranch and one-third of the Smith Ranch and allowing surface water that would otherwise have been diverted to the ranch lands to flow down the South Fork of the Kern River to Isabella Reservoir. Groundwater and surface water budgets for both with and without Proposed Project conditions were developed using the MODFLOW model.

The model was used as the tool to determine a No-Injury *factor* to account for losses of Project Water between the Project Site and Isabella Reservoir including increased ET, increased streambed infiltration, and increased subsurface outflow along the South Fork of the Kern River between the Onyx Ranch and Isabella Reservoir. RRBWSD would reduce the amount of Project water under its Project Site water rights by the No-Injury factor, reducing water claimed to reach Isabella Reservoir. This factor was determined by comparing the changes in estimated reservoir storage of the historical model (Without Project) to a Project Scenario. Model results were also used to analyze the change in groundwater levels between the historical model and a Project Scenario to assess impacts on the Kern River Valley Groundwater Basin.

### Specific Comments

Specific comments regarding the modeling analysis are provided below. Comments are focused on components that may have an impact on the results of the model analysis.

#### **Model Setup and Calibration**

- Simulated hydrographs from the historical model as presented in Appendix E indicate that 12 of the 28 hydrographs have groundwater levels above the ground surface elevation on more than one occurrence during the simulation. Of these, five hydrographs showed groundwater levels above ground surface for multi-year periods. Ten of the hydrographs have groundwater levels over 5 feet above the ground surface with a maximum of nearly 20 feet at the *Lieb Piezo*. Groundwater levels above ground surface may be tolerated in some model applications; however, these results are excessive for a model that is used to evaluate groundwater-surface water interactions. This indicates that the setup of the model does not properly

KDWD-B-7  
(cont.)

KDWD-B-8

account for groundwater-surface water interactions. There needs to be an explanation as to why groundwater levels above the ground surface were allowed and what types of measures were attempted to correct this condition. The model should be modified and rerun to better simulate groundwater-surface water interactions. Revised runs should include an assessment of how these modifications would affect the water budgets and the No-Injury analysis.

KDWD-B-8  
(cont.)

- Appendix E provides inadequate documentation to evaluate the model setup. Discussion of how the aquifer parameters and boundary conditions were defined and implemented into the model is limited to table footnotes and, in some cases, not provided at all. This limits the ability to assess model results. A summary of the aquifer properties and boundary conditions, including associated values, should be provided. Documentation should also include a discussion of how the model setup represents the hydrogeologic conceptual model.
- Appendix E provides inadequate documentation on whether Isabella Reservoir is incorporated into the MODFLOW model. There are inferred references in the text that the surface water budget, including Isabella Reservoir, was derived from the model. Is Isabella Reservoir included as a model boundary condition? If so, the text should describe how it is defined in the model.

KDWD-B-9

KDWD-B-10

***South Fork of the Kern River Valley/Isabella Reservoir Surface Water Budget (Tables 3 and 5)***

- It is unclear from the text whether the surface water budgets in Tables 3 and 5 were calculated by MODFLOW, or whether MODFLOW input was incorporated into a spreadsheet-style water budget. Please provide a more detailed description of how the surface water budget was derived.
- There are inferred references in the text that the surface water budget for Isabella Reservoir (Tables 3 and 5) was derived from the model. Was the change in reservoir storage calculated by MODFLOW or was model output incorporated into a spreadsheet-style water budget? Please provide a more detailed description of how the specific Isabella water budget was derived.
- Using the data provided in Table 3, the inflows from the South Fork into Isabella Reservoir appear to be significantly higher than those based on the ACOE inflow for Isabella Reservoir listed in Table 1. However, because the inflows from Table 3 are developed over a larger area, it is difficult to parse out the Isabella Reservoir inflows with adequate precision to allow for a check with the ACOE data. Please provide a comparison of the South Fork inflows into Isabella Reservoir resulting from the analysis (as used in Table 3) to the inflows provided by the ACOE listed in Table 1. Describe how any differences may influence the No-Injury assessment.
- The *Deep Percolation of Applied Irrigation Water* shown on Table 3 for Onyx Ranch is very high and accounts for 50% to 80% of the combined *Onyx Pumping and Diversions*. In contrast, only about 20% to 35% of the combined *Other Pumping and Diversions* is assigned to deep percolation. The text should explain why such a high

KDWD-B-11

KDWD-B-12

KDWD-B-13

KDWD-B-14

percentage of applied water percolates to groundwater at Onyx Ranch, and why it is different than for the other nearby agricultural areas.

↑ KDWD-B-14  
(cont.)

### ***South Fork of the Kern River Valley Groundwater Budget (Tables 4 and 6)***

- The groundwater budget zone used for the *South Fork of the Kern River Valley Groundwater Budget* (Tables 4 and 6) is not well-defined. Does this area include all of the groundwater basin along the South Fork or is it limited to just the Project Site? Please provide a map showing the limits of the South Fork groundwater budget zone.
- In Tables 4 and 6, South Fork River ET is listed in the groundwater budget but is not included in surface water budget. How is South Fork River ET accounted for in the surface water budget? If it is not included, why?
- The nearby community water systems are not documented in the groundwater budgets. Is the pumping from these systems included in the model?

KDWD-B-15

KDWD-B-16

KDWD-B-17

### **Potential Impact on Conclusions**

Due to the specific comments listed above, there is uncertainty regarding the model results both for quantifying the No-Injury factor and in assessing impacts to groundwater levels in the local aquifer. Our preliminary review of the available surface water budget data used to develop the No Injury factor indicates the potential that the No Injury factor of 17% underestimates the losses along the South Fork and should be increased. Because of the nonlinear nature of groundwater-surface water interactions and the limited level of documentation, it is difficult to readily assess how potential model modifications would affect the results. However, this level of uncertainty warrants better documentation of the surface water budget including a comparison of the calculated South Fork inflows into Lake Isabella to the Table 1 South Fork inflows from ACOE. If this comparison indicates a difference that affects the No Injury factor determination, then additional analysis is required.

KDWD-B-18

### **Additional Miscellaneous Comments**

- The DEIR should evaluate impacts to the adjacent KRGSA GSP, which relies on optimization of its Kern River water rights for key GSP projects. The DEIR evaluation should also include potential impacts on the City of Bakersfield operations of the Kern River Channel and potential losses associated with conveyance from Isabella Reservoir to the RRBWSD service area.
- The No-Injury assessment assumes that the Proposed Project will have no impact on Isabella Reservoir storage because of immediate releases of Project water. Releases will require coordination through the City of Bakersfield, Kern River Watermaster, and the ACOE as noted in the DEIR. The DEIR should assess the impacts if immediate releases cannot occur.
- Please explain if and how DEIR Table 2-2 will be used in the ongoing determination of the amount of Project water claimed by RRBWSD.

KDWD-B-19

KDWD-B-20

KDWD-B-21

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**Cited Reference:**

Davids Engineering, Inc., Technical Memorandum, To: Theresa A. Goldner, Counsel, County of Kern, CA, From: Davids Engineering, Inc., Date: April 15, 2010, Subject: Analysis of Transferrable Water for Onyx Ranch.

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# NORTH KERN WATER STORAGE DISTRICT

July 27, 2020

**VIA U.S. MAIL AND E-MAIL**

Mr. Dan Bartel  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

**Subject: Draft Environmental Impact Report for the Onyx Ranch South Fork Valley Water Project**

Dear Mr. Bartel:

The North Kern Water Storage District (“North Kern”) appreciates the opportunity to submit the following comments to the Rosedale-Rio Bravo Water Storage District (“Rosedale”)’s Draft Environmental Impact Report (EIR) for the Onyx Ranch South Fork Valley Water Project (“Project”). *This letter replaces and supersedes North Kern’s letter dated July 24, 2020.*

The District previously submitted comments in response to Rosedale’s Notice of Preparation of the EIR. In those March 23, 2018, comments I stated as follows:

*North Kern is a historical diverter of water accruing to the pre-1914 “first point” Kern River water rights (pursuant to the Miller-Haggin Agreement, Shaw Decree and related agreements), and River supplies constitute well over 90% of the District’s surface water supplies. Importantly, these supplies also support groundwater conditions underlying North Kern through the District’s conjunctive use project. As a consequence of North Kern’s very significant reliance on the Kern River, it is imperative that the subject EIR fully consider and evaluate potential impacts of the proposed Project on historical downstream diversions and beneficial uses of River supplies. In this respect, North Kern fully supports detailed comments submitted on the NOP by the Kern River Watermaster on behalf of the downstream water rights holders.*

North Kern has reviewed the Draft EIR and it appears that Rosedale did not take North Kern’s concerns regarding the proposed Project’s potential effects on “historical downstream diversions and beneficial uses of River supplies” into consideration or attempt to address them.

We note in particular the following:

1. Section 2.4 of the EIR concerning “Project Objectives” addresses “project elements that avoid: . . . Unreasonably affecting the overall economy or environment of the South Fork Valley as well as the Kern River Valley” and “Injuring any legal users of the waters of the South Fork of the Kern River.” (Emphasis added.) NKWSD-2
2. Section 2.6 of the EIR regarding “Project Site Water Rights and Proposed Diversion” accounts for channel losses using a 17 percent “no injury factor” only between the Project site and the Isabella Reservoir. NKWSD-3
3. Section 2.7 concerning “Description of the Project” contains “Project Element 5 - Coordinated Release of Water from Isabella Reservoir”, which provides for the “coordination with the [Army Corps of Engineers], Kern River Watermaster, and the Kern River Interests to release [Rosedale] water through the Isabella Reservoir and ensure it is not diverted by others between the Isabella Reservoir and the existing diversion points in the [Rosedale] service area.” NKWSD-4

These sections all focus on the proposed Project as it concerns the movement of Kern River water from the Project site to the Isabella Reservoir. They do not include any environmental analysis of the effects of conveyance of the water that Rosedale has identified from Isabella Reservoir to Rosedale’s service area. As to Section 2.7, suggesting that Rosedale will coordinate with the Army Corps and the Watermaster does not constitute meaningful environmental analysis. The EIR’s Project Description section is therefore inadequate in violation of California Environmental Quality Act (CEQA) requirements as set forth in 14 CCR § 15124. Further, as to the roughly fifty (50) mile stretch from Isabella to the Rosedale service area, the EIR is silent about potential environmental impacts of the movement of water through that stretch, and of the related operation and maintenance of equipment and facilities, on air quality, hydrology and water quality, geology and soils, and utilities, among other topics. The EIR is therefore deficient as to its impact analysis in violation of Pub. Resources Code § 21100(b)(1) and 14 CCR § 15126. NKWSD-5

In light of these and other deficiencies, the EIR does not provide North Kern with sufficient information to evaluate or understand the effects on proposed Project on North Kern’s historical diversions and beneficial uses of Kern River water. Such deficiencies and the potential effects of the proposed Project on Kern River operations and projects administered by North Kern and other Kern River right holders are addressed in additional comments from the Kern River Watermaster prepared on behalf of North Kern and the other Kern River Interests. NKWSD-6

Respectfully,



Richard A. Diamond, General Manager  
North Kern Water Storage District

Ben Rudnick

P.O. Box 355, Onyx, Ca. 93255-0355

300 Doyle Ranch Road, Onyx, Ca. 93255

July 22, 2020

Dan Bartel, Rosedale-Rio Bravo Water Storage District

849 Allen Road, Bakersfield, California 93314

Fax #: (661) 589-1867, [DBartel@rrbwsd.com](mailto:DBartel@rrbwsd.com)

Dear Mr. Bartel,

In response to your letter of May 22, 2020; in which reference is made to the Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report (SCH No. 2018021061), you indicate a review period of May 27, 2020 to July 27, 2020. In reviewing my letter of March 6, 2018 to Rosedale-Rio Bravo Water Storage District concerning a Notice of Preparation of a Draft Environmental Impact Report I have serious concerns.

RUD-1

In Item #1 of my letter of March 6, 2018, I am concerned to see you are not seriously addressing the proposed removal of Water from the historically irrigated lands in the Project Site. When the river flows are low your assumed ownership of water will not reach Lake Isabella. Should you continue to irrigate lands in the Project Site the aquifer (Water Bank) would stay at a "normal" level and the Valley would be the better for it.

RUD-2

Item #4 of my letter is not properly addressed In your D.E.I.R.. According to the Adjudicated Water Rights I should be allowed a maximum of 37.5 Miners inches under a 4 inch pressure of the Landers ditch water for my 40 Acres based on the 150 inches per 160 acres as described in the 1902 Adjudication of the water of the South Fork of the Kern River.

RUD-3

My Judgement states I will have access to the Landers Ditch Water as my land and I have used it in the past and the maintenance of which is the responsibility of the owners of the Landers Ditch right. For reference please re-read my judgment; of which I gave you a copy years ago, Kern County Superior court Case S-1500-CV-238888. This should have been included in the D.E.I.R.. Reducing the flow by 75% with no concern as to my right to the water as referenced in the above judgment would result in barely enough water to reach my property on most years, let alone to provide stock water and irrigation on my 40 acres. On page 8 of said judgement, Item J states my property and I are “entitled to the continued use of water from the Landers Ditch, consistent with prior use, to water livestock and to irrigate my arable land”. “Maintenance of the Ditch is the responsibility of the Landers Ditch right owner”.

RUD-4

Of concern also, how can R.R.B.W.S.D. change an Adjudication of a Prior Judgement through the Superior Court of Kern County via a vote of the Kern County Supervisors? How is it that the Supervisors can overturn a Judgement done through the Courts?

RUD-5

I would like to submit a proposal for Mediation of this Project; a river gauge at Sierra Highway to gauge the water past that point to determine the ownership, if any, of water past that point. In years of moderate to high flows water possibly could be portioned to respective ownerships and dealt with in a fair manner.

RUD-6

For what it is worth,

Respectively, Ben Rudnick

---

27 July 2020

Dan Bartel, Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314  
[DBartel@rrbwsd.com](mailto:DBartel@rrbwsd.com)  
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### Concerns about RRBWSD Draft EIR proposed change of points of diversion

On behalf of the Sierra Club's Kern-Kaweah Chapter and Sequoia ForestKeeper, we are submitting our comments on the Rosedale-Rio Bravo Water Storage District (RRBWSD) Draft Environmental Impact Report (Draft EIR) for the proposed Onyx Ranch South Fork Valley Water Project (proposed project) that is available for review and comment on the RRBWSD website (<http://www.rrbwsd.com>) and the proposed project's website ([www.onyxranch.org](http://www.onyxranch.org)).

The Draft EIR was prepared to comply with CEQA and the CEQA Guidelines and to provide agencies and the public with information on the potential significant environmental impacts of the proposed project, recommended mitigation measures to reduce or avoid those environmental effects, and the analysis of alternatives to the proposed project. The Public Information Presentation will be available on the RRBWSD website (<http://www.rrbwsd.com>) and the proposed project's website ([www.onyxranch.org](http://www.onyxranch.org)) no later than June 14, 2020. Written comments on the Draft EIR must be received by the RRBWSD no later than July 27, 2020 at 5:00 P.M.

The Kern-Kaweah Chapter consists of 966 members in Kern County. Sierra Club California, of which the Kern-Kaweah Chapter is an active part, works to protect all California watersheds, especially in the Sacramento-Bay Delta (San Francisco Watershed). The **mission of Sequoia ForestKeeper® (SFK) is to protect and restore the ecosystems of the southern Sierra Nevada through monitoring, enforcement, education, and litigation.** By acting as the eyes, ears, and voice of the forest, SFK seeks to improve land management practices, to promote land stewardship, to enforce existing laws and regulations, to implement public awareness programs, and to offer assistance to local land management agencies. **SFK tracks all living things in the Southern Sierra Nevada and Kern County on iNaturalist. View SFK's project in [Kern County](#).**

### CONCERNS

If the RRBWSD is serious about removing itself from the South Fork Valley with a project that **incorporates project elements and project characteristics that address potential environmental effects on visual aesthetics, air quality, cultural resources, sensitive biological resources and avoid:**

– Unreasonably affecting fish, wildlife, or other in-stream beneficial uses.

SCFK-1

SCFK-2

– **Unreasonably affecting the overall economy or environment** of the South Fork Valley as well as the Kern River Valley, **the RRBWSD Plan must include the following elements:**

(1) address how many residential and community **drinking water wells in the South Fork Kern River Valley could go dry, if the RRBWSD Plan as written were implemented,**

(2) address how many native plant and animal species might be impacted in the South Fork Kern River Valley and San Joaquin Valley due to RRBWSD’s removal and transfer of water,

(3) address projections of future precipitation that indicate less water will be available in the west, and address the responsible water claim for RRBWSD to make of **a percentage of the actual flow over future years—instead of an average annual flow over past years,**

**(4) restore the South Fork Kern River to a natural meandering river course** by removing any and all impediments to a natural meandering stream course, such as concrete slabs, weirs, and hardened streambanks, as well as removing any and all pumps, culverts, conduits, and the like, as well as removing any piping from the greater streambed of the South Fork Kern River,

(5) address the existing greenhouse gas (GHG) emissions from and the environmental effect on air quality and climate and the often claimed beneficial use of removing groundwater from the South Fork Kern River **to provide livestock water,** when the digestive system of livestock create Methane, which is a greenhouse gas that is contributing to the global climate crisis and the droughts, water shortages, and flooding that are more frequently being experienced in California, and

(6) address how providing California water for livestock, which produces climate change and drought, would be considered a beneficial or reasonable use, in light of Article 10, Section 2 of the California Constitution, which declares that “the waste or unreasonable use ... of water be prevented ... The right to water or to the use or flow of water ... does not and shall not extend to the waste or unreasonable use ... of water.”

↑ SCFK-2 (cont.)

SCFK-3

SCFK-4

SCFK-5

SCFK-6

SCFK-7

SCFK-8

Despite legislation that appears to enable water transfers to achieve the goals of a particular basin, if the RRBWSD is serious about **meeting its sustainability goals for the RRBWSD groundwater basin in the San Joaquin Valley, would transferring or moving water into the RRBWSD groundwater basin in the San Joaquin Valley from another groundwater basin or the Sacramento Delta really be a sustainable way to manage California’s groundwater?**

**Would basing a groundwater sustainability plan on the hope of moving a consistent amount of water into the RRBWSD groundwater basin from any other basin be considered dragging your feet on the necessity of immediately implementing pumping reductions in the RRBWSD basin to prevent further impacts to groundwater?**

SCFK-9

**The Water Foundation (TWF) studied the way groundwater in California is being managed and what would be necessary to not have undesirable results for having water users develop groundwater sustainability plans in their basins. Based on the current trajectory of the Groundwater Sustainability Plans (GSPs) in the San Joaquin Valley the TWF report of June 2020 determined the GSPs could create undesirable results by 2040.**

This year marks the start of a new era in California water policy, where state laws and funding recognize and reflect how closely the trajectory of groundwater sustainability



and safe drinking water are intertwined. As policymakers and GSAs work diligently to implement SGMA in a manner that supports the state’s economy, its communities, and nature, this analysis can conservatively **fill existing data gaps on how unsustainable groundwater practices directly affect drinking water wells.**

GSAs must make policy decisions in GSPs that protect drinking water. As part of the state’s review of GSPs, DWR and the Board should ask key questions to help achieve sustainability and avoid undesirable results.

Human right to water: As defined by AB 685, “every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.”

Groundwater sustainability: As defined by SGMA, “management and use of groundwater in a manner that can be maintained...without causing undesirable results.”

Undesirable results: Negative results that GSAs and GSPs are required to avoid under SGMA. There are six undesirable results: groundwater level lowering, reduction of groundwater storage, seawater intrusion, land subsidence, water quality degradation, and depletions of interconnected surface water.

To conduct this analysis for the Water Foundation, consultants at EKI Environment & Water, Inc. used DWR’s latest Groundwater Center Interactive Map Application dataset and other publicly available information to understand how implementation of some of the first GSPs in critically over-drafted sub basins in the San Joaquin Valley would affect local drinking water wells. Because DWR’s dataset does not include every part of the San Joaquin Valley, this analysis is limited to 26 GSPs in ten critically over-drafted sub basins. Further, one-quarter of the records in the dataset lack basic information about well depths and screening levels, and therefore could not be included in this evaluation.

Considering these data limitations, this analysis provides a conservative baseline assessment of how the estimated water decline predicted in these recently submitted GSPs will impact people who rely on groundwater for their primary water source. Because this analysis only addresses the ongoing impacts of GSP implementation on drinking water, additional research may be necessary to understand the impacts and costs on other undesirable results, such as land subsidence, impacts to ecosystems, and surface water flows.

#### Key Findings

- Between roughly 4,000 and 12,000 drinking water wells will go partially or completely dry by 2040
- Between roughly 46,000 and 127,000 people will lose some or all of their current water supply by 2040

- It will cost between \$88 million to \$359 million to restore access to drinking water

SCFK-9  
(cont.)

While these findings are deeply disturbing, they are not carved in stone. State regulatory agencies can work with these GSAs over the next two years to implement SGMA in a manner that avoids or mitigates these impacts, achieves groundwater sustainability by 2040, and strengthens the right to water for all California residents.

How many individuals in the RRBWSD basin will lose access to clean drinking water from their own wells or from their primary water supply by 2040 because RRBWSD hesitates to immediately implement pumping reductions in the RRBWSD basin? <https://waterfdn.org/wp-content/uploads/2020/06/Groundwater-Management-and-Safe-Drinking-Water-in-the-San-Joaquin-Valley-Brief-6-2020.pdf> What will the cost be to restore access to drinking water for those who lose access?

SCFK-10

Would piping water into the RRBWSD groundwater basin be considered hiding groundwater usage in plain sight by moving it through pipes or a river course from outside the area?

SCFK-11

The proposed project would result in the use of the surface water moved downstream in the RRBWSD's service area as a beneficial use in Kern County. (Page ES-2)

SCFK-12

Has RRBWSD ever sold or traded or exchanged water that was used outside Kern County and could not this water from the South Fork Kern River be ultimately used outside Kern County, thus would not be a beneficial use in Kern County? And given the fact that water used for watering livestock and growing livestock feed crops ultimately end up producing Methane, which is a major climate disruption Greenhouse gas that is causing water shortages, would this use of California's water conflict with the beneficial uses of California's water per Article 10, Section 2 of the California Constitution?

SCFK-13

We can support many of the Project Objectives of the RRBWSD, but we have serious concerns about proposing to continue importing water, even in reduced volumes, from the State Water Project (SWP). The SWP is already over allocated and will have declining water resources over time due to declining snowpack as a result of climate change. More importantly, over the past several decades less water has been flowing through the Sacramento Delta and into the Sacramento Bay because of increased diversions and declining water resources from the Sacramento and San Joaquin Rivers. This has severely impacted California's anadromous fisheries and wetlands in the delta. Additional exports would reduce the amount of water flowing through the Sacramento Delta even more. The numerous harms to the delta environment are documented in a comment letter submitted by Sierra Club California, the Center for Biological Diversity, and other organizations to the Department of Water Resources on April 14, 2020

SCFK-14

([http://www.sequoiaforestkeeper.org/pdfs/comment\\_letters/Water/20200414\\_FINAL\\_SCC\\_Comments\\_DWR\\_NOP\\_EIR\\_for\\_Delta.pdf](http://www.sequoiaforestkeeper.org/pdfs/comment_letters/Water/20200414_FINAL_SCC_Comments_DWR_NOP_EIR_for_Delta.pdf)) in response to the Environmental Impact Report for the Delta Conveyance Project. Also, on April 29, 2020, The Sierra Club and other organizations

filed a writ of mandate and declaratory and injunctive relief in the Superior Court of The State of California regarding the Delta Conveyance Project, directing the California Department of Water Resources (“DWR”) to vacate its approval of the Long-Term Operation of the State Water Project (“SWP” or “Project”), the Findings, and the March 27, 2020 certification of the Final Environmental Impact Report (“EIR”) for the Project, and to revise its Findings to conform with the law. (See <https://www.courthousenews.com/wp-content/uploads/2020/04/CalifStateWaterProject-COMPLAINT.pdf>) On May 11, 2020 a district judge ordered the federal government to reinstate stricter pumping limits. In his [36-page order](#), Judge Drozd wrote. “How can these loss limits effectively function to avoid irreparable harm to a declining steelhead population if those loss limits are ‘expected to’ do no more than ‘limit loss to levels similar to what has been observed over the past 10 years?’” (See [https://www.courthousenews.com/wp-content/uploads/2020/05/CalTrout.Order .pdf](https://www.courthousenews.com/wp-content/uploads/2020/05/CalTrout.Order.pdf)) To continue exporting water from already struggling ecosystems and transfer state water to artificially balance water uses and water availability in the RRBWSD basin fails to make the RRBWSD basin self-sustaining and heightens conflicts over water even more. The current water users keep asking for more water, especially the farmers in the San Joaquin Valley and Kern County.

SCFK-14  
(cont.)

In February 2019, the Public Policy Institute of California published a report titled, “Water and the Future of the San Joaquin Valley”, which forecasts the need to fallow or retire approximately 500,000 to 750,000 acres of productive farmland to address the existing groundwater overdraft and water supply deficit in the San Joaquin Valley. (See [https://scholar.google.com/scholar\\_url?url=https://www.ppic.org/wp-content/uploads/water-and-the-future-of-the-san-joaquin-valley-overview.pdf&hl=en&sa=T&oi=gsb-ggp&ct=res&cd=0&d=10590397959608770797&ei=P2PIXvXLKoTzyATpoZKYBg&scisig=AAGBfm3\\_b1Sv9EXhmnCwyQ5yHY4\\_JdCdVQ](https://scholar.google.com/scholar_url?url=https://www.ppic.org/wp-content/uploads/water-and-the-future-of-the-san-joaquin-valley-overview.pdf&hl=en&sa=T&oi=gsb-ggp&ct=res&cd=0&d=10590397959608770797&ei=P2PIXvXLKoTzyATpoZKYBg&scisig=AAGBfm3_b1Sv9EXhmnCwyQ5yHY4_JdCdVQ)) All the overdrawn aquifers will need much more water from the State Water Project to continue operations *and* recharge the aquifer to achieve sustainability. Unfortunately, there isn’t enough state water to bail out all the over drawn aquifers in the state.

SCFK-15

### **Impacts on Climate Change of water use and Water Shortages into the future**

Given that water shortages are globally predicted to extend into the foreseeable future unless global changes in energy use and agriculture are quickly altered and research indicates that using water for growing livestock feed stocks and watering livestock ultimately exacerbate water availability and shortages, in order to quickly recover depleted groundwater in the RRBWSD basin in the San Joaquin Valley, the Grazing Management Plan should include a **drought management strategy** for grazing activities, utilizing more than herd culling but also fallowing of fields in the San Joaquin Valley that produce livestock feed crops, or in the alternative conversion of available water to produce human food products.

SCFK-16

Page 1-5 of the DEIR describes the CEQA Environmental Review Process, which indicates at 1.3.1 (3) “prevent significant, avoidable and adverse environmental effects by requiring changes in projects through the use of alternatives or mitigation measures when feasible”.

SCFK-17

Shouldn't RRBWSD propose alternatives to recover the groundwater sustainability in its San Joaquin Valley basin to avoid those potential environmental effects and alter its business as usual practices to slow climate change, which is causing more severe droughts?

↑  
SCFK-17  
(cont.)

In light of the ongoing climate crisis, if the RRBWSD wants to comply with the Air Quality Policy 19 Land Use, Open Space, and Conservation Element discussed on page 3.5-20 of the DEIR pursuant to the California Environmental Quality Act, such that, "The benefits of the proposed project outweigh any unavoidable significant adverse effects on air quality found to exist after inclusion of all feasible mitigation" RRBWSD should take into account and consider, for its San Joaquin Valley basin, the fact that the production of alfalfa and other livestock feed crops directly support the cattle industry and dairy industry, which significantly adds to greenhouse gases; methane in particular. The RRBWSD must take dramatic action by only supplying water to entities to reduce greenhouse gas emissions and slow global warming, otherwise "There is a clear longer-term trend toward greater aridification, a trend that only climate action can stop." (<https://climateneutralnetwork.net/increasingly-arid-future-faces-the-american-west/>) If water uses in the RRBWSD San Joaquin Valley basin include water for Almond orchards, RRBWSD must acknowledge and consider the fact that more than half of the water used to grow Almonds goes to produce the Almond hulls, which are sold as a livestock feed crop used to produce methane-emitting cattle.

SCFK-18

The RRBWSD should seriously consider a GSP for its San Joaquin Valley basin that fallows fields, grows different crop types, and retires land to help curtail the climate crisis in an effort to compensate for current overdrafts and future reduced supplies of water for beneficial uses.

SCFK-19

If water uses in the RRBWSD San Joaquin Valley basin include water for dairies, RRBWSD should take note that production of cattle-based commodities in large Concentrated Animal Feeding Operations (CAFOs) requires substantial amounts of water. Dr. Craig V. Thomas has documented the daily water usage for a 1000 cow dairy operation in Michigan, and we provide that documentation below for reference:

SCFK-20

From **Estimating Water Usage on Michigan Dairy Farms** (1,000 head) Dr. Craig V. Thomas  
Michigan State University Extension

<https://co.ashland.wi.us/vertical/sites/%7B215E4EAC-21AA-4D0B-8377-85A847C0D0ED%7D/uploads/WaterUseDeterminationforDairyLarge.pdf>

↓

Tables 5 and 6 show the estimated water usage for hypothetical 1,000 cow dairy farms.

**TABLE 5.** Estimated total daily water usage for a 1,000 cow dairy farm not recycling milk pre-cooling water (see reference 1).

Usage	Raise Heifers		Do Not Raise Heifers	
	Lower Limit of Total Daily Usage	Upper Limit of Total Daily Usage	Lower Limit of Total Daily Usage	Upper Limit of Total Daily Usage
	Direct	32,750	62,100	22,130
Indirect <sup>1,2,3</sup>	19,733	21,826	19,733	21,826
<b>Total</b>	<b>52,483</b>	<b>83,926</b>	<b>41,863</b>	<b>68,826</b>

<sup>1</sup>Assumes three time per day milking.

<sup>2</sup>Based on 80 lbs/cow/d milk production that would require the cleaning of a 6,000 gallon bulk tank 1.5 times per day.

<sup>3</sup>Assumes 80 lbs/cow/d milk production.

**TABLE 6.** Estimated total daily water usage for a 1,000 cow dairy farm that recycles milk pre-cooling water (see reference 1).

Usage	Raise Heifers		Do Not Raise Heifers	
	Lower Limit of Total Daily Usage	Upper Limit of Total Daily Usage	Lower Limit of Total Daily Usage	Upper Limit of Total Daily Usage
	Direct	32,750	62,100	22,130
Indirect <sup>1,2,3</sup>	3,348	5,440	3,348	5,440
<b>Total</b>	<b>36,098</b>	<b>67,540</b>	<b>25,478</b>	<b>52,440</b>

<sup>1</sup>Assumes three time per day milking.

<sup>2</sup>Based on 80 lbs/cow/d milk production that would require the cleaning of a 6,000 gallon bulk tank 1.5 times per day.

<sup>3</sup>Assumes 80 lbs/cow/d milk production.

We also note that the production of cattle-associated commodities in large Concentrated Animal Feeding Operations (CAFOs) generates substantial cattle-associated enteric methane [CH<sub>4</sub>] emissions, as well as methane emissions associated with anaerobic dairy manure lagoons.

(The enteric methane [CH<sub>4</sub>] emissions associated with a typical steer range from 60 to 71 kg per year, according to Johnson and Johnson, 1995. Dairy cows typically emit between 109 and 126 kg of methane per year. [K. A. Johnson and D. E. Johnson, "Methane Emissions from Cattle," *Journal of Animal Science* 73(8) (1995): 2483–92].) [<https://academic.oup.com/jas/article-abstract/73/8/2483/4632901>]

The impact of human water uses and their connection to water scarcity and ecological damage across the United States was assessed in a study (<https://www.nature.com/articles/s41893-020-0483-z>) titled "**Water scarcity and fish imperilment driven by beef production**" published in *Nature Sustainability* by B.D. Richter et. al. (March 2020), which finds irrigation of cattle-feed crops to be the greatest consumer of river water in the western United States. The study "assess opportunities for alleviating water scarcity by reducing cattle-feed production, finding that temporary, rotational fallowing of irrigated feed crops can markedly reduce water shortage risks and improve ecological sustainability."

SCFK-20  
(cont.)

SCFK-21

SCFK-22

The use of irrigated water for livestock feed crops that are fed to livestock, which produce climate changing Methane, could be considered both wasteful and unreasonable during this time of drought in California; as such use conflicts with the “waste or unreasonable use” section of the California Constitution. (See Article 10, Section 2, which declares that “the waste or unreasonable use ... of water be prevented ... The right to water or to the use or flow of water ... does not and shall not extend to the waste or unreasonable use ... of water.”) [http://leginfo.legislature.ca.gov/faces/codes\\_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%202.&article=X](http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=CONS&sectionNum=SEC.%202.&article=X)

SCFK-22  
(cont.)

The DEIR says, “**The proposed project would use solar energy, which is a renewable resource, to power the up to 12 new shallow, low-volume wells to provide livestock water.** The water currently consumed in the proposed project area would instead be consumed in RRBWSD’s service area, and as a result, would not result in an overall depletion of water as a nonrenewable resource. Therefore, the proposed project **would not lead to wasteful, inefficient, or unnecessary consumption of energy,** or involve a large commitment of nonrenewable resources, during project construction or operation. (Page ES-14)” But would the proposed project lead to wasteful or unreasonable use of water?

SCFK-23

The DEIR says, “With the proposed project, there would be a reduced amount of manure generated by the cattle grazing on the project site. The presence and storage of supplemental feed and the presence of manure on the project site would have the potential for vectors such as flies and rodents to occur. Consistent with the current grazing management practices used on the project site, the proposed project would be implemented in accordance with the South Fork Mosquito Abatement District requirements that address vector control. Therefore, the continued presence of manure and supplemental feed on the project site would not cause an increase in vectors. With implementation of the proposed project, no significant impacts due to vectors would occur as a result of the transition of irrigated fields and pastures to non-irrigated pastures and native vegetation.” (Page 3. 10-28)

SCFK-24

The DEIR says, “Methane (CH<sub>4</sub>). CH<sub>4</sub> is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of CH<sub>4</sub> is 21 in the IPCC SAR, and 25 in the IPCC AR4.” (Page 3.9-2)

However, in 2014 the Fifth Assessment Report was published using the latest scientific determination, which indicates CH<sub>4</sub> (Methane) is even more impactful to the global climate than previously determined, with a GWP of 28 (see Fifth Assessment Report (AR5)).

### **Justifying Moving South Fork Kern River Water through Isabella Reservoir to Bakersfield**

The DEIR says, “Coordination with the Kern River Watermaster, Kern River Interests, and USACE is required to facilitate the movement of the water through the Isabella Dam, or alternatively, secure temporary storage of the water in the Isabella Reservoir for later release to the downstream RRBWSD service area.” (Page 3. 11-5)

SCFK-25

However, the Kern River Water Master has repeatedly told the public that the water behind Isabella Dam is fully allocated.

The DEIR says, “Failure of the Isabella Reservoir Dam would result in the release of waters to the Lower Kern River, downstream and to the west of the project site. Isabella Dam and Isabella Reservoir were constructed by the USACE in 1954. The primary purpose of the Isabella Dam is flood control. Isabella Reservoir was designed to store approximately 568,000 AF of water; however, due to seepage and earthquake concerns, since 2006 the water storage in the Isabella Reservoir has been limited to approximately 60 percent of capacity or 361,250 AF, which corresponds to a water surface elevation of 2,589 feet (USACE, 2020). As of January 7, 2020, the current storage pool of the Reservoir was 169,461 AF and the water surface elevation was 2,560.3 feet (USACE, 2020).

The USACE is currently constructing the Isabella Lake Dam Safety Modification Project, which addresses potential overtopping and seismic and seepage issues identified with Isabella Reservoir’s main and auxiliary dams to reduce the likelihood of dam failure (USACE, 2019). While the Dam Safety Modification Project is being constructed, USACE has: increased surveillance and monitoring; stockpiled emergency materials; installed warning sirens in the community of Lake Isabella; installed additional instrumentation for monitoring; and conducted continued public outreach with Kern County and the local communities. It is intended that Isabella Reservoir would be restored to the design capacity upon completion of the Dam Safety Modification Project (USACE, 2019).” (Page 3. 11-16)

The DEIR says, “The total water diversions redirected to the South Fork of the Kern River over the 13-year period modeled scenario for the proposed project consisted of 94,442 AF or an average of about 7,265 AF per year. All other pumping for non-project properties within the Hydrological Study Area and recharge stresses in the model remained unchanged from the calibrated model (i.e., no other inputs to existing conditions were changed). The groundwater model assumed that water redirected to the Isabella Reservoir would not be stored on a long-term basis, but released to the Lower Kern River below the Isabella Dam. The groundwater model further assumed that the release of water would not result in a net change in reservoir storage relative to the calibrated existing conditions (no project conditions) over the model period. **In order to determine the volume of surface water available for release downstream without changing the Reservoir storage on a long-term basis, multiple model runs were conducted in which the release volume was adjusted until the change in Reservoir storage for the proposed project was close to the change in Reservoir storage in the calibrated model.** This was done because the Kern River Watermaster controls the volume of water in the Reservoir to maintain water volumes within the range of acceptable Reservoir storage volumes. **Therefore, water levels in the Reservoir would not change with implementation of the proposed project, and the USACE and the Kern River Watermaster would not deviate from the Isabella Reservoir Water Control Manual, unless it is done in coordination and agreement with the Kern River Interests and other legal users.”** (Page 3. 11-28)

The DEIR says, “As discussed above in Section 3.15.1 Environmental Setting, (Surface Water Conditions), surface water in the Hydrological Study Area in the South Fork Valley is used as a source of irrigation water supply for farming and livestock. As discussed in Section 2.6, Water Rights and Proposed Diversion, there are numerous water rights holders for surface water flows along the South Fork of the Kern River. This includes the water rights held by the RRBWSD for the project site. **The proposed project would reduce irrigation on the project site and allow water that is currently diverted under existing conditions to stay in the South Fork of the Kern River and flow downstream into Isabella Reservoir, then the Lower Kern River, and then to the existing RRBWSD diversion structures and recharge basins for storage in their groundwater bank (Thomas Harder & Co., 2019; see Appendix E of this Draft EIR).** No water supply associated with any other Kern River water rights holders would be affected or changed. Therefore, relative to surface water and implementation of the proposed project, there would be no change in surface water supplies available to serve adjacent land uses, communities, and local water suppliers. No impact on surface water supplies would occur. Therefore, relative to surface water, there would be no impact on water supplies available to serve adjacent land uses, communities, and local water suppliers in the South Fork Valley.” (Page 3. 15-12)

SCFK-25  
(cont.)

Our comment submitted on 23 March 2018 addressed these assertions with the following: **“The Draft EIR must address the Kern River Watermaster, Dana Munn’s statement, ‘Water rights structure does not allow moving water to Bakersfield.’ and “Isabella Reservoir is fully allocated.’”** The DEIR fails to directly address the Watermaster’s statements above.

### **Aqueduct Infrastructure**

The conflict over the uses of limited water supplies is only part of the picture. Building an aqueduct across 50 miles of precious desert land is another. If built, the aqueduct would go through *Areas of Critical Environmental Concern* under the Desert Renewable Energy Conservation Plan and the National Conservation Lands Act protecting Mojave Ground Squirrel and Desert Tortoise habitat. Deserts with slow growing plants take decades to recover from ground disturbances.

SCFK-26

Please seriously consider our concerns with the Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report as stated above and do not approve a plan for RRBWSD’s San Joaquin Valley basin that relies on imported water from the South Fork Kern River or the State Water Project. The State Water Project provides a limited source of water and needs to be managed more sustainably. A sustainable, groundwater plan for one basin should not adversely impact the groundwater sustainability of another basin or harm their ecosystems or the ecosystems of the global environment. The whole point to the Groundwater Sustainability Act is for communities to live sustainably within their environment for generations to come.

SCFK-27

Sincerely,



Ara Marderosian

Conservation Chair  
Kern-Kaweah Chapter, Sierra Club  
[ara.marderosian@kernkaweah.sierraclub.org](mailto:ara.marderosian@kernkaweah.sierraclub.org)  
[www.sierraclub.org/kern-kaweah](http://www.sierraclub.org/kern-kaweah)

A handwritten signature in black ink, appearing to read "Alison Sheehey" followed by a stylized flourish.

Alison Sheehey  
Programs Director  
Sequoia ForestKeeper®  
[alison@sequoiaforestkeeper.org](mailto:alison@sequoiaforestkeeper.org)

## ***Kern River Watermaster***

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July 27, 2020

### **BY U.S. MAIL AND EMAIL**

Dan Bartel  
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Rosedale-Rio Bravo Water Storage District  
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Re: Public Comments on Draft Environmental Impact Report (“DEIR”) for the Onyx Ranch South Fork Valley Water Project (“Project”) (SCH #2018021061)

Dear Mr. Bartel:

As Kern River Watermaster, I provide written public comment to Rosedale-Rio Bravo Water Storage District (“Rosedale”) with regard to the DEIR and the Project. The Kern River Watermaster acts as a representative of various public agencies with historic rights to use Kern River water in the southern San Joaquin Valley portion of Kern County, including the City of Bakersfield, Kern Delta Water District, North Kern Water Storage District, Buena Vista Water Storage District (including Henry Miller Water District and Olcese Water District), and the Kern County Water Agency (“Kern River Interests”) with regard to conservation storage space at Isabella Reservoir.

Previously, in my March 23, 2018 letter addressing the Notice of Preparation (“NOP”), I requested that Rosedale “expand the scope of its DEIR to include a comprehensive investigation, identification and evaluation of any potential significant environmental impacts, a reasonable range of alternatives and also appropriate mitigation measures with regard to the beneficial uses of Kern River water by the Kern River Interests.” Specifically, I requested that the Project “be designed, developed and implemented in such a manner to ensure that it avoids causing any adverse impacts to the Kern River Interests long-established public water projects all of which are reliant on the continued use of Kern River water.” Detailed comments were provided in that

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regard. Unfortunately, the DEIR does not address any of the concerns explained in my March 23, 2018 letter. As a result, the DEIR is not in compliance with CEQA in a number of respects.

The DEIR fails to consider and evaluate the potential impacts of the proposed change of point of diversion and place of use of the Onyx Ranch and Smith Ranch water rights on the Kern River Interests’ operations in Isabella Reservoir and their respective public water projects downstream. Further, the DEIR does not disclose and evaluate the uncertainty and existing public controversy that exists over the origins, nature, and extent of the Project’s asserted right to flows of the South Fork of the Kern River. In particular, the DEIR does not identify and evaluate the potential impact to the Kern River Interests and the environment if the right to South Fork flows—and thus the amount of water available for transfer—assumed in the DEIR are overstated, and how such action would impact the Kern River Interests’ ongoing public water projects. In short, it does not address the potential impacts of the Project in the manner required by CEQA.

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**I. The Project Description Is Inadequate, Because It Fails to Completely Describe the Mechanics of the Proposed Transfer**

CEQA requires that an EIR be “prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences.” (Cal. Code Regs., tit. 14, § 15151.) A crucial part of that analysis is an adequate “description of the project's technical, economic, and environmental characteristics.” (Cal. Code Regs., tit. 14, § 15124.) The degree of specificity required depends on the project, as the project description must provide “sufficient information to understand the environmental impacts of the proposed project.” (*Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal.App.4th 20, 28.)

The Project Description in the DEIR consists of six “elements” of the Project. (DEIR, pp. 2-20 through 2-23 (pdf 78-81).) But these “elements” are not a description of the Project at all, rather they describe how the substance of the Project will be planned. An appropriate Project Description would require these elements to be completed before it could be formulated, and thus *before* circulation of the DEIR. The first three “elements” merely describe data that Rosedale intends to gather related to South Fork diversions and groundwater levels. Such data should have been collected during preparation of the DEIR. The fifth and sixth “elements” are the only portions of the Project Description that seem to describe any part of the Project proper, and those do not provide any of the details necessary to assess the Project’s impacts. They do not adequately explain how Rosedale will accurately measure, monitor, and report to the United States Army Corps of Engineers (“USACE”) and the Kern River Watermaster the daily incremental increase in South Fork Kern River water entering and being released from Lake Isabella, nor how Rosedale will convey that daily water flow downstream from the Project Location in the South Fork Valley into Lake Isabella and then downstream from Isabella Dam into Rosedale’s service area (i.e., under

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what manner of daily operation, through what facilities, under what terms, and with what increment of daily losses, etc.). These deficiencies render the Project Description inadequate.

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**A. The DEIR Does Not Articulate a Clear and Accurate Method for Determining the Assumed Incremental Increase in Flows Entering Lake Isabella**

The core assumption of the Project is that Rosedale will “reduce the diversion and use of surface water on the project site by converting irrigated fields to non-irrigated pasture or native vegetation,” which “would result in a net increase in the South Fork flows that would run downstream to the Isabella Reservoir.” (DEIR, p. 1-1 (pdf 49).) It is crucial, therefore, that the DEIR clearly and accurately describe the Project’s intended method to accurately measure, monitor, and report the presumably daily flow and volume of water derived from the Project’s South Fork water supply that will be conserved by the conversion of the fields as well as the daily volume and flow rate of such water that is determined to enter the gross pool of Isabella Reservoir.

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“Element 6” of the Project Description assumes that lands “converted to non-irrigated pasture or native vegetation” under the program will achieve “total reliance on natural precipitation for pasture production.” (DEIR, p. 2-23 (pdf 81).) The method by which this will be achieved, however, is not described. Furthermore, because the groundwater level in the area is high, it is not clear whether deep rooted native vegetation will withdraw a significant amount of water from the interconnected surface water and groundwater system. The surface water model relied upon by the DEIR does not account for any such continued consumptive use and assumes a perfect reduction of consumptive use on the property to precipitation. (DEIR, Appendix E, p. 8 [assuming all surface water deliveries are discontinued and that all such water flows down South Fork to Lake Isabella].) Further study is necessary to compare consumptive use under current conditions with the consumptive use that will result from the conversion of the lands to native vegetation. The DEIR cannot assume, as it does, that all water currently used on these lands will flow downstream and enter the gross pool in Lake Isabella.

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In addition to accurately determining the amount of water conserved at the Project Site, the DEIR also needs to establish the daily flow rate of that water that will enter Lake Isabella as a result of the Project. The Project Description does not provide for any determination of this flow rate or describe in any way how the Project could be integrated with existing reservoir operations. All operations in Lake Isabella administered by the USACE in conjunction with the Kern River Watermaster are directed by governing flood control and operation manuals and agreements (see Appendix A) and each require the daily measurement, monitoring, and reporting of water to ensure safe and reliable dam operations for flood control, public safety, conservation storage, recreation, electric power projects, and other authorized purposes of Lake Isabella. Specifically, each day a precise accounting is required to measure, monitor, and report the gross pool elevation within Isabella Reservoir, storage increment, mean inflow and outflow, evaporation, and pre- and post-project measurements at the First Point of Measurement located downstream of Lake Isabella.

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Such data is essential to the calculation and allocation of Kern River Interest water right entitlements and storage balances in order for the Kern River Watermaster to fulfill defined duties including determining the instantaneous, daily, natural flow of Kern River water at the First Point of Measurement without regard for Isabella Reservoir operations. For the Watermaster to account for any water purported to be added to Lake Isabella from the Project, the specific daily flowrate of any additional water needs to be known with certainty. It is also unclear how the Project's assumed additional inflow will affect the current daily measurement of evaporation in Lake Isabella. Given that the pathway for entrance of the proposed water supply into Lake Isabella could be either surface or groundwater infiltration the DEIR needs to study whether and to what extent the introduction of additional South Fork flows into Lake Isabella affects and may necessitate changes to current methods for determining evaporation in Lake Isabella. For example, evaporation of flows from groundwater infiltration could be significantly higher if the water has to go over geologic structures like Lime Dike. More hydrogeologic technical study is needed to identify and evaluate the impact on evaporation within Lake Isabella resulting from the Project.

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**B. The DEIR Does Not Describe How Water Will Be Transferred Downstream from Lake Isabella**

The Project Description is required to include all aspects of the Project. (*Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818, 829–30.) However, the DEIR does not discuss a critical aspect of the Project: the transfer of the conserved water from Lake Isabella downstream to Rosedale's place of use. The DEIR merely states, in "Element 5" of the Project Description, that Rosedale will "coordinate with ... Kern River Interests to address scheduling releases and computing any losses ...." (DEIR, p. 2-22 (pdf 80).) There are important operational issues with this aspect of the Project, which could have significant impacts on storage operations in the reservoir as well as conveyance of water downstream from the reservoir. The DEIR cannot defer consideration of those issues and must consider them now. (See *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1208 ["The requirements of CEQA cannot be avoided by piecemeal review...."]; *Bozung v. Local Agency Formation Com.* (1975) 13 Cal.3d 263, 283–84.)

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Rights to storage of Kern River water in Lake Isabella are authorized and defined by various agreements with the United States of America and among the Kern River Interests, including the 1964 "Contract Among The United States of America and North Kern Water Storage District, Buena Vista Water Storage District, Tulare Lake Basin Water Storage District, and Hacienda Water District", the 1964 "Storage Agreement Among First Point Entities", and the 1962 "Kern River Water Rights and Storage Agreement by And Among Buena Vista Water Storage District, Tulare Irrigation District and Hacienda Water District", as amended, which define and allocate stated rights of storage among the entities who have funded the costs of Isabella Dam and Reservoir. Rosedale does not have any right to store any water in Lake Isabella under any agreement with the United States or the Kern River Interests. This means that any South Fork

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Kern River water transferred under the Project must enter into and flow through Isabella Dam without infringing on the existing Lake Isabella operations and storage rights of the existing users. Project Element 5 states that Rosedale will “coordinate with the Kern River Watermaster, Kern River Interests, and USACE to facilitate the movement of the water through the Isabella Dam.” (DEIR, p. 2-22 (pdf 80).) However, this single sentence fails to disclose or evaluate the complexity of that coordination and the potential impacts of the Project on both Isabella Reservoir and downstream operations. Releases through Isabella Dam are carefully coordinated on a daily basis by the USACE and the Watermaster to ensure public health and safety through flood control and emergency operations (i.e., dam integrity and safety, search and rescue), accommodate the conservation, storage, and delivery of water stored for beneficial use by Kern River Interests, and avoid interference with associated downstream activities such as hydroelectric power generation and recreation (e.g. white-water rafting and fishing). Daily administration of any outflow from Lake Isabella for any of these purposes, as well as recognized capacity restrictions in different reaches of the Kern River channel downstream, make the coordination of releases from Isabella Reservoir a sophisticated water management operation which necessitates detailed monitoring and daily communication under clearly defined modes of communication among the United States, the Kern River Watermaster, and the Kern River Interests in coordination with City of Bakersfield Department of Water Resources Hydrographic Unit. To further complicate matters, the ongoing Isabella Lake Dam Safety Modification Project imposes certain temporary reservoir capacity restrictions and approved methods of operation. In this context, Rosedale’s proposal to add potentially thousands of acre-feet of water to the reservoir, with no storage rights, raises numerous potential impacts that are neither considered nor described in the DEIR. In light of the storage restrictions, Rosedale needs to analyze the Project’s potential to increase the frequency of flood releases and the impacts of those flood releases on river operations under both the temporary and permanent Lake Isabella operations criteria.

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It is also unclear how the Project might impact flows in the river channel downstream of the reservoir. Between Isabella Reservoir and First Point of Measurement, certain accretions and depletions occur (beyond the measured diversions). To the extent the Project will impact the flow rate necessary in this reach of the river to make deliveries to Rosedale, the DEIR needs to analyze whether and to what extent the Project will impact those accretions and depletions. Further downstream from First Point of Measurement, different reaches of the Kern River channel are subject to losses through evaporation and infiltration. Releases for current uses are carefully monitored, measured, reported, and coordinated to minimize losses and accommodate different operations along the Kern River without injury. Implementing the Project would require agreements with various Kern River Interests and the Kern River Watermaster to coordinate releases of the water conserved by the Project to ensure that the Project does not result in injury to those operations or associated interests. Unfortunately, the only commitment in the DEIR Project Description to address a “no injury factor” is limited solely to “account for ... losses between the Onyx Ranch and Isabella Reservoir.” The Project needs to be revised to define, evaluate, and

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adopt equivalent protections as part of the Project Description which will ensure “no injury” to the Kern River Interests’ rights, projects, and operations as was provided to water users in the South Fork Valley. (DEIR, p. 2-17 (pdf 75).)

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## **II. The DEIR Fails to Describe the Full Environmental Setting or Baseline, Because It Does Not Describe Operations and Activities Downstream of Lake Isabella**

CEQA defines the “environment” subject to analysis in an EIR as the entire “area which will be affected by a proposed project.” (Pub. Resources Code, § 21060.5.) That physical environment must be adequately described in the EIR to provide a solid foundation for the assessment of environmental impacts. (Cal. Code Regs., tit. 14, § 15125(a); *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (2013) 57 Cal.4th 439, 447.) The “environment” of a project can extend beyond the project area, and impacts beyond that area must be analyzed. (*Muzzy Ranch Co. v. Solano County Airport Land Use Com.* (2007) 41 Cal.4th 372, 387–88, citing *County Sanitation Dist. No. 2 of Los Angeles County v. County of Kern* (2005) 127 Cal.App.4th 1544, 1582–83.) Defining the project area to exclude an area where significant impacts will occur is contrary to CEQA. (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1216.)

The DEIR defines the Project Area narrowly, including only the Onyx and Smith Ranches and the Rosedale service area. (DEIR, p. 2-3 (pdf 61).) Even the broader “Local Setting” encompasses only the South Fork and Lake Isabella. (*Id.*, p. 2-4 (pdf 62).) The only discussion of the Kern River downstream of Lake Isabella is an acknowledgment that the Kern River Interests exist and are entitled to water from the reservoir in keeping with the Miller-Haggin Agreement. (*Id.*, p. 2-9 (pdf 67).) There is no description of the Kern River channel and the associated water facilities or of the operations and activities currently existing along the Kern River from Isabella Reservoir to the proposed place of use within Rosedale. There is no description of any of the Kern River Interest diversion facilities, canals, and projects existing within and in the vicinity of the Kern River. There is no description or evaluation of any Kern River Interest projects within their respective boundaries related to ongoing use of Kern River water. Failure to include this information about the relevant environment prevents the identification of all the relevant potential impacts. As referenced above, attached to this letter is an Appendix including a map and summary of Kern River operations including certain governing manuals, agreements, and records relating to the current administration of Kern River water between Lake Isabella and Rosedale’s proposed point of diversion and use of Project water. The DEIR should have identified, considered and evaluated the effects of the Project on the existing administration of Kern River. The DEIR does not consider, discuss, and evaluate the potential impacts of the Project in this regard, nor does it develop and adopt appropriate mitigation measures to avoid adverse environmental impacts and injury to the Kern River Interests’ public water projects.

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### III. The DEIR Does Not Disclose or Address the Potential Overstatement of the Water Rights that Rosedale Seeks to Transfer

Because the primary purpose of an EIR is to inform, it must be “prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences.” (Cal. Code Regs., tit. 14, § 15151.) The EIR must therefore include all “material necessary to informed decision making and informed public participation.” (*Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 515.) The EIR should “enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.” (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 405.) The DEIR does not meet these standards, because it does not disclose or evaluate the existing uncertainty and public controversy over the origins, nature, and extent of the asserted water rights of the Onyx Ranch and Smith Ranch proposed to be transferred by the Project, as well as the whether their point of diversion and place of use may be transferred without causing injury to other users of Kern River water such as the Kern River Interests.

The DEIR asserts the Onyx Ranch and Smith Ranch “pre-1914 appropriative rights ... were quantified in a 1902 Arbitration Decree....” (DEIR, p. 2-16 (pdf 74).) The DEIR does not discuss the context of the arbitration or the case from which it arose. In fact, the name of the case appears nowhere in the DEIR. The case was *Walter Rankin v. Patrick O'Brien, et al.*, Kern County Superior Court Case No. 1641.<sup>1</sup> There are several important facts, relevant to an understanding of the DEIR and proposed Project, which are never disclosed to the public in the DEIR. First, *Rankin* was not a stream-wide adjudication of the South Fork, only a dispute between some South Fork diverters, and no trial was completed or judgment entered by the Kern County Superior Court in the matter. Second, the parties in the case all originally claimed for their same lands in the South Fork Valley both riparian and pre-1914 appropriative rights. Third, the arbitration which the DEIR mistakenly refers to as a “decree” established “adjudicated right[s]” was actually merely a voluntarily agreement among only some of the original *Rankin* parties, and the “Report of the Arbitrators” is not binding on anyone but the parties who submitted to the arbitration. Most importantly, the instructions under which the matter was submitted to the arbitrators directed the arbitrators to determine the relative priorities of the diverters but provided an assumed allocation of “one hundred fifty (150) miner’s inches of water to each 160 acres so owned or claimed, measured under a four (4) inch pressure.”<sup>2</sup> The Report of the Arbitrators does not include any explanation for this agreed-upon ratio to allocate the amount of water. However, under California water rights law, any right acquired by appropriation is limited to “the amount of water applied to

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<sup>1</sup> Failure to cite the actual documents is itself a violation of CEQA. (Cal. Code Regs., tit. 14, § 15148 [“The EIR shall cite all documents used in its preparation”].)

<sup>2</sup> It is also worthy of note that the DEIR applies this same methodology to water rights that were not joined in the arbitration. (DEIR, p. 2-16 (pdf 74).)

a beneficial use, which has been interpreted to mean the amount actually used and reasonably necessary for a useful purpose to which the water has been applied.” (*Haight v. Costanich* (1920) 184 Cal. 426, 431.) Thus, the scope of the right is not defined by the amount diverted but by the amount actually applied to beneficial use by the original appropriator. (*Hufford v. Dye* (1912) 162 Cal. 147, 153; *Millview County Water Dist. v. State Water Resources Control Bd.* (2014) 229 Cal.App.4th 879, 898.) The DEIR acknowledges that the rights proposed to be transferred are limited to pre-1914 appropriations but it includes no information of any record of the actual, pre-1914, beneficial use of water that was made on these properties in the South Fork Valley. However, it is implausible that the amount assigned in the Arbitration Report reflects the actual beneficial use. As calculated in the DEIR, 150 miner’s inches under a 4 inch head equates to 3 cubic-feet per second (“cfs”). An allotment of 3 cfs per 160-acres equates to approximately 2,172 acre-feet per year, or 13.57 acre-feet per-acre per-year, an extremely high figure relative to recognized beneficial uses. Under this calculation, Rosedale’s claimed water rights on the Project Site total 31.2 cfs, or 22,587.8 acre-feet per year. Again, the DEIR includes no historical record of use or any analysis to support the assumption that this stipulated allocation equaled the actual beneficial use of South Fork water during the period prior to December 1914. Instead, the DEIR analysis depends exclusively on data on diversions reported from 2009-2017. (DEIR, p. 2-18 (pdf 76).) Significantly, the DEIR fails to disclose to the public that neither Rosedale nor its predecessors in title to the Onyx Ranch and Smith Ranch lands have obtained an appropriative permit or license to use South Fork water from the State Water Resources Control Board. Further, the DEIR fails to discuss or attempt to establish that the records of modern, post-1914 diversions for the period of record cited in the DEIR (2009-2017)<sup>3</sup> do not exceed the maximum actual beneficial use on the Project Site for the period prior to 1914. In short, the quantity of pre-1914 appropriative rights attributable to the property is uncertain and a matter of public controversy, yet the DEIR neither explains how it comes to its conclusions, nor does it acknowledge that there is any uncertainty and controversy. An EIR must assess potential water supplies realistically and not rely on unsubstantiated assumptions or “paper water.” (*Santa Clarita Organization for Planning the Environment v. County of Los Angeles* (2003) 106 Cal.App.4th 715, 722; *Planning & Conservation League v. Department of Water Resources* (2000) 83 Cal.App.4th 892, 908, fn. 5.)

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Additionally, the DEIR is not clear, that whatever pre-1914 appropriative rights may be associated with the Onyx Ranch and Smith Ranch parcels, that those rights can be transferred to Rosedale’s points of diversion on the valley floor as proposed in the Project. “[T]he point of diversion, place of use, or purpose of use” of pre-1914 appropriative rights may be changed only “if others are not injured by such change.” (Wat. Code, § 1706; see *City of Lodi v. East Bay Municipal Utility Dist.* (1936) 7 Cal.2d 316.) Regardless of the origins and nature of any South Fork water rights, other water rights holders on the Kern River could be injured by the transfer and

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<sup>3</sup> Even those numbers (2009-2017) show an annual average diversion of only 15,332 acre-feet, which includes water diverted from the stream that is later returned to the South Fork unused.

change in point of diversion and place of use of such rights. All waters of the South Fork which have flowed into Lake Isabella have been stored, regulated, released, and beneficially used by Kern River Interests under long-existing court decree and agreements recognized by the United States and the Kern River Interests downstream since Isabella Reservoir was first operational in 1954. The Project Description asserts that the amount of water being transferred by Rosedale under the Project will be “the lesser of the amount available ... under its Onyx Ranch and Smith Ranch pre-1914 appropriative water rights from the South Fork during actual flow conditions and the typical pre-project irrigation demands on the project site....” (DEIR, p. 2-20 (pdf 78).) Neither metric accounts for return flows that rejoin the South Fork unused and have historically contributed to the Lake Isabella storage accounts of the Kern River Interests. Such waters are subject to appropriation by downstream users, including the Kern River Interests, and a transfer that reduces those historic flows constitutes an injury. (*Hufford v. Dye* (1912) 162 Cal. 147, 153; *Dannenbrink v. Burger* (1913) 23 Cal.App. 587, 596-597; *Crane v. Stevinson* (1936) 5 Cal. 2d 387, 394-395.) The DEIR fails to consider and evaluate operational conditions, alternatives, and mitigation measures to address Project diversions to ensure that the Project does not injure the rights of Kern River Interests to continued beneficial use of Kern River water. Inexplicably, unlike for other South Fork water users, the Project Description fails to include any express provision to avoid causing injury to Kern River Interests. (DEIR, p. 2-17 (pdf 75).)

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The DEIR states that, “The [Project’s] change in point of diversion method is consistent with how the other ‘Kern River Interests’ ... manage their respective Kern River pre-1914 water rights. This includes their use of changes in points of diversion and place of use in order for those agencies to manage and maximize their water supply benefits in Kern County.” (DEIR, p. 2-7 (pdf 65).) But there are very important distinctions between the Project and how the Kern River Interests have historically provided for changes in the point of diversion and place of use. Changes of point of diversion and place of use by the Kern River Interests have been established by court judgment and decree, as well as agreements among all the Kern River Interests recognized by the United States. Those judgments, decrees, and agreements ensure that the respective rights of the parties do not cause injury to the rights of others. Importantly, Rosedale is not a party to any of those court judgments, decrees, and agreements, and Rosedale has not made any equivalent agreement with the United States and the Kern River Interests to provide the necessary protections to avoid injury arising from the Project.

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#### **IV. The DEIR Does Not Consider the Potential Impacts to Operations and Activities Downstream of Lake Isabella**

An EIR must include “a detailed statement setting forth ... [a]ll significant effects on the environment of the proposed project.” (Pub. Resources Code, § 21100(b)(1).) The DEIR excludes from its analysis at least two large categories of potentially significant effects. One category of impacts not studied in the DEIR is impacts within Isabella Reservoir and also the downstream activities and operations as described in Appendix A. Failure to fully and accurately describe the

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entirety of the project necessarily leads to defects in this impact analysis. (*City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1454.) If the DEIR's Project Description and Environmental Setting are revised to address the deficiencies discussed above, further environmental review will be necessary to determine the impacts caused by the full Project in light of the full baseline. This includes, without limitation, consideration of Isabella Reservoir operations, channel capacity restrictions, flow requirements for different uses, and other factors relevant to the operations. Another category of impacts not studied is impacts of the reduction of Kern River supplies currently available and applied to beneficial use by downstream users such as the Kern River Interests. These impacts could include increased reliance on groundwater (which also implicates compliance with the Sustainable Groundwater Management Act), impacts to groundwater quality due to less surface water recharge, and related impacts to uses of water by the Kern River Interests.

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#### **V. The DEIR Does Not Consider Mitigation Measures and Project Alternatives to Protect Water Users Downstream of Lake Isabella**

CEQA requires the mitigation of significant impacts of a project where feasible. (Pub. Resources Code, §§ 21002.1(a), 21100(b)(3); Cal. Code Regs., tit. 14, § 15126.4.) In an EIR, the potential mitigation measures "should be discussed and the basis for selecting a particular measure should be identified." (Pub. Resources Code, § 21100(b)(3); Cal. Code Regs., tit. 14, § 15126.4(a)(1)(B).) The lead agency is also required to consider "a range of reasonable alternatives to the project ... which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." (Cal. Code Regs., tit. 14, § 15126.6.) In the context of an action, like this Project, that could result in interference with the water rights of others, appropriate mitigation measures should ensure those other water rights holders "the ability to use water in substantially the same manner that they were accustomed to doing if the Project had not existed." (*Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1117.) As discussed above, the DEIR does not even discuss the operations and activities within and downstream of Lake Isabella, and the amount of water that can be transferred without injury to other water users is not studied or known. Thus, the DEIR does not include any mitigation measures or project alternatives that would avoid the potential impacts to those operations and activities.

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Instead of identifying, evaluating, and addressing these impacts and the appropriate mitigation measures and project alternatives, the DEIR states in its Project Description that Rosedale would "coordinate with the Lower Kern River Interests to address scheduling releases and computing any losses between the Isabella Reservoir and the existing RRBWSD diversion points within its service area." (DEIR, p. 2-22 (pdf 80).) This approach is not proper under CEQA for two independent reasons. First, the use of such language in a project description "compress[es] the analysis of impacts and mitigation measures into a single issue" and thus "disregards the requirements of CEQA." (*Lotus v. Department of Transportation* (2014) 223 Cal.App.4th 645,

655–57.) A finding of significant impacts “would trigger the need to consider a range of specifically targeted mitigation measures [and] ... adopt an enforceable monitoring program.” (*Ibid.*) Simply stating in the project description that impacts will be avoided is not a substitute for that analysis. Second, the DEIR does not attempt to study and describe the losses or give the method to calculate them, and it does not discuss how releases must be scheduled to avoid impacts downstream. Instead, it assures decision-makers and the public that those details will be worked out later. However, “it is improper to defer the formulation of mitigation measures until after project approval.” (*Oakland Heritage Alliance v. City of Oakland* (2011) 195 Cal.App.4th 884, 906.) To meet the requirements of CEQA, the DEIR must be revised to identify and assess all impacts to Kern River operations and then describe appropriate mitigation measures.

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**VI. If Rosedale Intends to Proceed, Recirculation of a Revised DEIR Is Required**

Addressing these deficiencies in the DEIR will require the addition of “significant new information” and thus will require recirculation. (Pub. Resources Code, § 21092.1.) A considerable amount of new analysis would be required, and failure to recirculate would “deprive[] the public of a meaningful opportunity to comment.” (Cal. Code Regs., tit. 14, § 15088.5.)

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Thank you in advance for your careful consideration of these comments.

Sincerely,



Dana S. Munn  
Kern River Watermaster



## APPENIDX “A”

KERN RIVER WATERMASTERSUMMARY OF OPERATIONS AND PROCEDURES FOR THE ADMINISTRATION  
OF THE USE OF KERN RIVER WATER BY THE KERN RIVER INTERESTS  
ACCORDING TO CERTAIN POLICIES, MANUALS, AGREEMENTS AND  
PRACTICES

This Appendix “A” is a simple overview<sup>1</sup> and summary of current facilities, operations and procedures relating to the administration and use of Kern River water by the Kern River Interests (City of Bakersfield, Kern Delta Water District, North Kern Water Storage District, Buena Vista Water Storage District [including the Henry Miller Water District and Olcese Water District] and the Kern County Water Agency) according to certain<sup>2</sup> policies, manuals, court judgments and decrees, agreements and practices relating to Isabella Dam and Reservoir and associated water facilities and infrastructure in the region downstream of Isabella Dam and Reservoir of the southern portion of the San Joaquin Valley, Kern County, California. This overview spans from the region of Isabella Dam and Reservoir and the region downstream along the Kern River channel including the Rosedale Rio Bravo Water Storage District (“Rosedale”) identified as the place of use for the proposed South Fork Kern River water supply the subject of the Draft Environmental Impact Report (DEIR) regarding the “Onyx Ranch South Fork Valley Water Project”, State Clearinghouse #20118021061, May 2020 (“Project”) and then continuing to the Kern River-California Aqueduct Intertie.

To assist in providing an overview of the affected region, enclosed is a map entitled “Kern River Watershed & Kern River Interests” prepared by the Kern County Water Agency. This map shows the Kern River watershed where waters of the Kern River converge (originating from both the North Fork and South Fork branches of the Kern River) in the Isabella Reservoir in the mountains north and east of Bakersfield. From that point, all the waters of the Kern River are conserved, regulated, released, diverted and used in the region downstream from Isabella Dam and Reservoir.

<sup>1</sup> This Appendix is not intended to be a detailed and comprehensive restatement of all the daily operations and procedures relevant to the administration of the waters of the Kern River by the Kern River Interests or others.

<sup>2</sup> This Appendix does not attempt to identify and discuss each and all the policies, manuals, agreements, court judgments and decrees, and practices relating to Isabella Dam and Reservoir and the management of Kern River water relied upon by the Kern River Interests.

The following are certain existing facilities, standards, operations and procedures which require study in a revised DEIR in order for the Project to avoid injury to existing beneficial uses of Kern River water by the Kern River Interests.

1. The Region in The Vicinity of Isabella Dam and Reservoir-

- Coordinating and managing with the United States Army Corps of Engineers and the Kern River Watermaster the measured daily inflow of any Project water entering Isabella Reservoir with Kern River water in storage at the direction of the Kern River Watermaster on behalf of the Kern River Interests as authorized in the October 23, 1964 “Contract Among the United States of America and North Kern Water Storage District, Buena Vista Water Storage District, Tulare Lake Basin Water Storage District, And Hacienda Water District” (including Exhibit “A”, the December 31, 1962 “Kern River Water Rights And Storage Agreement by and among Buena Vista Water Storage District, North Kern Water Storage District, Tulare Lake Basin Water Storage District, and Hacienda Water District”, as amended, including Exhibit “B”, “Agreement For Establishment and Maintenance of Minimum Recreation Pool of 30,000 Acre-Feet in Isabella Reservoir between Buena Vista Water Storage District, North Kern Water Storage District, Tulare Lake Basin Water Storage District, and Hacienda Water District and the County of Kern”., and also including the March 3, 1964 “Storage Agreement Among First Point Entities”, collectively the “Isabella Agreements”) to monitor and avoid injury to the Kern River Interests storage in Isabella Reservoir.
- Coordinating and managing with the United States Army Corps of Engineers and the Kern River Watermaster the daily monitoring, measurement, accounting, and reporting of any Project water inflow, evaporation, outflow, effect on storage elevation and the total storage quantity, to monitor and avoid injury to Kern River Interests storage in Isabella Reservoir as authorized in the Isabella Agreements.

2. The Region From Isabella Dam to The First Point of Measurement-

- Coordinating and managing the measured daily release of any Project water discharged from Isabella Dam in coordination with any release of Kern River water made at the direction of the Kern River Watermaster for the purpose of downstream beneficial uses and/or flood control under authority and direction from the United States Army Corps of Engineers as authorized in the Isabella Agreements to monitor and avoid injury to the Kern River Interests storage in Isabella Reservoir and downstream beneficial uses.
- Coordinating and managing the release of any Project water from Isabella Dam in conjunction with all the existing and permitted hydroelectric power plants operating on the Kern River including Isabella Partners, Southern California Edison Kern River Number I, Pacific Gas and Electric Company Kern Canyon and Rio Bravo Hydroelectric, to monitor and avoid injury to such existing facilities and operations.
- Coordinating and managing the release of any Project water from Isabella Dam in conjunction with public health and safety emergency search and rescue operations in

KRWM-A-1  
(cont.)

coordination with the Kern River Watermaster, United States Army Corps of Engineers, and the Kern County Sheriff Department to monitor and avoid injury to such public health and safety operations.

- Coordinating and managing the release of any Project water from Isabella Dam to the extent necessary to satisfy legal requirements relating to permitted flows for environmental or recreational uses including, whitewater rafting, fishery resources, recreational facilities in the Sequoia National Forrest and to monitor and avoid injury to such other beneficial uses and operations.
- Coordinating and managing any Project water within the Kern River channel in consideration of existing water treatment plants, facilities and operations including the California Water Company Northeast Water Treatment Plant to monitor and avoid injury to such existing facilities and project operations.

3. The Region From The First Point of Measurement to The Rosedale Place of Use-

- Coordinating and managing any Project water within the Kern River channel from the First Point of Measurement and at each downstream diversion weir, canal and associated facility operated by the Kern River Interests including Beardsley, Rocky Point, Calloway, River Canal, and Bellevue weirs and Beardsley, Eastside, Kern Island, Carrier, Calloway, Stine/Farmers, River, Buena Vista and Pioneer canals to monitor and avoid injury to such existing facilities and project operations.
- Coordinating and managing any Project water within the Kern River channel in consideration of existing water treatment plants, facilities and operations including the Henry Garnett Water Treatment Plant, and the California Water Company Northwest Water Treatment Plant to monitor and avoid injury to such existing facilities and project operations.
- Coordinating and managing any Project water within the Kern River channel in consideration of existing groundwater recharge and banking programs within and in the vicinity of the Kern River channel including Kern Delta Water District, City of Bakersfield and North Kern Water Storage District, groundwater recharge facilities to monitor and avoid injury to such existing facilities and project operations.
- Coordinating and managing the monitoring, measuring, accounting and reporting of any Project water losses between Isabella Reservoir to the Rosedale point of diversion and Project Place of Use with the existing procedures administered by the Kern River Watermaster and the City of Bakersfield Department of Water Resources, Central Records Hydrographic Unit on behalf of the Kern River Watermaster.
- Coordinating and managing the measuring, record keeping, and reporting of any Project water with the existing daily, monthly, and annual procedures of the Kern River Watermaster and the City of Bakersfield Department of Water Resources, Central Records Hydrographic Unit on behalf of the Kern River Interests.

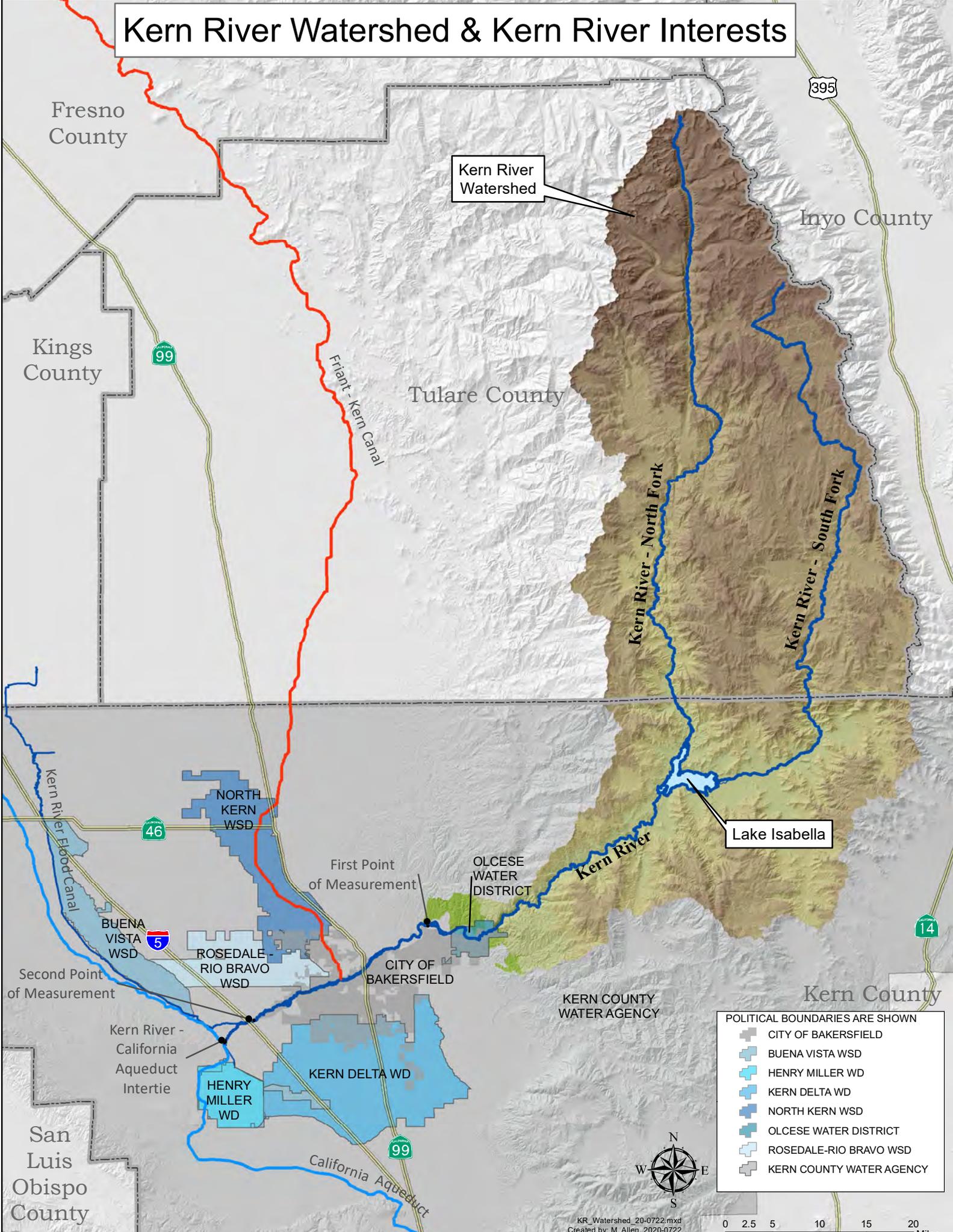
KRWM-A-1  
(cont.)

4. The Region From Rosedale Place of Use to The Kern River-California Aqueduct Intertie-

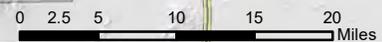
- Coordinating and managing any Project water within the Kern River channel in consideration for each diversion weir, canal and associated facilities operated and maintained by the Kern River Interests from the Rosedale Place of Use to the Kern River-California Aqueduct Intertie including McClung and Second Point of Measurement weirs, Pioneer, River, Cross Valley, Alejandro, Kern Water Bank canal, Buena Vista Outlet canals Kern River-California Aqueduct Intertie to monitor and avoid injury to such existing facilities and project operations.
- Coordinating and managing any Project water within the Kern River channel in consideration for existing groundwater recharge and banking programs, facilities and operations within and in the vicinity of the Kern River channel including Brenda Mesa, Pioneer, 2800 Acre, Kern Water Bank, Buena Vista, and West Kern groundwater recharge facilities to monitor and avoid injury to such existing facilities and project operations.
- Coordinating and managing any Project water within the Kern River channel with the Kern River Interests, Kern River Watermaster, the United States Army Corps of Engineers, and the State of California, Department of Water Resources to ensure compliance with the requirements and procedures specified in the applicable agreements, judgments, manuals and reports which govern operation and maintenance of the Kern River-California Aqueduct Intertie and associated facilities.

KRWM-A-1  
(cont.)

# Kern River Watershed & Kern River Interests



- POLITICAL BOUNDARIES ARE SHOWN
- CITY OF BAKERSFIELD
  - BUENA VISTA WSD
  - HENRY MILLER WSD
  - KERN DELTA WSD
  - NORTH KERN WSD
  - OLCESE WATER DISTRICT
  - ROSEDALE-RIO BRAVO WSD
  - KERN COUNTY WATER AGENCY





July 27,2020

Dan Bartel, Ass. General Mnger./District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314

**Re: Comments, RRBWSD NOA Onyx Ranch Draft EIR**

Mr. Bartel,

My comments are in addition to the comments submitted in 2018 comment letter.

KVIC-1

Do to the nature of ground disturbing activities to be conducted outside of the normal farming operations and as part of this project to discontinue the present use of surface, and possibly ground water, from the South Fork Valley and convey to Bakersfield area. All ground disturbing activities associated with the change of the point of use will need to be monitored by a culturally affiliated Native American monitors. In the event prehistoric cultural resources are found through inadvertent discovery, mitigation measures will need to be included in the final EIR. The Tribe recommended a qualified Tribal representative be included in phase 1 archeological surveys during project development, it is much more efficient to avoid sites.

KVIC-2

The area has many prehistoric sites. The record searches will only have a small number of sites recorded as part of a previous project conducted in the last few years. The only way the Tribe has to protect sites is to protect their anonymity.

KVIC-3

Best regards,

*Robert Robinson*

Robert Robinson  
Chairman, Kern Valley Indian Community  
Tribal Historic Preservation Officer



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Michael H. Zischke  
415.262.5109  
mhzischke@coxcastle.com

October 15, 2020

**VIA E-MAIL**

Mr. Dan Bartel  
Assistant General Manager/District Engineer  
Rosedale-Rio Bravo Water Storage District  
849 Allen Road  
Bakersfield, CA 93314  
DBartel@RRB.com

Re: Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report (SCH No. 2018021061) – Additional Comments on Behalf of Kern Delta Water District

Dear Mr. Bartel:

On behalf of Kern Delta Water District, we would like to inform you of a recent ruling from the Superior Court for the County of Ventura, which ruling contains several points relevant to Rosedale-Rio Bravo Water Storage District’s Onyx Ranch South Fork Valley Water Project Draft Environmental Impact Report, and the comments submitted on that EIR by Kern Delta.

In *Buena Vista Water Storage District v. Kern Water Bank Authority*, Case No. 56-2019-00528316-CU-WM-VTA (Sept. 3, 2020), the Superior Court granted the petition for writ of mandate sought by the Buena Vista Water Storage District’s (“BVWD”) and ordered the Kern Water Bank Authority (“KWBA”) to set aside its approval of the proposed Kern Water Bank Authority Conservation and Storage Project (the “Project”) along the Kern River. A copy of the ruling is attached. The ruling reinforces several issues raised by Kern Delta Water District in its July 27, 2020 comment letter and that are directly relevant to the adequacy of the CEQA review in the Onyx Ranch Draft EIR.

KDWD2-1

In ordering KWBA to set aside the Project approvals, the Ventura County Superior Court found that the EIR prepared for the Project violated the California Environmental Quality Act in multiple respects. Principally, the EIR’s project description was inaccurate and inconsistent, preventing meaningful evaluation of the Project’s environmental impacts and, therefore, rendering the EIR deficient. According to the court, KWBA failed to provide a detailed description of water used by existing Kern River water rights holders and failed to quantify the amount of water that those water rights holders were entitled to divert. Merely summarizing water allocations under various existing agreements that make up the Law of the River was not enough. Rather, KWBA was required to use “its best efforts to find out and disclose all that it

reasonably [could].” (Citing *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 726.) Its failure to do so violated CEQA.

The court also found unavailing KWBA’s position that it would only divert the amount of unappropriated water granted to it by the State Board. “As Petitioner correctly notes, to essentially define Project water as ‘whatever water the State Board gives me’ completely fails to inform the public and the State Board of the potential impacts of the Project. ... Since the FEIR does not contain any consistent definition of the Project water other than the vague assertion that Project water is unappropriated water, it is critical that the FEIR define what exactly ‘unappropriated’ water means. To do so, the description must contain a detailed analysis of existing Kern River water rights, i.e. it must fully, completely, and accurately define the appropriated water, so that the decision-makers and the public can ascertain what water is unappropriated and thus would be available for the Project.” The court also held that KWBA’s reliance on a future permit from the State Board impermissibly deferred the formulation of an accurate project description and the required analysis of Project-related environmental impacts.

KWBA’s failure to adequately describe existing water rights resulted in another deficiency in the EIR. Due to the inadequate description of Project water and existing (and competing) water rights, the EIR’s analysis regarding Project impacts to Kern River rights holders was similarly tainted. As described by the court, since the record showed that the purpose of the Project was to support KWBA’s water rights application, senior water rights holders likely will be affected by the Project. Thus, a thorough analysis of how those rights will be impacted was necessary—a general statement that the rights will be unaffected was insufficient under CEQA.

Finally, the court faulted KWBA for failing to describe or analyze the Project’s recharge activities. As the Project proposed to divert up to 500,000 acre-feet per year of Kern River water into KWBA’s banking facilities for future recovery by KWBA’s members, the EIR was required to describe and analyze the impacts associated with the banking and recovery operations. The failure to describe and analyze the “whole of the action” rendered the EIR inadequate.

Based on these deficiencies, the court directed KWBA to vacate and set aside the Project approvals and prepare a legally adequate EIR for the Project. The court further noted that any amendments made to the EIR as a result of the court’s ruling would likely require alterations elsewhere in the EIR. If, for example, KWBA determined that the Project would result in a new significant impact, then mitigation measures would need to be added or amended as well.

The ruling in *Buena Vista Water Storage District v. Kern Water Bank Authority* directly supports the comments previously raised by Kern Delta Water District and should be carefully considered by Rosedale-Rio Bravo in its review of the Onyx Ranch Draft EIR. The failure to adequately describe historical surface flow diversion data, quantify the water supply and water rights of others and the amount of water Rosedale-Rio Bravo will divert from the Onyx Ranch site, and describe and analyze downstream facilities and associated environmental impacts leaves the Onyx Ranch Draft EIR fundamentally inadequate and in violation of CEQA. These issues

KDWD2-1

Mr. Dan Bartel  
October 15, 2020  
Page 3

must be sufficiently described and analyzed now, and clearly presented to the public and stakeholder for review in a recirculated Draft EIR.

KDWD2-1

On behalf of Kern Delta Water District, we appreciate the opportunity to present this information to Rosedale-Rio Bravo for its consideration. We look forward to reviewing a revised Draft EIR.

Sincerely,



Michael H. Zischke

Attachment – copy of ruling

cc: Steven L. Teglia, General Manager  
Richard Iger, General Counsel  
L. Mark Mulkay, Water Resources Manager  
Robert W. Hartsock, Esq.  
Robbie Hull, Esq.

COPY

VENTURA  
SUPERIOR COURT  
FILED

SEP 03 2020

BY:  MICHAEL D. PLANET  
Executive Officer and Clerk Deputy

SUPERIOR COURT OF THE STATE OF CALIFORNIA  
COUNTY OF VENTURA

BUENA VISTA WATER STORAGE DISTRICT,	)	CASE NO.: 56-2019-00528316-CU-WM-VTA
	)	
Petitioner,	)	
	)	<b>RULING ON PETITION FOR WRIT OF</b>
vs.	)	<b>MANDATE</b>
	)	
KERN WATER BANK AUTHORITY,	)	
	)	
<u>Respondent.</u>	)	

The court hereby rules on the submitted matter regarding the Petition for Writ of Mandate by Petitioner Buena Vista Water Storage District against Respondent Kern Water Bank Authority.

Judicial Notice:

Petitioner's requests for judicial notice are denied on the grounds that the items subject to the request are extra-record evidence that cannot be considered in ruling on this CEQA challenge.

Summary of Ruling

Petitioner's petition for writ of mandate is granted on the grounds that the EIR is inadequate for the following reasons:

- The definitions of Project water and existing water rights are inadequate because they are inaccurate, unstable, and indefinite;

- The baseline analysis is inadequate because it fails to include a full and complete analysis—including quantification—of competing existing rights to Kern River water; and,
- The analysis of environmental impacts is inadequate in terms of the significant environmental impacts on senior rights holders and significant environmental impacts on groundwater during long-term recovery operations.

Since the EIR is inadequate for the reasons set forth above, Petitioner’s petition for writ of mandate must be GRANTED. Furthermore, if the EIR is amended in response to this Court’s ruling, then other aspects of the EIR will also need to be altered. For example, the mitigation measures will need to be amended if the amended EIR shows that the Project will cause a significant environmental impact. In addition, in evaluating any amended EIR issued in response to this ruling, the Water Board Complaint and cover letter will be part of any administrative record pertaining to that new/amended EIR.

Therefore, the Court grants the following relief requested in the petition:

- The Court enters judgment determining and declaring that the approval of the Project activities does not comply with CEQA, for the reasons set forth above, and is therefore null and void.
- The Court issues a writ of mandate commanding Respondent to vacate and set aside its approval of the Project and certification for the FEIR, to prepare and certify a legally adequate EIR for the Project, and to suspend any and all activities related to Respondent’s approval of said activities that could result in an adverse change or alteration to the environment as described in this petition, until Respondent has complied with all requirements of CEQA.
- The Court issues declaratory judgment consistent with paragraphs 1 and 2 of the prayer for relief in the petition.

The above ruling is without prejudice to Petitioner’s ability to file a memorandum of costs and a fee motion to seek the relief requested in paragraph 5 of the prayer for relief.

**Background & Basis for Petition:**

Petitioner challenges the actions by Respondent approving and/or adopting the Final

Environmental Impact Report (“FEIR”) on the Kern Water Bank Authority Conservation and Storage Project (“Project”), and its decision to implement the Project described herein.

Petitioner alleges that Respondent's FEIR fails to meet CEQA requirements for the reasons stated in this Complaint/Petition, including (i) failure to adequately describe the Project; (ii) failure to fully identify, evaluate and disclose the reasonably foreseeable effects of the Project upon the environment; (iii) failure to adequately describe the environmental or baseline conditions; (iv) failure to adequately consider alternatives and mitigation measures; (v) failure to adequately consider cumulative impacts; (vi) failure to adequately respond to comments; and (vii) failure to revise and recirculate the Draft Environmental Impact Report (“DEIR”) when clearly required by CEQA. (Pet., ¶ 3.)

Buena Vista seeks a writ of mandate commanding Respondent to set aside its certification of the FEIR for the Project, its approval of the Project based thereon, its implementation of the Project in whole or in part, and related relief. Buena Vista, as well as its landowners and water users, will suffer immediate and irreparable harm if the Court does not grant the requested relief. Buena Vista also seeks a preliminary and permanent injunction barring Respondent from undertaking any activity with regard to the Project and any activity which could potentially alter the physical and natural environment in Kern County, pending proper and complete environmental review as required by CEQA. (Pet., ¶ 6.)

Buena Vista is presently and has been, at all times relevant hereto, a California Water Storage District organized and existing under and pursuant to California Water Storage District Law [Division 14 (commencing with §39000) of the California Water Code], Buena Vista's boundaries are located exclusively within the boundaries of Kern County. Buena Vista is authorized by California Water Storage District Law to commence and maintain this action on

behalf of itself and its landowners and water users. (Pet., ¶ 8.) Buena Vista brings this action against the KWBA in its capacity as the Lead Agency on the Project described herein and as owner and operator of the KWB. Respondent KWBA is presently and has been, at all times relevant hereto, a public agency and political subdivision of the State of California, formed and existing pursuant to Division 7 of the California Government Code, Joint Exercise of Powers Act, §6500, et seq. As the Lead Agency on the Project, Respondent is responsible for preparation of an environmental document that adequately and accurately describes the Project and its impacts, and, if necessary, evaluates mitigation measures and/or alternatives to lessen or avoid any significant environmental impacts. Respondent is responsible for implementing and complying with the provisions of the CEQA and the CEQA Guidelines with respect to the Project. (Pet., ¶ 9.)

Kern River is a natural stream or watercourse originating in the Sierra Nevada and discharging its flows in the southern San Joaquin Valley, flowing southwest through Bakersfield, and—in wet years—turning northwest and flowing toward Tulare Lake. (Pet., ¶ 28.) Since the late 1800s through present, virtually all natural flow of the Kern River has been fully appropriated to reasonable and beneficial uses both north and south of the Kern River channel. (Pet., ¶ 29.) The Kern River was formally designated as a river with fully appropriated status by the State Water Board in 1989 (Order 89-25) which cited State Water Rights Board Decision 1196 (D-1196), issued on October 29, 1964, concluding that the applicants had failed to show "that there is unappropriated water available" in the Kern River watershed. (Pet., ¶ 33.)

**Applicable CEQA Law:**

CEQA and the CEQA Guidelines establish a three-tiered review structure. (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 74.) First, a lead agency must conduct a preliminary

review to determine whether an activity is subject to CEQA—or not subject to CEQA because it (1) “does not involve the exercise of discretionary powers”; (2) “will not result in a direct or reasonably foreseeable indirect physical change in the environment”; or (3) is not a project—and whether the project is exempt. (CEQA Guidelines, §§ 15060, subd. (c) & 15061.) If a project falls within an exemption or “it can be seen with certainty that the activity in question will not have a significant effect on the environment ([CEQA Guidelines], § 15060), no further agency evaluation is required.” (*No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 74.)

Second, if the project is non-exempt, subject to CEQA, and “there is a possibility that the project may have a significant effect,” then CEQA compliance is required and the analysis proceeds to the second tier, i.e. the requirement that the lead agency conduct an initial study. (See *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 74; see also CEQA Guidelines, §§ 15060 & 15063, subd. (a).)

Third, depending on the results of the initial study, the lead agency issues an EIR, a negative declaration, or another environmental review document authorized by the CEQA Guidelines. (CEQA Guidelines, § 15063, subd. (b); see also *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 74.) Specifically, “[i]f the agency determines that there is substantial evidence that any aspect of the project, either individually or cumulatively, may cause a significant effect on the environment . . . the lead agency shall” either: (a) prepare an EIR; (b) use an existing EIR; or (c) determine, pursuant to a program EIR, tiering, or another appropriate process, which of a project’s effects were adequately examined by an earlier EIR or negative declaration.” (CEQA Guidelines, § 15063, subd. (b)(1).)

CEQA challenges are reviewed under an abuse of discretion standard, asking whether the decision is not supported by substantial evidence or whether the agency has not proceeded in a

manner required by law. (See Pub. Res. Code, §§ 21168 & 21168.5.) “As a result of this standard, ‘The court does not pass upon the correctness of the EIR’s environmental conclusions, but only upon its sufficiency as an informative document.’ (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 189 [139 Cal.Rptr. 396].)” (*Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392 (“*Laurel Heights P*”).)

“Failure to comply with the information disclosure requirements constitutes a prejudicial abuse of discretion when the omission of relevant information has precluded informed decision making and informed public participation, regardless whether a different outcome would have resulted if the public agency had complied with the disclosure requirements. ([Citations].)” (*Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1198.) As noted by one court:

*“A court’s proper role in reviewing a challenged EIR is not to determine whether the EIR’s ultimate conclusions are correct but only whether they are supported by substantial evidence in the record and whether the EIR is sufficient as an information document. (Laurel Heights, supra, 47 Cal.3d at p. 407, 253 Cal.Rptr. 426, 764 P.2d 278.) Substantial evidence is defined as “enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached.” (CEQA Guidelines, § 15384, subd. (a); San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 722, 32 Cal.Rptr.2d 704 (Raptor).)”*

(*Association of Irrigated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1391.)

**Merits of this Case:**

The parties dispute whether the Project description complies with CEQA. “‘Project’ means an activity”—i.e. “the whole of an action”—“which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the

environment.” (Pub. Res. Code, § 21065, subd. (b); CEQA Guidelines § 15378, subd. (a).)

According to the CEQA Guidelines:

*“The description of the project shall contain the following information but should not supply extensive detail beyond that needed for evaluation and review of the environmental impact.*

*(a) The precise location and boundaries of the proposed project shall be shown on a detailed map, preferably topographic. The location of the project shall also appear on a regional map.*

*(b) A statement of the objectives sought by the proposed project. A clearly written statement of objectives will help the lead agency develop a reasonable range of alternatives to evaluate in the EIR and will aid the decision makers in preparing findings or a statement of overriding considerations, if necessary. The statement of objectives should include the underlying purpose of the project and may discuss the project benefits.*

*(c) A general description of the project's technical, economic, and environmental characteristics, considering the principal engineering proposals if any and supporting public service facilities.*

*(d) A statement briefly describing the intended uses of the EIR.*

*(1) This statement shall include, to the extent that the information is known to the lead agency,*

*(A) A list of the agencies that are expected to use the EIR in their decision-making, and*

*(B) A list of permits and other approvals required to implement the project.*

*(C) A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies. To the fullest extent possible, the lead agency should integrate CEQA review with these related environmental review and consultation requirements.*

*(2) If a public agency must make more than one decision on a project, all its decisions subject to CEQA should be listed, preferably in the order in which they will occur. On request, the Office of Planning and Research will provide assistance in identifying state permits for a project.”*

(CEQA Guidelines, § 15124.)

*“The EIR is the heart of the environmental control process. (County of Inyo v. Yorty, supra, 32 Cal.App.3d at p. 810.) CEQA describes the report's purpose - to provide the public and governmental decision-makers (here, the board of water and power commissioners) with detailed information of the project's likely effect on the environment; to describe ways of minimizing significant effects; to point out alternatives to the project. (§§ 21002.1, 21061, 21100; Friends of Mammoth v. Board of Supervisors (1972) 8 Cal.3d 247, 263 [104 Cal.Rptr. 761, 502 P.2d 1049].) The EIR process facilitates CEQA's policy of supplying citizen input. (See People v. County of Kern (1974) 39 Cal.App.3d 830, 841 [115 Cal.Rptr. 67].) By depicting the project's unavoidable effects, mitigation measures and alternatives, the report furnishes the decision-maker information enabling it to balance the project's benefit against environmental cost. (See § 21100; Environmental Defense Fund, Inc. v. Coastside County Water Dist., supra, 27 Cal.App.3d at p. 705.) The report should function as an environmental “alarm bell.” (County of Inyo v. Yorty, supra, 32 Cal.App.3d at p. 810.)*

*CEQA defines “project” only by the synonymous term “activity.” (§ 21065; cf. Friends of Mammoth v. Board of Supervisors, supra, 8 Cal.3d at pp. 260-262.) In most cases the scope and character of the proposed activity will be clear; when they are not, they can be discerned only in the light of CEQA's policy to “ensure that the long-term protection of the environment shall be the guiding criterion in public decisions.” (§ 21001, subd. (d).) The CEQA Guidelines flesh out the “project” concept by referring to it as “the whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately. ...” (Cal.Admin.Code, tit. 14, § 15037, subd. (a).) Commenting on the comparable provisions of the National Environmental Policy Act, the federal Supreme Court has pointed out that an accurate description of the project is necessary in order to decide what kind of environmental impact statement need be prepared. (Aberdeen & Rockfish R. Co. v. SCRAP (1975) 422 U.S. 289, 322 [45 L.Ed.2d 191, 216, 95 S.Ct. 2336]; see also Swain v. Brinegar (7th Cir. 1976) 542 F.2d 364, 369.)*

*A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the “no project” alternative) and weigh other alternatives in the balance. **An accurate, stable and finite project description is***

*the sine qua non of an informative and legally sufficient EIR.*”

(*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192–193, bold added; see also *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 533 [holding that the EIR requires an “accurate, stable and finite project description,” and that the EIR’s role is to ensure the lead agency and public have enough information to ascertain the project’s significant effects, assess ways of mitigating them, and consider project alternatives].)

“Since “[a]n accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR” (*id.* at p. 193), even were the FEIR deemed to be adequate in all other respects, the selection and use of a “truncated project concept” violated CEQA and mandates the conclusion that the County did not proceed “ ‘in a manner required by law.’ ” (*Id.* at p. 200; *City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1454–1455 [263 Cal.Rptr. 340].) [Fn. Omitted.]” (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 730, as modified (Sept. 12, 1994).)

*“We reiterate - an accurate, stable and finite project description is the sine qua non of an informative and legally sufficient EIR. The defined project and not some different project must be the EIR's bona fide subject. The CEQA reporting process is not designed to freeze the ultimate proposal in the precise mold of the initial project; indeed, new and unforeseen insights may emerge during investigation, evoking revision of the original proposal. (Bozung v. Local Agency Formation Com. (1975) 13 Cal.3d 263, 284-285 [118 Cal.Rptr. 249, 529 P.2d 1017].) Here, in contrast, the interrelated character of the proposals was known in advance. Here, the selection of a narrow project as the launching pad for a vastly wider proposal frustrated CEQA's public information aims. The department's calculated selection of its truncated project concept was not an abstract violation of CEQA. In formulating the EIR, the department of water and power did not proceed “in a manner required by law.” (§ 21168.5.)”*

(*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 199–200.)

KWBA argues that the FEIR contains the four elements required by CEQA Guidelines section 15124, and notes that Petitioner does not argue that any of those elements are missing. KWBA further argues that the FEIR’s Project description provides more than sufficient detail to

allow the public agencies and the public the opportunity to evaluate the possible environmental impacts of the Project.” (AB, p. 16:26-28.) KWBA’s argument misses the mark, as it ignores the fact that Petitioner’s three specific challenges are directed at the general description of the Project, per CEQA Guidelines section 15124(c). As made clear by the authorities set forth above, an accurate, stable, and finite project description is the *sine qua non* of an informative and legally sufficient EIR. (E.g., *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.)

Petitioner raises the following challenges to the description of the Project: (1) the description of the Project water is inconsistent, causing uncertainty; (2) the description of existing Kern River water rights is insufficient; and (3) the description of recovery operations is insufficient. Each challenge is discussed separately below.

#### **Description of Project Water**

An inaccurate or inconsistent project description constitutes a prejudicial abuse of discretion (meaning prejudice is presumed) because it precludes meaningful evaluation of the environmental consequences of a proposed project by the public and by decision-makers. (*Sierra Club v. State Bd. of Forestry* (1994) 7 Cal.4th 1215, 1236–1237.) Petitioner argues that there are at least 5 different, inconsistent definitions/description of the water that is the primary component of the Project. Petitioner asserts that the description of such a vital element of the Project must be consistent and accurate. (CEQA Guidelines, § 15124.) The FEIR’s description of Project water is anything but consistent or accurate. Given the varying descriptions of water, it is impossible for the decision-makers and public to have a meaningful discussion regarding the potentially significant impacts of the Project. Such failure by omission renders the FEIR deficient. (See *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713.)

Petitioner's argument is well-taken. As explained below, the FEIR contains at least 4 inconsistent definitions of the Project water:

- (1) FEIR first defines the water as "high flow Kern River water, only available in certain hydrologic conditions and after the rights of senior Kern River water right holders have been met that otherwise would have (1) been diverted to the Intertie, (2) flooded farmlands, or (3) left Kern County." (AR 871.) "Flooded farmlands" is not defined. The FEIR also fails to define water that "left Kern County." The failure to define these critical components of the Project prevents meaningful analysis of any potential impacts.
- (2) The second definition is water that would "trigger mandatory release conditions for flood control, cause downstream flooding, and/or operate the intertie." (AR 722.) This definition does not correspond with the first definition, especially since it for the first time refers to a trigger of mandatory release for flood conditions while omitting any reference to water leaving Kern County or flooded farmlands. Furthermore, the FEIR is not consistent in defining "flood flows." Respondent's WAA indicates that the Lower Kern River water right is historically defined as "flood flows" (AR 506 [WAA attached to DEIR]), but this is not included in the definition in the FEIR.
- (3) FEIR's third definition of Project water seems to indicate that the Project only seeks water that was historically offered to the Intertie. (AR 265 [DEIR].) The FEIR's hydrology discussion relies on a WAA which objective "was to determine if flood water is available for appropriation. The WAA found that the historical record demonstrates that these surplus flows are available; deliveries of surplus water to the Intertie have occurred in 9 years since 1978" (AR 265.) As Petitioner correctly notes, this definition is much more restrictive than the two mentioned above.
- (4) The last definition is water that Respondent has historically received, stating: "KWBA's application, for example, seeks an entitlement to divert unappropriated high flow Kern River water after existing Kern River water rights are met . . . and only when such water is present. The KWB previously diverted this same water for recharge purposes." (AR 825 and see AR111, fn. 1.) This definition is inconsistent with the definitions set forth above, and as Petitioner persuasively asserts, it is particularly confusing because as stated in the FEIR, Respondent purchases and banks Kern River water. (AR 875.) It is unclear whether historical purchases included in this definition. If so, this could have substantial negative impacts on current holders of the water rights. Further, the FEIR states that KWBA's historical maximum annual diversions of Kern River water is 155,948 AFY for purchase and 80,735 AFY for "floodwater." (AR 141.) This amount is significantly less than the 500,000 AFY the Project is purporting to utilize.

By using these varying definitions of Project water, KWBA has failed to provide an accurate, stable, and finite Project description, which is the *sine qua non* of an informative and

legally sufficient EIR. (See, e.g., *County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 193.) In the answer brief, with respect to the description of the water, KWBA asserts that the EIR's executive summary and introduction chapters describe in detail the existing Kern River water rights and sources of water on the system and for the Project. (AR 96-99, 111-115.)

KWBA also argues that "the description and analysis of water available or the Project includes water that KWBA has physically diverted and stored under baseline conditions, as well as water that has been released to the Intertie (AR 96, 99, 114.)"

As Petitioner notes in their Reply, the DEIR pages cited by KWBA do not contain an accurate, stable, and finite Project description. Rather, these pages contain vague and inconsistent references to the Project water, which is precisely what Petitioner complains about. For example, under the heading "Purpose and Scope of the EIR," KWBA generally refers to "diverting up to 500,000 AFY of Kern River floodwater in certain high water years when excess flood waters are available for recharge and storage . . ." (AR 97.) However, under the heading "Description of the Project," KWBA inconsistently refers to both floodwaters and water in general, and refers to the water diversion proposed in Application 31676. (AR 98-99.) Adding yet another inconsistency, in a footnote under the "Project Overview" heading, KWBA indicates that the KWB has stored unused Kern River water for the beneficial use of its members—which suggests that there is no "floodwater" at all—and asserts that "the project would result in a State Water Board permit for the continuance of pre-existing activity through use of existing facilities in contrast to an entirely new activity." (AR 111, fn. 1.) The other pages cited by KWBA simply do not contain any description of the Project water.

KWBA further argues that "[t]he EIR and its appended Water Availability Analysis provide further detail and analysis as to the water the Project intends to rely on by way of an

application for a new water right. (AR 226, 233, 495-531.)” The two specific pages cited in the DEIR—AR 226 and 233—do not contain any description of Project water. Rather, those pages merely describe surface water in the area. (AR 226, 233.) The general citation to the entirety of the WAA (AR 495-527) and Operating Guidelines During Shallow Groundwater Conditions (AR 528-531) appended to the DEIR do not offer any clarity as to the definition of Project water. KWBA points to the fact that the WAA will be used by the Water Board in considering whether there is unappropriated water to issue a new permit, to the fact that it describes Kern River pre-1914 water rights, describes diversion points under the 1888 Miller-Haggin Agreement and amendments, summarizes first point measurements from 1978-2011, and summarizes flows at the second point, which reflects Petitioner’s historic diversions as well as diversions to the Intertie. (Citing AR 221, 501-509, 513-514.) None of these references sets forth an accurate, stable, and finite definition of the Project water. KWBA has not, in the opposition, cited to any singular, consistent definition of the Project water.

Petitioner argues that KWBA’s reliance on the WAA is improper because it is attached as an appendix to the FEIR, does not contain a clear and accurate description, and the body of the FEIR does not contain a summary of WAA’s technical data in plain language as per CEQA Guidelines sections 15140 and 15147. “EIRs shall be written in plain language and may use appropriate graphics so that decisionmakers and the public can rapidly understand the documents.” (CEQA Guidelines, § 15140.) As noted by the CEQA Guidelines:

*“The information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting*

*information and analyses as appendices to the main body of the EIR. Appendices to the EIR may be prepared in volumes separate from the basic EIR document, but shall be readily available for public examination and shall be submitted to all clearinghouses which assist in public review.”*

(CEQA Guidelines, § 15147.)

Information “‘scattered here and there in EIR appendices’ or a report ‘buried in an appendix’ is not a substitute for a ‘good faith reasoned analysis in response.’ ([Citation].)” (*California Oak Foundation v. City of Santa Clarita* (2005) 133 Cal.App.4th 1219, 1239.) As explained above, the WAA does not contain a clear and accurate description of the Project water. Moreover, Petitioner is correct that if the WAA did contain the description, then it would technically be improper because CEQA would require such a description to be set forth in the body of the FEIR in plain language. For this additional reason, the inconsistent and unstable definitions of Project water in the WAA are insufficient.

Additionally, KWBA contends that, “[a]lthough the Water Board has yet to determine precisely how much water is available for appropriation, it and the reviewing trial and appellate courts have all confirmed that water entering the Intertie is in excess of the needs of the districts claiming water rights on the Kern River. (AR 1889-1890, 1784-1796; AR-SUPP 43-44 [ . . . ].)” The fact that the Water Board has not made such a determination, and the fact that water entering the Intertie is in excess of the needs of the districts, is immaterial to the question of whether the FEIR contains an accurate, stable, and finite definition of Project water. KWBA concludes by insisting that the “EIR’s description of the sources of water and water rights on the Kern River system, combined with the more detailed descriptions in the [WAA] and Water Board decisions, provides more than sufficient detail with which to analyze the impacts of the Project.” To the contrary, KWBA still cannot point to an accurate, stable, and finite definition of the Project

water.

Next, Petitioner argues that Respondent's fallback position that the water utilized by the Project will be the water granted by the State Board pursuant to Respondent's Application 31676 is self-defeating. It is true that, in the FEIR, KWBA asserts that "because the project proposes to obtain a State Water Board permit for diversion of unappropriated high flow water from the Kern River and would not take or otherwise affect the entitlements of other water right holders, a detailed description of existing water rights held by KWBA members or other entities is not relevant or necessary to the CEQA analysis of this project." (AR724.) This FEIR was drafted to review environmental impacts associated with the State Board granting Respondent a permit for Kern River water. (AR111, 113, & 116.) As Petitioner correctly notes, to essentially define Project water as "whatever water the State Board gives me" completely fails to inform the public and the State Board of the potential impacts of the Project. Moreover, this Project description effectively defers to a later regulatory process because it relies on the State Board determining what water is actually unappropriated; CEQA does not allow the analysis of a project's effects to be deferred to a later process. (See *Vineyard Area Citizens for Responsible Growth v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 440, 447.) Petitioner persuasively argue that KWBA's reliance on the State Board's ultimate decision on how much unappropriated water would actually be available therefore is an improper deferral of the Project description and of the analysis that CEQA requires.

Finally, Petitioner contends that these inconsistencies are further exacerbated by KWBA's recent filings with the State Board—i.e. the Water Board Complaint and cover letter, submitted with the requests for judicial notice—which make clear that the Project seeks to severely limit Kern River water rights of existing rights holders. This argument lacks merit because it is

predicated on extra-record evidence that cannot be considered in this CEQA review, for the reasons set forth above in analyzing the requests for judicial notice. That being said, if this CEQA petition for writ of mandate is granted and KWBA is required to comply with CEQA in issuing a new EIR, then the Water Board Complaint and cover letter will be part of any administrative record pertaining to that new EIR. In sum, Petitioner has shown that the Project description is inadequate because it is inaccurate, unstable, and indefinite.

### **Description of Existing Kern River Water Rights**

Petitioner asserts that the FEIR fails to completely and accurately describe existing Kern River water rights; specifically, the FEIR's description of existing water rights is "incomplete and confusing." According to Petitioner, without accurate information regarding the status and extent of current water rights, it is impossible to determine how the Project will impact existing Kern River water rights or water right holders, like Petitioner. Petitioner cites *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 726 and *Citizens To Preserve the Ojai v. County of Ventura* (1985) 176 Cal.App.3d 421, 430 for the proposition that courts have held that CEQA clearly requires the lead agency to use its best efforts to find out and disclose all that it reasonably can. *Citizens To Preserve The Ojai* contains no such holding; however, *San Joaquin Raptor* supports Petitioner's position:

"State CEQA Guidelines section 15144 provides: "[d]rafting an EIR or preparing a negative declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to *find out* and disclose all that it reasonably can." (Italics added.) CEQA Guidelines section 15145 states: "If, *after thorough investigation*, a lead agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact." (Italics added.)"

(*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 726, as modified (Sept. 12, 1994).)

Petitioner notes that in response to the deficiency, the FEIR points to Section 3.2 of the WAA, Appendix L to the DEIR, but that merely summarizes the allocations under the various agreements that make up the Law of the River. (AR 505-507.) Petitioner further notes that Table 4 in the WAA (AR 507) *approximates* allocations to the Second Point based on natural flow at the First Point in certain water year types, and the FEIR states that Petitioner is entitled to “essentially all of the Second Point Rights” (AR 508), but nowhere does the EIR actually quantify the amount that water right holders like Petitioner are entitled to. Petitioner is correct that these summaries and approximations fail to actually quantify the amount of water that right holders such as Petitioner are entitled to. This incomplete data suggests that KWBA failed to investigate and disclose all that it reasonably could.

Petitioner further argues that the FEIR is deficient because its analysis “assumes that any water entering the Intertie in a certain water year is not subject to a water right. [AR 515].” Petitioner asserts that KWBA repeats the circular statement that since the Project propose to obtain a Water Board permit for diversion of unappropriated high flow water and would not take or affect entitlements of other water right holders, a detailed description of existing water rights held by KWBA members or other entities is not relevant or necessary to the CEQA analysis. (Citing AR 724.) Petitioner believes this statement is meaningless if not accompanied by sufficient information to understand how Respondent is defining those rights for purposes of determining the Project’s impacts; the FEIR is intended to analyze the impacts of this change in the place and purpose of use of Kern River water for the State Board. Petitioner asserts that simply saying there will be no impacts on water rights, and thus a discussion of those rights is not necessary, does not provide an accurate view of the Project to allow affected parties and public decision-makers the opportunity to balance the proposal’s benefit against its

environmental cost, considering mitigating measures, assess the advantage of terminating the proposal, or weigh other alternatives in the balance. (Citing *County of Inyo*, 71 Cal.App.3d, at pp. 192-93.)

Petitioner's argument is persuasive. "A curtailed or distorted project description may stultify the objectives of the reporting process. Only through an accurate view of the project may affected outsiders and public decision-makers balance the proposal's benefit against its environmental cost, consider mitigation measures, assess the advantage of terminating the proposal (i.e., the "no project" alternative) and weigh other alternatives in the balance. An accurate, stable and finite project description is the *sine qua non* of an informative and legally sufficient EIR." (*County of Inyo v. City of Los Angeles* (1977) 71 Cal.App.3d 185, 192-193.) KWBA has created a distorted Project description by generally asserting that Project water is water that is unappropriated, while failing to fully, completely, and accurately describe the existing water rights in question. (AR 724.) KWBA insists that it need not describe the existing water rights because the Project will not affect those rights, given that the Project only seeks to divert unappropriated water (AR 724); however, this argument is illogical. Since the FEIR does not contain any consistent definition of the Project water other than the vague assertion that Project water is unappropriated water, it is critical that the FEIR define what exactly "unappropriated" water means. To do so, the description must contain a detailed analysis of existing Kern River water rights, i.e. it must fully, completely, and accurately define the appropriated water, so that the decision-makers and the public can ascertain what water is unappropriated and thus would be available for the Project.

KWBA argues that the EIR's executive summary and introduction chapters describe in detail the existing Kern River water rights and sources of water on the system and for the Project.

(Citing AR 96-99, 111-115.) As explained above, this argument lacks merit because the cited pages contain vague and inconsistent references to the Project water, which is precisely what Petitioner complains about. Likewise, with respect to existing water rights, these pages merely provide vague summaries of existing water rights and usage—which Petitioner accurately describes as “glossing over”—without providing any specific details about existing water rights and usage, and how such water rights and usage affects the unappropriated water that KWBA seeks to divert for the Project. Simply put, these pages do not provide sufficient information about existing water rights.

In summary, Petitioner has shown that a full, complete, and accurate description of existing Kern River water rights is essential to form an accurate, stable, and finite description of the Project, and KWBA fails to set forth such a description of existing water rights.

#### **Description of Recovery Operations**

The entire project being proposed for approval (and not some smaller aspect of it) must be described in the EIR; a complete project description is necessary to ensure that all of the project’s environmental impacts are considered. (Kosta & Zischke, *Practice Under the Cal. Environmental Quality Act* (Cont.Ed.Bar 2019) § 12.8, citing CEQA Guidelines, § 15378 [defining “project” as “the whole of the activity”], *Habitat & Watershed Caretakers v City of Santa Cruz* (2013) 213 Cal.App.4th 1277, 1297, *Banning Ranch Conservancy v City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1220, and *City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1450.) This requirement is best illustrated in the cases summarized in the CEB literature, including the cases discussed below.

In *City of Santee v. County of San Diego*, the court concluded that the EIR was “fatally flawed due to its inaccurate project description and the omission of an adequate analysis of

future uses of the ‘temporary project,’ which in turn will taint the adequacy of the discussion of project alternatives under CEQA . . . .” (*City of Santee v. County of San Diego* (1989) 214 Cal.App.3d 1438, 1447.) Specifically, the EIR for county detention facilities understated the likely duration of temporary detention facilities, thus minimizing traffic and other impacts. (*Ibid.*) In *County of Inyo v. City of Los Angeles* (1981) 124 Cal.App.3d 1, 7, a revised EIR for a water export plan that failed to describe or analyze surface water impacts was found to be insufficient. (*County of Inyo v. City of Los Angeles* (1981) 124 Cal.App.3d 1, 7.)

In *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, the court held that the project description was inadequate because it omitted a description of the sewer expansion (sewer lines and wastewater treatment plant expansion), which was a necessary component of the residential/commercial/park development project. (*San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 729-35.) The court relied on CEQA Guidelines section 15378(a), which defines “project” as “the whole of an action, which has the potential for resulting in a physical change in the environment, directly or ultimately.” Since the sewer expansion had been proposed to serve the housing project, and the housing project could not proceed without the expansion of sewer service, the court concluded that the expansion was an integral component of the housing project. The court came to this conclusion even though the community services district, not the county, was the agency with jurisdiction over the treatment plant expansion and had prepared its own EIR for that project.

Turning to the facts of this case, in essence, it is Petitioner’s position that the Project fails to fully and accurately describe existing and future recovery operations (also referred to as

groundwater recharging<sup>1</sup>) for the Project. Although not fully explained in the parties' papers, given that the Project proposes to divert up to 500,000 AFY of Kern River water annually into KWBA's banking operation (the KWB) to be recovered (i.e. pumped out or otherwise taken to be used) by KWBA's members during dry years, it necessarily follows that the Project must include some analysis of the KWB's recovery operations, referring to its ability to store and subsequently pump out the Project water. The FEIR generally addresses recovery operations, but Petitioner believes the discussion is insufficient. Specifically, Petitioner argues:

*"FEIR's description and analysis of the Project's recovery of banked water is woefully lacking. The DEIR provides two meaningless paragraphs [AR129-130]; the FEIR doesn't provide much more [AR 724-725]. No details whatsoever are provided. Rather, FEIR justifies its failure to described proposed recovery operations on the claim that maximum annual recovery rates are not expected to increase in a given year. [AR 724.] Yet it is acknowledged that the Project "would allow Respondent and its members to continue to operate in the later years of a multi-year drought." [AR 724-725.] The FEIR is supposed to be a "standalone EIR" [AR 113], yet the specifics of recovering substantial quantities of Project water are simply left out of the FEIR. Simple question such as (i) how much water will be recovered in one year; (ii) how many years of consistent recovery; (iii) when if ever will pumping be shut off due to groundwater levels; (iv) can Respondent's members recover this water in their boundaries remain a mystery. Concluding that there will be less than a significant impact cannot be done without a description of proposed groundwater pumping. As discussed further below, the facts do not support the claim that no impact will result. The FEIR's failure to adequately describe recovery operations in the Project's description leaves an incomplete picture of the Project and prevents Buena Vista, the public, and the interested public agencies from properly evaluating the Project, the environmental setting, and the associated environmental impacts, mitigation, and alternatives. This failure by omission renders the FEIR deficient. [See, e.g., San Joaquin Raptor, 27 Cal.App.4th 713.]"*

Respondent argues that Petitioner is "incorrect" that the EIR provides no details

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<sup>1</sup> "Recharging" refers to the collection of water, whereas "recovery" refers to the removal of water for use.

regarding the Project's recovery of banked water. According to KWBA, "the EIR exhaustively describes Project operations, including recovery operations. (AR 128-131, 724-726; see also AR 408.)" KWBA states that the EIR specifies that KWB was designed to bank surplus water in wet years for later recovery to provide a more stable, reliable, and sustainable source of water for its members in dry years. KWBA states that "[r]echarge operations at KWB facilities, including water sources, local conveyance facilities utilized, and historical recharge operations including losses are fully described and analyzed. (AR 127-129, 495-531, 380-400.)" KWBA further asserts that the "EIR further describes the reasons and timing for recovery of banked groundwater from the KWB. (AR 129-130, 724-726.)" KWBA states that the "protocol for recovery operations is part of the ongoing baseline operations, and such operations have been continued under the KWBA's Long Term Project Recovery Operations Plan, [KWB MOU], [Interim Plan], and [Joint Plan]. (AR 111-113, 129-130, 132-133, 380-406, 417-433.)" KWBA concludes by stating that the "Project does not propose to make any changes to overall recovery operations on an annual basis. (AR 724-726.)"

Contrary to KWBA's assertion, nothing in AR 127-128, 131-133, 380-406 (KWB MOU), 417-433 (Interim Plan & Joint Plan), 495-500 and 504-531 (WAA) addresses the recovery operations of the Project. The only reference to recovery operations in DEIR is the following:

*"Water stored within the KWB is recovered at the request of KWBA's member entities. Recovery operations are subject to the conditions specified in the KWB MOU (see Section 2.2.3.1.). Consistent with the KWBA MOU, and a similar MOU governing banking operations in the Rosedale-Rio Bravo Water Storage District (Rosedale), KWBA and Rosedale developed an Interim Project Recovery Operations Plan Regarding Kern Water Bank Authority (KWB) and Rosedale-Rio Bravo Water Storage District (Rosedale) Projects (Interim Plan) that designates measures to be employed to "prevent, eliminate or mitigate significant adverse impacts" resulting from cumulative recovery operations of KWBA and Rosedale projects subject to said MOUs (Appendix E). The Interim Plan was effective until*

*the 2014 Writ was discharged in October, 2017. Subsequently, as a responsible agency, KWBA approved the Long-Term Operations Plan (Appendix C), which constitutes a required part of KWB operations.*

*Subsequently, KWBA entered into a joint plan, Project Recovery Operations Plan Regarding Pioneer Project, Rosedale-Rio Bravo Water Storage District, and Kern Water Bank Authority Projects (Joint Plan) (Appendix F). The Joint Plan also considers cumulative impacts from additional banking projects on the Kern Fan, and designates mitigation measures similar to those contained in the Long-Term KWB Plan. The recovery operations plans all include a joint committee that regularly monitors potential groundwater level impacts of banking project recovery operations on neighboring agricultural and domestic wells based on groundwater modeling and specified triggers for potential mitigation actions, with significant impacts being avoided, eliminated, or mitigated by implementing one or more corrective actions, including investigation of any claims and pump lowering, well replacement, and/ or reduction or adjustment of banking project recovery operations, as appropriate. Water recovered by the KWB, including appropriated Kern River supplies, would continue to be subject to the MOU and all applicable recovery operations plans. This project is meant to increase reliability and long-term storage but does not propose to alter or otherwise increase annual recovery operations above historical levels.*

*From 1995 through 2016, approximately 1.5 MAF was pumped from the KWB. All of this water was recovered during portions of three dry periods which occurred from 2001 through 2004, 2007 through 2010, and 2012 through 2016.”*

(AR 129-130.)

Based on the above, the DEIR states that the Project “does not propose to alter or otherwise increase annual recovery operations about historical levels,” it only intends to increase the amount of water diverted for storage to increase reliability and long-term storage.

In responding to comments, the FEIR adds more information about recovery operations. (AR 724-726.) Even so, as Petitioner correctly states, the FEIR justifies its failure to describe proposed recovery operations on the claim that maximum annual recovery rates are not expected to increase in a given year. (AR 724.) Yet it is acknowledged that the Project “would allow

Respondent and its members to continue to operate in the later years of a multi-year drought.” (AR 724-725.) The responses to comments also assert that “[t]he environmental impacts associated with continued pumping in later years of a multi-year drought are captured throughout the EIR (e.g., air quality, hydrology, energy).” (AR 725.) Pages 4-6 of the WAA (AR 501-503) describe existing estimated water recharge capacities based on diversion figures, and include two tables setting forth the sources and estimated maximum capacities of the recharge operations (provided by KWBA) based on diversion figures. (AR 501-503.) In light of the foregoing, the Court finds that the description of recovery operations is sufficient under CEQA.

**Whether the FEIR Has an Adequate Description of the Environmental Setting (Baseline)**

*“An EIR must include a description of the physical environmental conditions in the vicinity of the project. This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant. The description of the environmental setting shall be no longer than is necessary to provide an understanding of the significant effects of the proposed project and its alternatives. The purpose of this requirement is to give the public and decision makers the most accurate and understandable picture practically possible of the project's likely near-term and long-term impacts.*

*(1) Generally, the lead agency should describe physical environmental conditions as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record.*

*(2) A lead agency may use projected future conditions (beyond the date of project operations) baseline as the sole baseline for analysis only if it demonstrates with*

*substantial evidence that use of existing conditions would be either misleading or without informative value to decision-makers and the public. Use of projected future conditions as the only baseline must be supported by reliable projections based on substantial evidence in the record.*

*(3) An existing conditions baseline shall not include hypothetical conditions, such as those that might be allowed, but have never actually occurred, under existing permits or plans, as the baseline.”*

(CEQA Guidelines, § 15125(a).)

*“Knowledge of the regional setting is critical to the assessment of environmental impacts. Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project. The EIR must demonstrate that the significant environmental impacts of the proposed project were adequately investigated and discussed and it must permit the significant effects of the project to be considered in the full environmental context.”*

(CEQA Guidelines, § 15125(c).)

KWBA correctly states that Petitioner does not object to the baseline period (1995-2011) employed in the FEIR to assess historical operations. Instead, Petitioner argues that the FEIR fails to sufficiently describe and analyze the following: (1) Petitioner’s existing KWB second priority right; (2) existing Kern River rights and uses; (3) current KWB operations; and (4) adjacent banking operations. According to Petitioner, without a complete description of these baseline conditions, it is impossible for Petitioner and the public to accurately evaluate potential impacts of the Project. Each issue is discussed separately below.

KWBA is correct that, before approval of the EIR, Petitioner never utilized any storage in the KWB. (AR 539 [FEIR responses to comments].) The FEIR’s responses to comments address the only entities who have utilized their storage rights. (AR 726.) KWBA persuasively argues that it has broad discretion in determining whether to use a historical baseline. (See *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310,

328.) KWBA is correct that it was appropriate for it to consider the fact that Petitioner has never used its second priority right to use KWB recharge facilities in establishing the baseline for the Project. Petitioner cites no legal authority that supports its claim that KWBA was obligated to consider Petitioner's contract-only right that had never been exercised in establishing the baseline. Petitioner's reliance on *Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316 is misplaced, as that case merely held that an agency properly considered a contractual water entitlement in establishing a baseline. (*Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316, 337-338.) Petitioner effectively seeks to expand that holding to include the opposite scenario, i.e. to conclude that it was improper for KWBA not to consider a contractual water entitlement in establishing a baseline. The decision in *Cherry Valley Pass Acres* does not contain such a holding, and this Court should decline to create such a new requirement in the CEQA baseline analysis.

Petitioner correctly notes that KWBA's argument dismisses the fact that the KWBA has allegedly denied Petitioner, and others, from utilizing the second priority right, to the extent they needed to initiate litigation. (AR 14913-14931 [litigation tolling agreement, dated September 2012, from the 2nd Priority Complaint litigation].) That litigation was commenced in 2010 (AR 14914), and is based on allegations of wrongdoing by KWBA during most of the historical baseline period (1995-2011).

The question remains, however, whether KWBA's allegedly wrongful conduct of preventing KWB second priority right holders from exercising their right to use KWB facilities during the baseline period (1995-2011), to the extent where Petitioner commenced litigation to enforce their rights, affects the baseline analysis. Neither Petitioner nor KWBA has submitted any legal argument or authority on this issue. That being said, independent research suggests that

Petitioner's argument lacks merit. Petitioner's strongest position would be to analogize KWBA's alleged prior wrongful conduct with illegal activity. Unfortunately for Petitioner, case law consistently holds that preparation of an EIR is not generally the appropriate forum for determining the nature and consequences of prior conduct of a project applicant, and environmental impacts should be examined in light of the environment as it exists when a project is approved, even if that environment includes illegal activity. (See *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428, 1452-53 [holding that because the prior illegality was subject to enforcement actions and the enforcing agency participated in the CEQA process, CEQA did not require any further accounting for prior activity at or within the vicinity of the project]; see also *Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1280-82 [summarizing the relevant portions of *Riverwatch* and holding that the inclusion of an illegally constructed airport in the CEQA baseline was proper, given that it had been subject of enforcement actions]; see also *Eureka Citizens for Responsible Government v. City of Eureka* (2007) 147 Cal.App.4th 357, 370-71 [summarizing *Riverwatch* and holding that while code violations *may* have been relevant to the city's consideration of the variance requested, it was not a CEQA consideration].) Here, as in *Riverwatch*, *Fat*, and *Eureka Citizens for Responsible Government*, there was an enforcement action concerning the alleged illegality—i.e. the 2nd Priority Complaint Litigation—and Petitioner both sought enforcement against the alleged illegality and participated in the CEQA process. Simply put, even though KWBA allegedly denied Petitioner and others from utilizing their second priority right to the extent they needed to initiate litigation, that wrongful conduct by KWBA does not affect the baseline analysis. It was proper for KWBA to assume that Petitioner will not use its second priority right to KWB facilities in establishing the historical baseline.

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## Existing Kern River Rights

*"[T]he ultimate decision of whether to approve a project, be that decision right or wrong, is a nullity if based upon an EIR that does not provide the decision-makers, and the public, with the information about the project that is required by CEQA." (Santiago County Water Dist. v. County of Orange (1981) 118 Cal.App.3d 818, 829 [173 Cal.Rptr. 602].) The error is prejudicial "if the failure to include relevant information precludes informed decisionmaking and informed public participation, thereby thwarting the statutory goals of the EIR process." (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 712 [270 Cal.Rptr. 650].)*

*"[T]he substantial evidence test applies to the court's review of the agency's factual determinations." (2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 1993) § 23.34, p. 949 (hereafter Practice Under CEQA).) Substantial evidence means "enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached." (State CEQA Guidelines, § 15384, subd. (a); see also Laurel Heights, supra, 47 Cal.3d at p. 393.) "In applying the substantial evidence standard, 'the reviewing court must resolve reasonable doubts in favor of the administrative finding and decision.'" (47 Cal.3d at p. 393.)"*

*(San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 721-722.)*

In relevant part, State CEQA Guidelines section 15125 provides as follows:

*"An EIR must include a description of the environment in the vicinity of the project, as it exists before the commencement of the project, from both a local and regional perspective. The description shall be no longer than is necessary to an understanding of the significant effects of the proposed project and its alternatives.*

*"(a) Knowledge of the regional setting is critical to the assessment of environmental impacts. Special emphasis should be placed on environmental resources that are rare or unique to that region and would be affected by the project." The Guide to CEQA explains the significance of adequate consideration of the existing environmental setting: "Because the concept of a significant effect on the environment focuses on changes in the environment, this section requires an EIR to describe the environmental setting of the project so that the changes can be seen in context. The description of the pre-existing environment also helps reviewers to check the Lead Agency's identification of significant effects." (Guide*

to CEQA, *supra*, p. 579.)

*“We must interpret the Guidelines to afford the fullest possible protection to the environment.” (Kings County Farm Bureau v. City of Hanford, supra, 221 Cal.App.3d at p. 720.)*

*(San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus (1994) 27 Cal.App.4th 713, 722–723.)*

In *San Joaquin Raptor*, an EIR’s description of the environmental setting was found to be fatally flawed. The court found that the EIR for a large residential development project did not disclose the specific location and extent of riparian habitat adjacent to the property, inadequately investigated the possibility of wetlands on the site, understated the significance of the project’s location adjacent to the San Joaquin River, and failed to discuss a nearby wetland wildlife preserve. The court held that the description of the environmental setting was inadequate as a matter of law. The deficiency in the description of the environmental setting tainted the impact analysis and mitigation findings, rendering them legally inadequate as well.

Similarly, in *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.* (1997) 60 Cal.App.4th 1109, 1122, the court found that a generalized reference to adjacent vineyards affected by a project was an inadequate description of the environmental setting.

In light of the foregoing authorities, a detailed description of the environmental setting is proper, and that detailed description should include quantified measurements of water used by existing Kern River water rights holders, as well as quantified measurements of the water those rights holders have the right to divert from the Kern River. This is because the record shows that, until 2010, all Kern River water was deemed appropriated (AR Supp. 79; AR 114, 499); only recently was it determined that there was unappropriated water. (AR Supp. 1-47 [court decision]; AR 1797-1803 [State Water Board order].) In determining that there is some unappropriated

water, during some years, neither the State Water Board nor the court defined how much appropriated water exists. (*Ibid.*) Notably, the WAA indicates that “should the State Water Board determine that other water is available for appropriation; the KWBA reserves the right to make a claim for that water.” (AR 49, fn. 2.) The express purpose of this Project is to support KWBA’s application to the State Water Board in which it is making a claim for water by asking for a diversion of up to 500,000 AFA of unappropriated water. (E.g., AR 724.) Since the record shows that there is no definition of the unappropriated water at issue, a definition of the unappropriated water requires an explanation of all existing rights holders’ rights. It follows that a more detailed discussion of those rights to divert and actual diversions—including quantifications of actual historical diversions and existing right holders’ rights to divert Kern River water—is necessary to understand what water KWBA is seeking to obtain.

KWBA refers to the WAA and asserts that the EIR exhaustively describes existing Kern River water rights, including the appropriation and delivery process. (Citing AR 495-531.) It is true, as KWBA notes, that the WAA considers Kern River Pre-1914 Water Right Allocations, and describes the means by which water is allocated to rights holders, outlines pre-1914 water right holders and diversions as outlined in the 1888 Miller-Haggin Agreement, and discusses approximate annual allocations to the first point, second point, lower river users, and Intertie deliveries from 1978 to 2011. (AR 505-507.) KWBA is also correct that Table 7 of the WAA summarizes flows at the second point, which reflect Petitioner’s historic diversions and diversions to the Intertie. (AR 513-514.) Further, KWBA correctly states that the setting and baseline discussion identifies and quantifies the amount of water that actually was diverted when water has been available for diversion. (AR 141-142, 226-237, 245-249, 251-253.) Even so, KWBA cannot cite to any quantification of existing water rights in the DEIR, FEIR, or WAA,

which is the omission that is the subject of Petitioner's objection.

KWBA basically asserts that Petitioner cannot object to the omission of a quantification of the competing water rights on the system because Petitioner "fails to substantiate or quantify those rights itself." KWBA cites *Lucas Valley Homeowners Assn. v. County of Marin* (1991) 233 Cal.App.3d 130, 163 for the proposition that "[s]uch conclusory and speculative statements cannot contradict the substantial evidence contained in the EIR and appended [WAA]." As Petitioner persuasively argues in the reply, this case does not support shifting the burden to Petitioner to quantify the water rights. In any event, since Petitioner has raised specific concern about the omission of a quantification of competing water rights, this case is inapposite.

KWBA further argues that Petitioner's claim that the Project will impact senior water rights is incorrect as a matter of law. According to KWBA, its application seeks only water that is surplus, unappropriated water, which, by definition, cannot infringe on valid senior water rights. (Citing AR 119-120, 133.) It is true that the Water Board cannot issue a new permit for the diversion of water that is subject to senior water rights and beneficial uses. (Water Code, §§ 1201, 1202, 1375.) It is also true that KWBA's application seeks to divert up to 500,000 AFY of unappropriated water. (AR 119-120.) However, KWBA's argument ignores the fact that it fails to define this unappropriated water, by virtue of its failure to define all appropriated water, i.e. a quantification of all existing competing water rights.

KWBA concludes by asserting that Petitioner conflates CEQA's requirement that *physical* impacts be analyzed with the separate issue of determining the nature and extent of Petitioner's Kern River water rights, which lies solely in the jurisdiction of the Water Board. KWBA insists that by analyzing only historical uses of the water, it has fulfilled its CEQA duties. While it is true that any changes to *future* Kern River water rights must be decided by the

Water Board, this does not change the fact that the *existing* water rights must be fully explained and quantified in the baseline analysis.

In sum, KWBA's arguments lack merit, and Petitioner has shown that the baseline analysis is inadequate because it fails to include a full and complete analysis—including quantification—of competing existing rights to Kern River water.

### **Description of KWB Operations**

Petitioner argues that the description of KWB operations and impacts relies heavily on past environmental review, even though the FEIR claims to be a standalone EIR (i.e. no tiering). Petitioner complains that the FEIR does not provide information regarding groundwater levels, well depths, rates of percolation or extraction, current trends regarding extraction, or migration or loss of water stored by KWBA; the FEIR fails to provide any information on losses, migration, or other issues that might impact groundwater conditions, the quantity of water extracted, or any other details regarding pumping and groundwater conditions. Petitioner also asserts that the FEIR claims evapotranspiration losses of 6% based on an MOU included in a prior CEQA document, but there is nothing in the AR to show that this calculation is accurate, and the evidence (e.g., 2-ft. depth of recharge ponds, hot summer conditions) indicates that it is not. Petitioner asserts that, at the very least, the FEIR should have addressed evapotranspiration in the KWB ponds as well as migration of the water over time.

KWBA is correct that the record includes a detailed discussion and analysis of Project operations, water diversions, river water, and groundwater regulations (AR 736-744), and KWBA is not proposing to alter annual recovery operations (AR 724-725). To the extent Petitioner challenges the 6% rate of evapotranspiration, KWBA's answer brief contends that Petitioner did not exhaust administrative remedies as to this issue because Petitioner did not raise

this express objection during the administrative process. It is true that an action cannot be brought if the alleged grounds for noncompliance were not presented to the agency orally or in writing before the issuance of the notice of determination. (Pub. Res. Code, § 21177.) The exact issue must have been presented to the agency; the petitioner bears the burden of demonstrating that the issues were first raised on the administrative level. (*Cleveland National Forest Foundation v. San Diego Assn. of Governments* (2017) 17 Cal.App.5th 413, 446, quoting *Citizens for Responsible Equitable Environmental Development v. City of San Diego* (2011) 196 Cal.App.4th 515, 527.) In the reply, Petitioner does not acknowledge this exhaustion argument, or otherwise attempt to point out where in the administrative record it exhausted administrative remedies as to the evapotranspiration issue. Thus, the Court concludes that Petitioner has failed to meet its burden to exhaust administrative remedies as to the evapotranspiration issue. Therefore, this issue has been waived. In conclusion, the FEIR's description of KWB operations is adequate under CEQA.

### **Description of Adjacent Banking Operations**

The KWB is surrounded by adjacent banking operations. (E.g., AR 246 [map].) Petitioner generally argues that the FEIR does not contain an adequate description of these adjacent banking operations, and merely “gloss[es] over” them. However, as KWBA correctly notes in the answer brief, the EIR does contain a general description of these adjacent banking facilities. (AR 244-246, 129-130, 261-262.) KWBA persuasively argues that Petitioner fails to identify any specific shortcoming in the description. Petitioner further argues that the deficient description of adjacent banking operations is highlighted by the fact that after the recent drought, KWBA was forced to enter into the Joint Plan (AR 426-433) with adjacent banking operations to monitor the cumulative impacts of the water banks. In the answer brief, KWBA describes this Joint Plan

argument as a red herring. KWBA's assertion is well-taken. The fact that KWBA entered into the Joint Plan with adjacent banking operations to monitor cumulative impacts of the water banks does not suggest that the description of the adjacent banking operations in the baseline analysis is somehow deficient. This Project is meant to increase reliability and long-term storage, but does not propose to alter or otherwise increase annual recovery operations above historical levels. (AR 130.) Therefore, Petitioner's argument lacks merit.

In sum, the description of KWB operations is sufficient, the FEIR's description of adjacent banking operations is sufficient, and it was proper for KWBA to assume that Petitioner will not use its second priority right to KWB facilities in establishing the historical baseline. However, the baseline analysis is inadequate because it fails to include a full and complete analysis—including quantification—of competing existing rights to Kern River water. For that reason, the baseline analysis is not supported by substantial evidence.

#### **Whether the FEIR Has an Adequate Evaluation of Project Impacts**

*'An environmental impact report is an informational document which, when its preparation is required by this division, shall be considered by every public agency prior to its approval or disapproval of a project. The purpose of an environmental impact report is to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.'*

(Pub. Resources Code, § 21061.)

*"(a) All lead agencies shall prepare, or cause to be prepared by contract, and certify the completion of, an environmental impact report on any project which they propose to carry out or approve that may have a significant effect on the environment. Whenever feasible, a standard format shall be used for environmental impact reports.*

*(b) The environmental impact report shall include a detailed statement setting forth*

*all of the following:*

*(1) All significant effects on the environment of the proposed project.”*

(Pub. Resources Code, § 21100(a)-(b)(1).)

“‘Environment’ means the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance.” (Pub. Resources Code, § 21060.5.) “All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation.” (CEQA Guidelines, § 15126.) Significant environmental impacts “shall be discussed as directed in Sections 15126.2” or, if not discussed separately, the EIR shall include a table showing where each subject is discussed, including: significant environmental effects of the proposed project, the significant environmental effects that cannot be avoided if the proposed project is implemented, the significant irreversible environmental changes which would be involved in the proposed project should it be implemented, and the growth-inducing impact of the proposed project. (*Ibid.*)

*“The Significant Environmental Effects of the Proposed Project. An EIR shall identify and focus on the significant effects of the proposed project on the environment. In assessing the impact of a proposed project on the environment, the lead agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time the notice of preparation is published, or where no notice of preparation is published, at the time environmental analysis is commenced. Direct and indirect significant effects of the project on the environment shall be clearly identified and described, giving due consideration to both the short-term and long-term effects. The discussion should include relevant specifics of the area, the resources involved, physical changes, alterations to ecological systems, and changes induced in population distribution, population concentration, the human use of the land (including commercial and residential development), health and safety problems caused by the physical changes, and other aspects of the resource base such as water, historical resources, scenic quality, and public services. The EIR shall also analyze any significant*

*environmental effects the project might cause or risk exacerbating by bringing development and people into the area affected. For example the EIR should evaluate any potentially significant direct, indirect, or cumulative environmental impacts of locating development in areas susceptible to hazardous conditions (e.g., floodplains, coastlines, wildfire risk areas), including both short-term and long-term conditions, as identified in authoritative hazard maps, risk assessments or in land use plans, addressing such hazards areas.”*

(CEQA Guidelines, § 15126.2(a).)

*“An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.”*

(CEQA Guidelines, § 15151.)

*“A threshold of significance is an identifiable, quantitative, qualitative, or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant.” (CEQA Guidelines, § 15064.7 subd. (a).) The lead agency has substantial discretion in determining the appropriate threshold of significance to evaluate the severity of a particular impact. (See CEQA Guidelines, § 15064, subd. (b); Save Cuyama Valley v. County of Santa Barbara (2013) 213 Cal.App.4th 1059, 1068, 153 Cal.Rptr.3d 534; Lotus, supra, 223 Cal.App.4th at p. 655, fn. 7, 167 Cal.Rptr.3d 382 [“The standard of significance applicable in any instance is a matter of discretion exercised by the public agency “depending on the nature of the area affected.””].)”*

(Mission Bay Alliance v. Office of Community Investment & Infrastructure (2016) 6 Cal.App.5th 160, 192.)

“The report shall also contain a statement briefly indicating the reasons for determining that various effects on the environment of a project are not significant and consequently have not

been discussed in detail in the environmental impact report.” (Pub. Resources Code, § 21100(c).) “An EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. Such a statement may be contained in an attached copy of an initial study.” (CEQA Guidelines, § 15128.)

“It has been held that an EIR is inadequate if it fails to identify at least a potential source for water. In *Stanislaus Natural Heritage Project v. County of Stanislaus* (1996) 48 Cal.App.4th 182 [55 Cal.Rptr.2d 625], for example, the failure to identify a source of water beyond the first five years of development rendered the EIR inadequate, although the developer was pursuing several possible sources. It also has been held that an EIR is inadequate if the project intends to use water from an existing source, but it is not shown that the existing source has enough water to serve the project and the current users. (*Santiago County Water Dist. v. County of Orange* (1981) 118 Cal.App.3d 818 [173 Cal.Rptr. 602].) On the other hand, it has been held that an EIR is not required to engage in speculation in order to analyze a “worst case scenario.” (*Towards Responsibility in Planning v. City Council* (1988) 200 Cal.App.3d 671 [246 Cal.Rptr. 317] (hereafter *TRIP*).)”

(*Napa Citizens for Honest Government v. Napa County Bd. of Supervisors* (2001) 91 Cal.App.4th 342, 372–373, as modified (Aug. 7, 2001), as modified on denial of reh'g (Sept. 4, 2001).)

Petitioner argues that the FEIR is inadequate because it fails to “consider and/or forecast the significant impacts potentially resulting from the Project, specifically:” (1) the impacts on Kern River right holders and historical uses of water; (2) impacts resulting from the Project recovery operations; and (3) impacts on the KWBA second priority right. Each issue is discussed below.

### **Impacts on Kern River Right Holders & Historical Uses of Water**

Petitioner’s principal argument—that the impact analysis on Kern River right holders and historical usage is, in effect, tainted and also inadequate due to the inadequate definition of

Project water, inadequate definition of existing water rights, and inadequate description of the baseline in failing to include a full and complete analysis (including quantification) of competing existing rights to Kern River water—is persuasive. KWBA’s argument that, by its very nature, the application cannot harm senior rights holders is unavailing. The FEIR claims that “the project will not reduce deliveries of Kern River water to senior rights holders. [Fn.] Therefore, there would be no loss of entitled water and no related impacts on those senior Kern River water right holders.” (AR 823.) As explained above, since the record shows that the purpose of the Project is to support KWBA’s water rights application, the evidence shows that senior water rights will likely be affected by the Project. As a result, a thorough analysis of how those water rights will be affected is necessary. The FEIR does not contain any such thorough analysis, and the general statement that the rights will be unaffected is insufficient under CEQA.

KWBA’s assertion that the FEIR exhaustively describes existing Kern River water rights including a description of the Kern River water appropriation and delivery process (citing AR 226–233) and KWBA’s WAA (citing AR 495–531) lacks merit. As discussed above, the discussion of existing Kern River water rights is insufficient.

Next, KWBA contends that Petitioner’s brief simply concludes that the FEIR is inadequate because it disagrees with KWBA’s conclusion that the Project will not affect the existing Kern River water right holders. According to KWBA, even if this were anything more than a water rights dispute that has not yet been determined by the Water Board, KWBA is well within its discretion to favor the conclusions of its own experts over Petitioner. (Citing *Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1069.) While it is true that disagreement among experts does not make an EIR inadequate (*Save Cuyama Valley v. County of Santa Barbara* (2013) 213 Cal.App.4th 1059, 1069), KWBA misconstrues this

problem as a mere disagreement among experts. As explained above, the discussion of existing Kern River water rights is insufficient, and the FEIR lacks the necessary thorough analysis of impacts on those water rights. Thus, KWBA's argument is not well-taken.

KWBA further asserts that the FEIR clarifies at several places that the Project "would divert and recharge up to 500,000 AF of unappropriated high flow water from the Kern River for future recovery, which is likely to occur in approximately 18% of years, and only under specific hydrological conditions." (Citing AR 724, 98–99; see also AR 249, 255, 265, 720, 722, 736, 742–744.) According to KWBA, it had already historically diverted and utilized Kern River flood flows for the purposes of groundwater recharge in accordance with the Flood Policy and under the direction and control of the Kern River Watermaster. (Citing AR 96, 99.) KWBA states that the Project proposes to divert such high flow water from the Kern River under a new water right. (Citing AR 724.) KWBA concludes that "it makes sense" that the impacts of the Project would remain less than significant. While the FEIR properly concludes that the Project will not have a significant impact on historical utilization of Kern River water, these arguments do not address the problem raised by Petitioner, i.e. the Project is seeking a new water right that necessarily will affect senior rights holders, yet there is no meaningful analysis of how the Project will impact those senior water rights. Therefore, the argument is unavailing.

Simply put, the FEIR and record make clear that the purpose of the Project is to support KWBA's application for a new water right, and it is clear that KWBA seeks to have the Water Board change appropriations to grant a new water right, which necessarily will impact senior rights holders. Such impacts will likely be significant; however, the FEIR fails to address those impacts. Instead, the FEIR erroneously and improperly claims that there will be no impacts because KWBA only seeks unappropriated water. This circular logic is improper. KWBA must

analyze how its Project—which necessarily seeks to reallocate water rights to some extent—will impact senior rights holders. Accordingly, the FEIR’s analysis of impacts on senior rights holders is insufficient, while the analysis of impacts on historical water usage is adequate.

### **Impacts Resulting from the Project Recovery Operations**

The FEIR and DEIR assert that the Project will not result in any “marginal lowering of groundwater levels” and the impact is “less than significant.” (E.g., AR 267.) This is because, as KWBA notes in the answer brief, the Project is not proposed or expected “to increase over actual historical baseline recovery operations in any given year.” (AR 724.) Petitioner takes issue with the fact that this statement only addresses recovery operations “in any given year,” while ignoring the long-term environmental impacts to the groundwater supply that will be caused by the extended recovery operations proposed as part of the Project. Petitioner’s argument is well-taken.

Petitioner correctly notes that the EIR admits that “the banking and storage of Kern River water under the Project may result in extended periods of recovery (e.g., additional months or years), but, as described in the KWB MOU (see Section 2.2.3.1.), this would not exceed banked quantities.” (AR 266; see also AR 876.) Petitioner is also correct that, historically, periods of extended recovery operations resulted in severely depleted groundwater levels, as evidenced by the fact that groundwater levels reached historic lows during a multi-year drought. (AR 242-243 [Figures 3.6-8 & 3.6-9].) This makes clear that—contrary to KWBA’s assertion—the Project does in fact propose to alter recovery operations, since the Project proposes to make groundwater available for longer-term pumping operations for additional months or years during drought conditions. As such, it is likely that the Project will result in groundwater depletion from extended recovery operations during a drought. This is a significant environmental impact that

requires analysis, yet there is no analysis of the effect of long-term recovery operations in the FEIR or DEIR.

Lastly, both parties raise arguments regarding the Joint Operating Committee. On the one hand, in the reply, Petitioner contends that Respondent did not use the Joint Operating Committee groundwater models (AR 428) to show with and without Project scenarios regarding extending groundwater pumping in drought conditions in the FEIR. On the other hand, in the answer brief, KWBA asserts that the Joint Plan was in full force and effect as of the date of the FEIR, and the Project does not propose to change any aspect of the KWB's recovery operations, whether under the Joint Plan, MOU, or other operational parameters for storage and recovery of banked water. KWBA's argument lacks merit. The fact that the Joint Plan was in full force and effect is immaterial, and KWBA's argument that the Project does not propose to change recovery operations is false, as explained above. Petitioner correctly states that the FEIR fails to address the groundwater models set forth in the Joint Plan, which are necessary to analyze the long-term recovery operations.

In sum, Petitioner has shown that the Project will likely have a significant environmental impact on groundwater during long-term recovery operations, and the FEIR is deficient for failure to analyze those environmental impacts.

#### **Impacts on the KWB Second Priority Right**

Petitioner essentially argues that since the record shows that the Project will have an impact on its second priority right to use KWB facilities, the baseline used by KWBA (i.e. the baseline assuming that Petitioner will not exercise its right, because Petitioner has never exercised its right) is improper, it necessarily follows that the analysis is inadequate. Petitioner's argument lacks merit. As explained above in connection with the baseline analysis of the KWB

second priority right issue, it was proper for KWBA to use the existing historical baseline of Petitioner's non-use of its second priority right to use KWB facilities, even though the record shows that KWBA prevented Petitioner from exercising that right during the historical baseline period. It follows that the record shows that the analysis of impacts on KWB second priority rights is adequate.

### **Inconsistent Project Descriptions Result in Failed Analysis of Impacts**

For the first time in reply, Petitioner argues that KWBA's failure to adequately describe the environmental setting resulted in an inadequate analysis of impacts from the Project; specifically, inconsistencies in the Project description and environmental setting lead to a distorted view of the Project and its potential impacts. Petitioner points to inconsistencies in the description of Project water between the record and the answer brief. It is true that, in the record, when describing Project water or rationalizing the failure to analyze existing Kern River water rights, the FEIR leads one to believe that the water sought by the Project is water that historically flowed into the Intertie. (AR 120 & 265.) According to Petitioner, in contrast, in the answer brief, when discussing impacts of recharging and recovering Project water in the KWB, KWBA would lead one to believe that the Project is a continuation of the past practice of only seeking water that KWBA "historically diverted" and stored in the KWB. Even assuming *arguendo* that there are inconsistencies between the way the Project water is described in the record versus how it is described in the answer brief, such inconsistencies alone would not show a violation of CEQA. Therefore, Petitioner's reply argument lacks merit.

In sum, the analysis is inadequate in terms of the significant environmental impacts on senior rights holders and significant environmental impacts on groundwater during long-term recovery operations. Otherwise, the analysis of significant environmental impacts is adequate.

## Conclusion

To summarize, Petitioner has shown that the EIR is inadequate for the following reasons:

- The definitions of Project water and existing water rights are inadequate because they are inaccurate, unstable, and indefinite;
- The baseline analysis is inadequate because it fails to include a full and complete analysis—including quantification—of competing existing rights to Kern River water; and,
- The analysis of environmental impacts is inadequate in terms of the significant environmental impacts on senior rights holders and significant environmental impacts on groundwater during long-term recovery operations.

Otherwise, the EIR is adequate under CEQA. That being said, if the EIR is amended in response to this Court's ruling, then other aspects of the EIR will also need to be altered. For example, the mitigation measures will need to be amended if the amended EIR shows that the Project will cause a significant environmental impact. In addition, in evaluating any amended EIR issued in response to this ruling, the Water Board Complaint and cover letter will be part of any administrative record pertaining to that new/amended EIR.

Since the EIR is inadequate for the reasons set forth above, Petitioner's petition for writ of mandate is GRANTED. In the petition, Petitioner prays for the following relief:

- (1) [All causes of action]: Judgment determining and declaring that the approval of the Project activities does not comply with applicable law and therefore is null and void.
- (2) [First cause of action]: Judgment determining and declaring that Respondent failed to comply with CEQA and therefore the approval of the Project activities was illegal and is null and void, and issue a writ of mandate commanding Respondent to:
  - a. Vacate and set aside its approval of the Project;
  - b. Vacate and set aside the certification for the FEIR as it relates to the Project;
  - c. Prepare and certify a legally adequate EIR for the Project; and
  - d. Suspend any and all activities described herein pursuant to Respondent's approval

of said activities that could result in an adverse change or alteration to the environment as described in this Petition until Respondent has complied with all requirements of CEQA and all other applicable state and local laws, policies, ordinances, and regulations as are directed by this Court pursuant to Pub. Res. Code section 21168.9.

- (3) [Second cause of action]: Declaratory judgment consistent with paragraphs 1 and 2 of this prayer.
- (4) [Third cause of action]: Declaratory judgment in the respects stated in paragraphs 1 and 2 of this prayer.
- (5) That Buena Vista be awarded its costs of suit, including reasonable attorneys' fees. The relief requested in paragraphs 1-4 of the prayer for relief are authorized by CEQA.

(See Pub. Res. Code, § 21168.9.<sup>2</sup>) The request for attorneys' fees and costs, set forth in

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<sup>2</sup> CEQA authorizes the following relief:

(a) If a court finds, as a result of a trial, hearing, or remand from an appellate court, that any determination, finding, or decision of a public agency has been made without compliance with this division, the court shall enter an order that includes one or more of the following:

(1) A mandate that the determination, finding, or decision be voided by the public agency, in whole or in part.

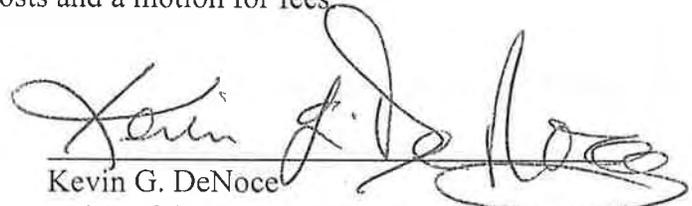
(2) If the court finds that a specific project activity or activities will prejudice the consideration or implementation of particular mitigation measures or alternatives to the project, a mandate that the public agency and any real parties in interest suspend any or all specific project activity or activities, pursuant to the determination, finding, or decision, that could result in an adverse change or alteration to the physical environment, until the public agency has taken any actions that may be necessary to bring the determination, finding, or decision into compliance with this division.

(3) A mandate that the public agency take specific action as may be necessary to bring the determination, finding, or decision into compliance with this division.

(b) Any order pursuant to subdivision (a) shall include only those mandates which are necessary to achieve compliance with this division and only those specific project activities in noncompliance with this division. The order shall be made by

paragraph 5 of the prayer for relief, is to be decided by way of post-judgment procedures applicable to the filing of a memorandum of costs and a motion for fees.

Dated: September 2, 2020

  
Kevin G. DeNoce  
Judge of the Superior Court

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the issuance of a peremptory writ of mandate specifying what action by the public agency is necessary to comply with this division. However, the order shall be limited to that portion of a determination, finding, or decision or the specific project activity or activities found to be in noncompliance only if a court finds that (1) the portion or specific project activity or activities are severable, (2) severance will not prejudice complete and full compliance with this division, and (3) the court has not found the remainder of the project to be in noncompliance with this division. The trial court shall retain jurisdiction over the public agency's proceedings by way of a return to the peremptory writ until the court has determined that the public agency has complied with this division.

(c) Nothing in this section authorizes a court to direct any public agency to exercise its discretion in any particular way. Except as expressly provided in this section, nothing in this section is intended to limit the equitable powers of the court.

(Pub. Resources Code, § 21168.9.)

# CHAPTER 9

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## Responses to Comments

This chapter contains the responses to the written correspondence (i.e., letters, emails) received during the public review period for the Draft EIR. Refer to Table 8-1 in Chapter 8, Public Comments, for a list of the written correspondence received. As discussed in Chapter 8, the written correspondence has been assigned a label, and the individual comments have been bracketed and numbered in the margin. The responses to comments provided below correspond to the labels and the numbered comments.

Where the responses indicate additions or deletions to the text of the Draft EIR, additions are included as underlined text, deletions as ~~stricken text~~. These clarifications to the Draft EIR are listed in Chapter 10, Revisions to the Draft EIR. Based on the responses provided below, these clarifications do not alter the conclusions in the Draft EIR.

This chapter provides the following types of responses: master responses to comments that are duplicative and/or related to the same topic; and individual responses to the bracketed and numbered comments received in the written correspondence. Where appropriate and applicable, the individual responses refer back to the master responses.

### 9.1 Master Responses

Many of the comments received on the Draft EIR are duplicative or related to the same topic. As a result, master responses have been prepared for these topics to comprehensively and efficiently address multiple comments.

#### 9.1.1 Master Response A – Calculation of Project-Related Water

Comments requested clarification regarding the calculation of the amount of water that would move downstream as part of the proposed project. The Draft EIR, Chapter 2, Project Description, on pages 2-17 to 2-19, described the process for calculating this amount of water. The following provides additional detail to clarify the process in response to the comments received on the Draft EIR. Additionally, in response to comments received, RRBWSD has included an additional step in the process (Step 2b below). Accordingly, the resulting edits to the Draft EIR are shown in Chapter 10, Revisions to the Draft EIR.

It is not possible to state with certainty in advance the amount of project-related water that would move downstream as part of the project each day, week, month, or year because the amounts are dependent on future hydrologic conditions. However, the amounts of water involved would be

within a defined range based on historic diversions and the RRBWSD water rights, as described in the Draft EIR. During operation of the proposed project, the RRBWSD would calculate the amount of project-related water that would move downstream using a multi-step process that accounts for hydrology, water rights, and the no-injury rule. The calculation would be performed on at least a weekly basis for each day.

Step 1: As explained in the Draft EIR, Chapter 2, Project Description, on page 2-17, the RRBWSD would determine the amount of water available each day under the RRBWSD water rights based on the amount of flow in the South Fork of the Kern River. The RRBWSD has been performing this calculation for several years in coordination with the other diverters on the South Fork and has developed an allocation model (see Appendix F to this Final EIR, South Fork of the Kern River Allocation Model). The allocation model provides an initial allocation based on measured flow at the USGS Onyx Gage and an estimation of accretions. The model assumes that all diverters are diverting the full amount of water available under their respective rights. If this is not happening, then the undiverted allocation is reallocated in order of priority. The model is a starting point, with adjustments made in real time based on the diversions actually occurring. The RRBWSD coordinates closely with the other major diverters on the South Fork of the Kern River to measure and keep track of diversions.

Note that the Boone Field does not receive an allocation until the previous 33 rights are filled (which is about when flow exceeds 65 cubic feet per second [cfs]). If there is sufficient flow for an allocation to the Boone Field, that amount would not be included in the available water for the proposed project.

Step 2a: As explained in the Draft EIR, Chapter 2, Project Description, on page 2-17, the RRBWSD would compare the amount of water available under the water rights (Step 1) to the typical irrigation demand, by month, on the project site without the proposed project (see Draft EIR Table 2-4). The lesser of the amount determined in Step 1 and Step 2a would be applied to Step 2b. The details regarding the typical irrigation demand are clarified in **Master Response H – Typical Irrigation Demand**.

Step 2b: The RRBWSD would add a new “Step 2b” to Chapter 2, Project Description on page 2-18, to further reduce the amount of water involved in the proposed project during those time periods in December to March that the RRBWSD’s project site would not have been irrigated (and thus would not have diverted the typical irrigation demand) because of precipitation events. This precipitation adjustment would be made in the form of a percentage reduction on the amount of water computed under Steps 1 and 2a and would be based on whether or not the other diverters in the South Fork Valley have ceased or reduced diversions due to precipitation events.

After performing Steps 1, 2a, and 2b, the RRBWSD would have an amount of “Redirected Water” that can be moved downstream for the proposed project.

Step 3: As explained in the Draft EIR, Chapter 2, Project Description, on page 2-17, the RRBWSD would further reduce the amount of “Redirected Water” by a no-injury factor to account for losses between the Onyx Ranch and the Isabella Reservoir. In response to comments received (see

Responses to Comments CDFW-27, CDFW-28, and CDFW-29), the no-injury factor has been updated from 17 percent to 20 percent as explained in **Master Response C – No-Injury**.

After Step 3, the RRBWSD would have calculated the amount of project-related water that is available to move through Isabella Reservoir without injuring other water right holders, because it reflects the amount of additional water present at that point in the Kern River as a result of the proposed project.

As explained in **Master Response B – Coordination of Flows and Downstream Impacts**, any project-related water that flows through Isabella Reservoir and down the Kern River to the existing RRBWSD diversion points, would be subject to an additional incremental transportation loss consistent with the existing contracts between the various Kern River Interests. The amount of project-related water that RRBWSD would divert from the Kern River for delivery to its existing recharge facilities would be the amount of Redirected Water computed after Step 2b, reduced by the 20 percent no-injury factor, and further reduced by the incremental transportation losses in the Kern River.

In order to provide further clarification on the process for calculating the amount of water involved in the proposed project, the RRBWSD has performed the above step-wise methodology using median South Fork of the Kern River flow data, as an example, in the table below.

### 9.1.2 Master Response B – Coordination of Flows and Downstream Impacts

This Master Response responds to comments regarding the RRBWSD's right to move project-related water through the Isabella Reservoir and down the Kern River channel.

Comments stated the Draft EIR fails to establish that the RRBWSD has a right to transfer water through or hold water in the Isabella Reservoir. Comments stated the Draft EIR fails to establish that the RRBWSD has a right to move water through the Kern River channel. These are both legal issues that are outside of the scope of a CEQA document. California law allows a district to move water through a natural channel. See e.g., *Stevens v. Oakdale Irr. Dist.*, 13 Cal.2d 343, 352 [90 P.2d 58] (one may use natural channel to convey irrigation water). Additionally, see Water Code Sections 7043 and 7044. The comments on the Draft EIR did not cite any authority to the contrary.

The Draft EIR does not assume the RRBWSD would store any project-related water in the Isabella Reservoir, except for temporary storage as an alternate to pass-through, and only in coordination with the Kern River Watermaster, the Kern River Interests, and the United States Army Corp of Engineers (USACE). Refer to Draft EIR, Executive Summary, pages ES-4-5, 2-22, and 2-23. The details of any potential future agreement for temporary storage in the Isabella Reservoir would be speculative and, therefore, cannot be analyzed in the Draft EIR. If any such agreement is reached, the responsible agencies can determine if the agreement contemplates a change to the environment that would trigger the need for an additional CEQA analysis. The current project would not result in changes in the water elevation or water storage capacity of the Isabella Reservoir.

**Onyx South Fork Valley Project Water Estimate at Median Conditions**

<b>Median Flows in CFS</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>TOTAL (AF)</b>
1st Point Regulated Kern River (median) <sup>1</sup>	386	540	772	1,258	1,937	1,783	749	345	226	230	265	315	<b>530,311</b>
South Fork Kern River (median) <sup>2</sup>	37	55	98	203	151	51	15	7	9	17	26	29	<b>41,944</b>
South Fork Kern River Accretions (median) <sup>3</sup>	3	3	3	5	5	3	2	2	2	3	3	3	<b>2,228</b>
South Fork Kern River Sum (median) <sup>4</sup>	40	58	101	208	156	54	17	9	11	20	29	32	<b>44,172</b>
Available Supply <sup>5</sup>	20.2	25.2	>Demand	>Demand	>Demand	25.2	8.4	5.1	5.7	9.5	10.9	14.5	
Boone Supply <sup>6</sup>	0	0	2	3	3	0	0	0	0	0	0	0	<b>454</b>
Typical Irrigation Demand (less Boone) <sup>7</sup>	19	23	35	37	43	43	43	31	26	26	21	21	
Demand after Precipitation <sup>8</sup>	50%	0%	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Redirected Water (Prior to Precip) <sup>9</sup>	19	23	35	37	43	25	8	5	6	10	11	15	
<b>Redirected Water <sup>9</sup></b>	<b>10</b>	<b>0</b>	<b>18</b>	<b>37</b>	<b>43</b>	<b>25</b>	<b>8</b>	<b>5</b>	<b>6</b>	<b>10</b>	<b>11</b>	<b>15</b>	<b>11,279</b>
<b>Project Water Into Isabella <sup>10</sup></b>	<b>8</b>	<b>0</b>	<b>14</b>	<b>30</b>	<b>34</b>	<b>20</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>9</b>	<b>12</b>	<b>9,023</b>
Project Water Into Isabella 10 (AF)	466	-	859	1,758	2,111	1,198	412	250	271	466	518	712	<b>9,023</b>

**Notes**

- <sup>1</sup> 1st Point Regulated Kern River Median in second foot days from Bakersfield Hydrographics Report 2019 (1893 to 2019)
- <sup>2</sup> South Fork Kern River Median in second foot days from USGS South Fork Kern River Onyx Station (1912-2018)
- <sup>3</sup> South Fork Kern River Accretions calculated in 2015 by difference of actual deliveries and USGS Station. Estimated for Median and Wet year.
- <sup>4</sup> South Fork Kern River Sum is the sum of South Fork at the USGS Station and Accretions
- <sup>5</sup> Available Project Supply is the amount of water allocated to Onyx - Boone + 1/3 Smith per water rights structure assuming full utilization by active diverters. When availability exceeds typical demand, ">Demand" is noted
- <sup>6</sup> Boone Supply is the amount allocated (3 cfs) per the water rights structure.
- <sup>7</sup> Typical Demand (Onyx+1/3Smith-Boone) is the amount of irrigation demand that existed based on 2010, 2012, 2017, 2018, 2019
- <sup>8</sup> Demand after precipitation is the amount of demand remaining in % after precipitation conditions reduce demands during December - March
- <sup>9</sup> Redirected Water is the water calculated that would be redirected towards the reservoir instead of diverted to ranches (Onyx - Boone + 1/3 Smith)  
Redirected Water is the lessor of Available and Typical and less benefits from precipitation December - March when other local diverters cease irrigation due to precipitation.
- <sup>10</sup> Project Water = Redirected Water less 20% No Injury Factor that reaches Isabella Reservoir

A comment stated “Rosedale would necessarily have to displace, replace or dispose of water presently in Lake Isabella in order to hold or transport water through Lake Isabella.” This is incorrect. RRBWSD’s project-related water can flow through the Isabella Reservoir and be released in addition to any water being released from the Reservoir for others.

A comment noted that “Absent an agreement with the City and other Kern River water interests, any water brought into the Kern River channel by Rosedale would be considered abandoned, and would be subject to and absorbed by prior rights held by the City and other interests.” This comment misstates the law. *See e.g.*, Water Code section 1011; *Butte Canal & Ditch Co. v. Vaughn* (1858) 11 Cal. 143, 151. This is a legal issue that is not properly further addressed in a CEQA analysis. However, the RRBWSD notes that the addition of the project-related water flows in the Kern River channel as result of the proposed project would further the goals of the City of Bakersfield to have more flow in the Kern River channel than under baseline conditions.

Comments stated that the Draft EIR failed to analyze the impact of the addition of project-related water in the South Fork channel and the Kern River channel. This is incorrect. The Draft EIR, Chapter 2, Project Description, Section 2.6, on page 2-19, describes the flow ranges for the South Fork of the Kern River and the combined Lower Kern River as compared to the project-related flows. The Draft EIR explains that 6 cfs to 60 cfs (low to high) of the project-related flows would be additive to the baseline range of Lower Kern River flows of 0 to 14,000 cfs (low to high) and the baseline range of the Kern River regulated flows below Isabella Dam of 150 cfs to 4,500 cfs. On its face, this comparison shows that the additional flows from the proposed project would be within the historic range of flows and within high flow periods, therefore, representing a very small addition of flow compared to the flow present absent the proposed project. Thus, it was reasonable to conclude that there were no significant environmental impacts from the addition of project-related flow in the South Fork of the Kern River or the lower Kern River channel that would require further analysis under CEQA.

To illustrate the conclusion that the proposed project would not add enough additional flow below Isabella Reservoir to create the potential for significant environmental impacts, the RRBWSD compared the estimated proposed project-related flows that would be added to the Lower Kern River to actual flow data from 2015 (a critically dry year) and 2017 (a wet year), as reported in the Kern River Hydrographic Annual Reports for 2015 and 2017, on page 27 in each report. (See Appendix G of this Final EIR, Data from the Kern River Hydrographic Annual Reports for 2015 and 2017, to this Final EIR.) This analysis confirms that project-related water supplies that would proceed through the Isabella Dam would increase the Lower Kern River flow by an average of 1.6 percent in a wet year (2017) to 2.2 percent in a dry year (2015). The added flow differential is more pronounced in the winter months during the low flow conditions that are typically about 150 cfs to 500 cfs. During these low flow condition months, the proposed project-related water would increase Lower Kern River flow by 3 percent to 5 percent. During the spring and summer runoff periods, when the channel capacity is more of an issue, the added flow from the proposed project would be less than 1 percent when baseline flows are between 300 cfs to 5,000 cfs. For example, the median June flow rate of 1,746 cfs would increase to about 1,754 cfs. These flow changes are too minor to induce environmental impacts requiring further CEQA analysis.

In comments on the Draft EIR, the City of Bakersfield stated that the Draft EIR “indicates that ‘system losses’ for water conveyed through the Kern River channel would have to be determined in the future.” (citing Draft EIR, page 2-22). This is a misstatement. Other comments also expressed concern about losses of project-related water in the Kern River channel.

The Draft EIR, Chapter 2, Project Description, on page 2-22, states that the RRBWSD would coordinate with the Kern River Interests to address computing losses between the Isabella Reservoir and the RRBWSD points of diversion. This is consistent with the current practice utilized by all parties who convey water through the Kern River and coordinate flow accounting with Kern River Watermaster and the City of Bakersfield. The Kern River Interests who divert flow between First Point of Measurement and Second Point of Measurement currently assess incremental transportation losses based on an agreed methodology, as provided in the Miller-Haggin Agreement and related Amendments. These losses are reflected in the Kern River Hydrographic Annual Reports as part of the table of the City of Bakersfield – Summary of Kern River First Point Group – Kern River Diversions, on page 32 of each report. (See Appendix G to this Final EIR for the reports from 2015 and 2017 for representative loss calculations.) For 2015 (a dry year), the loss was calculated at 9.4 percent over the entire year. For 2017 (a wet year) the loss was calculated at 7.0 percent over the entire year. The RRBWSD would coordinate with the Kern River Interests to use an incremental transportation loss factor for project-related water the RRBWSD would convey through the Kern River channel for accounting purposes in advancement of the no-injury rule and consistent with the loss factor used for all other parties conveying water in the same channel during the same time periods.

Several comments asked for more detail regarding how the project-related water would move downstream of the Isabella Reservoir through the lower Kern River channel and/or existing off-river canal systems. The project-related water that flows through Isabella Dam would enter the Kern River channel and flow downstream to the Rocky Point Weir, as illustrated in the City of Bakersfield Final EIR for the Kern River Flow and Municipal Water Program, Figure 2-2, provided as Figure 9-1 below. From the Rocky Point Weir, the project-related water could take one of several different paths to reach a groundwater recharge facility.

One option is for the project-related water to remain in the Kern River channel, flow past Rocky Point Weir, and continue to flow downstream to the Bellevue Weir, where the RRBWSD has a diversion facility to divert water off of the Kern River and into the Goose Lake Canal for delivery to the Rosedale Groundwater Recharge Project.

A second option is for the project-related water to be delivered down the Kern River channel as described above or diverted into the Carrier Canal at the Rocky Point Weir, and flow through the Carrier Canal and the Kern River Canal, for delivery for recharge in to the 2800 Acre Recharge Facility, the Pioneer Project, the Kern Water Bank, or the Kern River channel. The RRBWSD already uses this delivery mechanism as a third-party beneficiary of the 1996 Agreement between the City of Bakersfield and the Kern County Water Agency, attached at Appendix G to this Final EIR, known as the “Pioneer Project Joint Operating Agreement.” The project-related water could similarly be conveyed and recharged under that existing agreement.

A third option is for the project-related water to be diverted into the Carrier Canal at the Rocky Point Weir, and flow through the Carrier Canal and the Kern River Canal, canals owned and operated by the City of Bakersfield, pursuant to the existing agreement between the City of Bakersfield and RRBWSD, attached as Appendix G to this Final EIR, or pursuant to a new agreement between the City of Bakersfield and RRBWSD, for delivery into Goose Lake Canal and the Rosedale Groundwater Recharge Project. At this point, whether or not such a new agreement is necessary or comes to fruition is speculative and therefore it is not possible to evaluate further for purposes of the EIR. Delivery of the water through the other existing facilities and under the existing agreements would be within the existing ranges of delivery for these facilities and agreements and does not require further analysis.

As explained in more detail above, regardless of which option is used, the project-related water would only be a small percentage (2–6 percent) of the total typical flow in the Kern River below the First Point of Measurement at any given time and would not have an adverse impact on the system and, therefore, did not require further analysis in the Draft EIR. The project-related water would be moved through existing diversion and conveyance facilities for recharge in existing groundwater recharge projects. The RRBWSD would coordinate the accounting for flow of water with the City of Bakersfield and Kern River Watermaster, duly accounting for incremental transportation losses consistent with the same methodology employed by the Watermaster for the movement of any other water through the same system during the same time period.

Notably, all options for conveyance of the project-related water would result in slightly more water in the sections of the Kern River that flow through the City of Bakersfield and are adjacent to the Kern River Parkway, which will have indirect aesthetic, recreational, and habitat benefits for the region. See also **Master Response D – Groundwater Impacts to Kern Sub-basin**.

### 9.1.3 Master Response C – No-Injury

Comments stated that the Draft EIR should evaluate the consumptive use of water on the project site and that the amount of water to be moved as part of the proposed project should be limited to consumptive use to avoid injury to others. The comments have misstated the no-injury rule. An appropriator may change their point of diversion or place of use provided they do not injure other legal users of water. The injury is evaluated based on the impact to the stream system from which the water right holders divert. While the amount of consumptive use of water prior to the transfer is one element of this evaluation, it does not encompass all of the ways in which the prior diversion and use of water affect the stream-system. For example, some of the prior diversions of water to the Onyx and Smith ranches on the project site resulted in deep percolation to the groundwater basin or other vegetative evapotranspiration, that did not re-enter the South Fork of the Kern River as return flow and did not reach Isabella Reservoir. These amounts are not available to and are not relied on by downstream water right diverters from the Kern River.

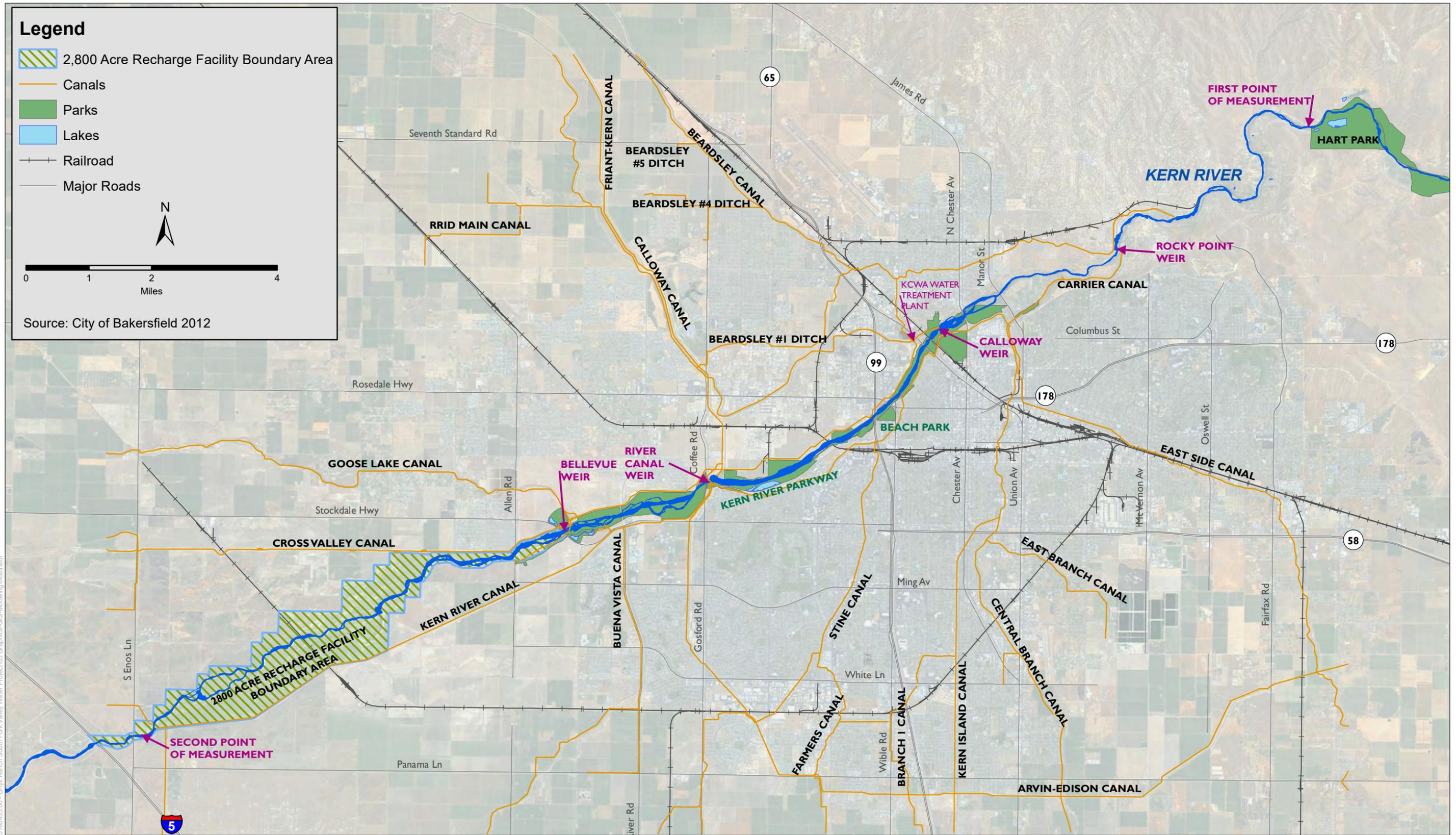
These complexities were accounted for in the surface-groundwater model developed by Thomas Harder & Co., which was described in the *Hydrogeological Evaluation of the Onyx Ranch Project*, included in the Draft EIR as Appendix E (Thomas Harder & Co., 2019). In response to comments, minor revisions to the model analysis have been made and are described in the *Hydrogeological Evaluation of the Onyx Ranch Project – with Clarification* (Hydrogeological

Evaluation with Clarification; Thomas Harder & Co., 2020), provided as Revised Appendix E to this Final EIR. The purpose of the model was to evaluate all of the surface and groundwater interactions in the Kern River Valley, with and without the proposed project, to determine how much of the water previously diverted and used on the project site could be moved downstream without injuring other water right holders. The model was used to evaluate with and without the proposed project conditions and compare the amount of water that reached Isabella Reservoir over the 13-year time period of study. The model concluded that if the 98,156 acre-feet of water (revised from 94,442 acre-feet) that was diverted to the project site during the 13-year period of study were redirected down the South Fork of the Kern River, it would result in 78,183 additional acre-feet of water that could be released from the Isabella Reservoir without impacting the historic quantity of water stored in the Isabella Reservoir and available for other legal water right holders. This analysis was used to create a 20 percent no-injury factor (revised from 17 percent) that the RRBWSD would apply to its computation of “redirected water” to determine the amount of water it would move through the Isabella Reservoir and Isabella Dam during operation of the proposed project to avoid injury to other legal users of water. It should be noted that the no-injury factor has been updated from 17 percent to 20 percent<sup>1</sup> as a result of a correction described in the Hydrogeological Evaluation with Clarification, which is provided in Revised Appendix E to this Final EIR. The corrections to the Draft EIR that result from the revisions to the model analysis and Revised Appendix E are included in Chapter 10, Revisions to the Draft EIR. See also **Master Response A – Calculation of Project-Related Water**.

Some comments also stated that, despite the analysis in the Draft EIR regarding no-injury to downstream water rights, injury would in fact occur and, therefore, the scope of the analysis of potential impacts should have been expanded to include impacts in the area downstream of the Isabella Reservoir. The comments do not provide any evidence that injury would occur to downstream water rights and that the scope of the analysis in the Draft EIR should be expanded. Additionally, the RRBWSD does not have any information that supports these claims, and the claims are contrary to the data and evaluations performed for the preparation of the Draft EIR.

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<sup>1</sup> The estimate of annual redirected water reported in the Draft EIR, Chapter 2, Project Description, page 2-22, of 7,265 AFY was based on the total net redirected water of 94,442 over the 13-year analysis period as shown in Table 2 of Appendix E to the Draft EIR. The Smith Ranch diversion values in Table 2 of Appendix E of the Draft EIR are incorrect. The corrected values are provided in Table 2 of the Hydrogeological Evaluation with Clarification provided in Revised Appendix E to this Final EIR (Thomas Harder & Co., 2020; Revised Appendix E). It is noted that the correction results in a higher volume of net redirected water (98,156 AF) than previously reported (94,452 AF). The net redirected water used for the groundwater flow model is correct but was not transcribed to Table 2 of Appendix E correctly. This error does not change the estimated volume of water available as a result of the proposed project over the 13-year simulation period (78,183 AF).



SOURCE: City of Bakersfield, 2012

Onyx Ranch South Fork Valley Water Project

**Figure 9-1**  
Facilities in Vicinity of the Lower Kern River Corridor

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### 9.1.4 Master Response D – Groundwater Impacts to Kern Sub-basin

Comments stated that the Draft EIR failed to analyze impacts to the Kern County Sub-basin from reduced or altered Kern River water supplies. These comments mischaracterize the project description by incorrectly assuming or stating that the proposed project would reduce the amount of Kern River water available to other Kern River right holders, who in turn will have to pump more groundwater, which would adversely impact the Kern County Sub-basin groundwater supplies. These assumptions and statements directly conflict with the express description of the proposed project, which includes a methodology designed to avoid any reduction in water supplies to the Kern River Interests downstream of the Isabella Reservoir by ensuring that the amount of water moved downstream as a result of the proposed project is equivalent to the amount of water that was previously removed from the Kern River system pre-project. The proposed project is specifically designed to supplement, rather than reduce, surface water supplies in the Kern County Sub-basin by moving additional water that would otherwise have been used on the project site into the Kern County Sub-basin. See also **Master Response A – Calculation of Project-Related Water** and **Master Response C – No-Injury**.

Comments that misstate or mischaracterize the project description in order to identify potential indirect environmental impacts do not raise actual potential impacts that need to be analyzed under CEQA.

### 9.1.5 Master Response E – Water Rights

Comments questioned whether the appropriative water rights claimed by the RRBWSD are “valid, viable and enforceable.” Comments also questioned whether historic records support the amount of the appropriative rights claimed by the RRRWSD. These comments raise potential legal questions and/or challenges to the underlying water rights that are outside of the scope of analysis of potential environmental impacts consistent with the requirements of CEQA and the CEQA Guidelines.

The historic information that supports the RRBWSD pre-1914 water rights is extensive and includes the litigation pleadings from the case that led to the 1902 Decree, chains of title for the real property, and historic reports. It would be overly burdensome and confusing to include these voluminous reference documents as part of the Draft EIR itself. As the lead agency, the RRBWSD properly investigated the water rights and determined they were valid and sufficient for the implementation of the proposed project. The voluminous records supporting this determination are public records that are part of the administrative record and available for public review at the RRBWSD office. A summary of the RRBWSD analysis of those records, with specific citation to key documents, is included in the Draft EIR, Chapter 2, Project Description, on pages 2-16 and 2-17.

In order to fulfill the purpose of CEQA, the Draft EIR provides the maximum quantities available under the water rights for the parcels that make up the project site, describes the historic diversion and use of water under the water rights for a reasonable time period, and quantifies the amounts of water available under the water rights in the future for use for the proposed project, using relevant hydrologic information. This is the information that was necessary to evaluate the potential environmental impacts with implementation of the project.

Several comments focused on the riparian water right to serve the Boone Field. To clarify the statement on Draft EIR, Chapter 2, Project Description, on page 2-16, the Boone Field rights are solely riparian and, therefore, water available from the Boone riparian right would not [emphasis added] be transferred as part of the proposed project. The Boone Field operations would continue as-is, with the Boone Field irrigated with water from the South Fork of the Kern River provided from the Mack and Nicoll Ditches and supplemented with well water when surface water is not available, just as is occurring in the existing conditions with the current operations. The RRBWSD has determined that the concept of ceasing diversions under the Boone riparian right to make water available for the 33<sup>rd</sup> right under the Decree is too confusing, and too rare a circumstance, to warrant further consideration for the proposed project and, therefore, will be removed from the project description provided in the Draft EIR, Chapter 2, Project Description, as shown in Chapter 10, Revisions to the Draft EIR.

Several comments stated that the Draft EIR failed to analyze adverse impacts on the water rights of the Kern River Interests below the Isabella Dam. These comments misunderstand the project description and incorrectly assume that under a no-project scenario, the water rights of the Kern River Interests would be unaffected by the RRBWSD's diversion and use of water pursuant to its South Fork of the Kern River water rights. Table 2-3 of the Draft EIR, Chapter 2, Project Description, on page 2-18, displays the diversions under the RRBWSD water rights associated with the project site between 2009 and 2017. This diversion occurs upstream of the Isabella Reservoir and Dam and upstream of the "First Point of Measurement" for the Kern River Interests water rights (which is below the Isabella Dam). The diversion and use of water under RRBWSD's South Fork water rights associated with the project site has impacted the amount of water available to the Kern River Interest water rights for more than a century based on the dates of RRBWSD water rights associated with the project site and historic evidence of diversion and use of water in the South Fork Valley. Recognizing this status quo, the purpose of the proposed project is to move RRBWSD's current water use from upstream of the Isabella Reservoir and Dam to lands on the San Joaquin Valley floor, without injuring the other legal users of water. The Draft EIR, Chapter 2, Project Description, on pages 2-19, 2-21, and 2-22, describes the methodology that RRBWSD would use to determine how much water it can move *without injuring* other water rights above and below the Isabella Reservoir and Dam. Contrary to many of the comments which stated that the Draft EIR failed to analyze impacts on water rights of the Kern River Interests below the Isabella Reservoir and Dam, the purpose of including this methodology in the proposed project is to ensure that the RRBWSD in the implementation of the proposed project recognizes and does not injure the Kern River Interests by limiting the amount of water taken by the RRBWSD downstream of the Isabella Reservoir and Dam to the amount of water that the proposed project adds to the Kern River channel, compared to the amount of water that would be in the Kern River channel downstream of Isabella Dam without the proposed project.

### 9.1.6 Master Response F – RRBWSD Place of Use

Several comments stated that the Draft EIR should have analyzed environmental impacts associated with delivery and use of the project-related water to the RRBWSD service area and/or groundwater banking projects on the San Joaquin Valley floor.

The Draft EIR did not analyze the potential impacts associated with delivery and use of water in the RRBWSD service area and groundwater banking projects on the San Joaquin Valley floor because, with implementation of the proposed project, no change to the existing environment would occur in this area that would require analysis. As stated in the Draft EIR, Chapter 2, Project Description, on page 2-19, the proposed project would move project-related water to the Isabella Reservoir at flow rates ranging from about 6 cfs to 60 cfs. After applying the no-injury factor (20 percent as discussed in detail in **Master Response C – No-Injury** above) and the Lower Kern River transportation loss factor (see **Master Response B – Coordination of Flows and Downstream Impacts**), the range of flow that would reach the RRBWSD service area and recharge projects would be about 4 to 35 cfs. All project-related water delivered into the RRBWSD service area would be conveyed through and into existing facilities and banking projects. The existing RRBWSD facilities collectively have the capacity to accept up to 729 cfs of water during filling operations and have historically accepted 485 cfs of water during long-term operations (RRBWSD 2019 Operations Report, August 2020: Table 1). The RRBWSD does not need to modify any of the contracts associated with these facilities to deliver the project-related water to these facilities. The RRBWSD would deliver the project-related water into these facilities consistent with the existing long-term contracts and agreements associated with its existing Groundwater Recharge Project and as part of the diversified mix of water supplies that the RRBWSD currently secures and transports to these facilities. Refer to the Draft EIR, Section 3.11 Hydrology and Water Quality, Methodology, on page 3.11-25, for a detailed discussion. As stated in the Draft EIR on page 2-1, the existing facilities/projects that would take this project-related water, and the prior associated CEQA review for these projects, are listed on pages 31-33 of the RRBWSD annual report available at:

<https://www.rrbwsd.com/wp-content/uploads/2020/08/Final-RRBWSD-2019-Operations-Report-August-2020.pdf>

The amount of water involved with the proposed project, and the flow rates involved in this proposed project, are very small compared to the typical flow rates in the Kern River below Isabella Reservoir (which range from 150 to 4,500 cfs, as stated in the Draft EIR on page 2-19), and thus are not anticipated to have any significant impacts in the Kern River channel below the Isabella Reservoir and Dam.

### 9.1.7 Master Response G – Project Alternatives

CEQA Guidelines Section 15126.6 explains that a lead agency, in this case the RRBWSD, is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 and *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376). Although a lead agency may not give a project's purpose an artificially narrow definition, a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need, and not study alternatives that cannot achieve the basic goals of the project.

The Draft EIR considers a reasonable range of alternatives to the proposed project. As stated in the Draft EIR, Chapter 5, Alternatives Analysis, on page 5-1, Section 15126.6(f) of the CEQA Guidelines provides direction on the required alternatives analysis:

*The range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making.*

As stated in the Draft EIR on page 5-4, CEQA Guidelines Section 15126.6 provides guidance on identifying the alternative locations to be addressed:

*CEQA Guidelines Section 15126.6(f)(2) provides guidance regarding consideration of one or more alternative location(s) for a proposed project, stating that putting the proposed project in another location should be considered if doing so would allow significant effects of the proposed project to be avoided or substantially lessened. Only locations that would avoid or substantially lessen any of the significant effects of the proposed project need to be considered for inclusion in the EIR. If no feasible alternative locations exist, the EIR must disclose the reasons for this conclusion. Among the factors that may be considered when addressing the feasibility of an alternative site is suitability, economic viability, availability of infrastructure, general plan consistency, and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site.*

As described in the Draft EIR on page 5-4, several factors are considered in determining the range of alternatives to be analyzed in the Draft EIR along with the level of analytical detail provided for each alternative. As discussed in the Draft EIR, Chapter 5, Alternatives Analysis, on page 5-8, the 50 Percent Reduction Alternative was determined to be appropriate as an alternative to the proposed project and was fully analyzed in the EIR (see Draft EIR, pages 5-15 to 5-23). As required by Section 15126.6(e) of the CEQA Guidelines, the No Project Alternative was analyzed to allow decision-makers to compare the impacts of approving the proposed project to the impacts that would occur in the foreseeable future if the proposed project is not approved (see Draft EIR on page 5-9 through 5-15).

The CEQA Guidelines Section 15126.6(c) recommends that an EIR identify alternatives that were considered for analysis but rejected as infeasible and briefly explain the reasons for their rejection. CEQA Guidelines Section 15126.6(c) requires that the factors that “may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.” “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA California Public Resources Code Section 21061.1).

The RRBWSD may make an initial determination as to which alternatives are potentially feasible and, therefore, merit in-depth consideration, and which are clearly infeasible. Alternatives that are remote and speculative, or the effects of which cannot be reasonably predicted, need not be considered (CEQA Guidelines Section 15126.6(f)(3)). Alternatives that have been considered and rejected as infeasible are discussed in the Draft EIR, Section 5.2 Alternatives Considered and Rejected, on pages 5-4 through 5-8. The Draft EIR considered the following: Alternative Locations (Draft EIR page 5-4); an alternative source of supply with the Delta Conveyance Project Alternative (Draft EIR page 5-5); and an alternative to the use of the project site in the Kern River Valley with the Commercial Use Alternative (Draft EIR page 5-6). These alternatives were ultimately rejected because either they were found to: not to reduce any significant environmental effects of the proposed project; did not meet all project objectives; or were determined to be infeasible.

Regarding alternative locations, the Draft EIR explains on page 5-4 the RRBWSD's screening process for alternative project locations that could provide Kern River water rights and that could provide a conveyance mechanism to carry the water to the RRBWSD service area.

Regarding alternative water sources, there is no other water source to be considered in the Kern River Valley, other than groundwater, which is not part of the proposed project. In addition, CEQA does not require the consideration of another water source. However, as stated above, the Draft EIR includes the Delta Conveyance Project Alternative, which considers the State Water Project as an alternative water source for recharge in the RRBWSD service area.

Comments have suggested that the RRBWSD should have considered other alternatives, including conservation, recycled water, more efficient irrigation methods, transfers or exchanges with local water districts or the City of Bakersfield, or expanded conjunctive use and groundwater banking. Each of these suggestions are addressed below.

In terms of conservation and expanded conjunctive-use, RRBWSD is pursuing the implementation of a demand reduction management action as described in its Groundwater Sustainability Plan (GSP) (see RRBWSD 2019, pages 87-90). Conservation, in addition to this proposed project, as well as other described actions and projects in the GSP will be required to attain groundwater sustainability. Therefore, conservation would not be appropriate to consider as an alternative but rather a future action that would also require implementation by 2025.

In terms of recycled water, water reuse is a form of water conservation. RRBWSD does not operate recycled water facilities and therefore could not recycle more water to create a new water supply that could be an alternative to the project. RRBWD could work with other Kern County Sub-basin operators of local recycled water facilities to supply the proposed project; however, this would involve moving water from one area of the sub-basin to another and would not represent a new supply. As a result, recycled water was not a viable alternative considered in the Draft EIR.

In terms of more efficient irrigation methods, irrigation efficiency only reduces deep percolation and does not reduce net consumptive use that would be required to create a water supply benefit that would service the Kern County Sub-basin. It would also not meet the project objective of maximizing the beneficial use of water rights associated with the Onyx Ranch and Smith Ranch in Kern County. As a result, irrigation efficiency was not a viable alternative considered in the Draft EIR.

Transfers or exchanges with local water districts in the vicinity of the City of Bakersfield would not create a new water supply and would rather involve moving water from one area of the sub-basin to another. It would also not meet the project objective of maximizing the beneficial use of water rights associated with the Onyx Ranch and Smith Ranch in Kern County. As a result, transfers or exchanges were not viable alternatives considered in the Draft EIR.

In terms of expanded conjunctive use and groundwater banking, the RRBWSD continues to plan for future conjunctive use and banking projects, such as the Kern Fan Groundwater Storage Project, which would be implemented in addition to, not as alternatives to, the proposed project. These other projects do not include the RRBWSD's South Fork Valley water rights as new water supply for the sub-basin, and therefore are not viable alternatives to the proposed project.

### 9.1.8 Master Response H – Typical Irrigation Demand

Comments asked for clarification regarding the Typical Irrigation Demand provided in Table 2-4 in the Draft EIR, Chapter 2, Project Description, on page 2-19.

Comments asked about the conversion from cubic feet per second (cfs) to acre-feet (AF). The conversion was completed by multiplying the cfs by 1.98 times the numbers of days. For example, for January, the mean flow rate of 21 cfs for the month (31 days) would equate to  $21 \times 1.98 \times 31 = 1289$  AF.

Comments stated that a different set of historic data should have been used to analyze impacts in the Draft EIR. The RRBWSD determined that the best data available to reflect diversion records for the project site were from 2009-2017. From 2013 to present, the RRBWSD improved flow measurement techniques in the South Fork Kern of the Kern River area and, therefore, more reliance was placed on the latter years of data. There is no evidence to suggest that the 2009-2017 data misrepresents prior time periods for which there are not more detailed measurement records. Comments did not provide any other historic data for consideration.

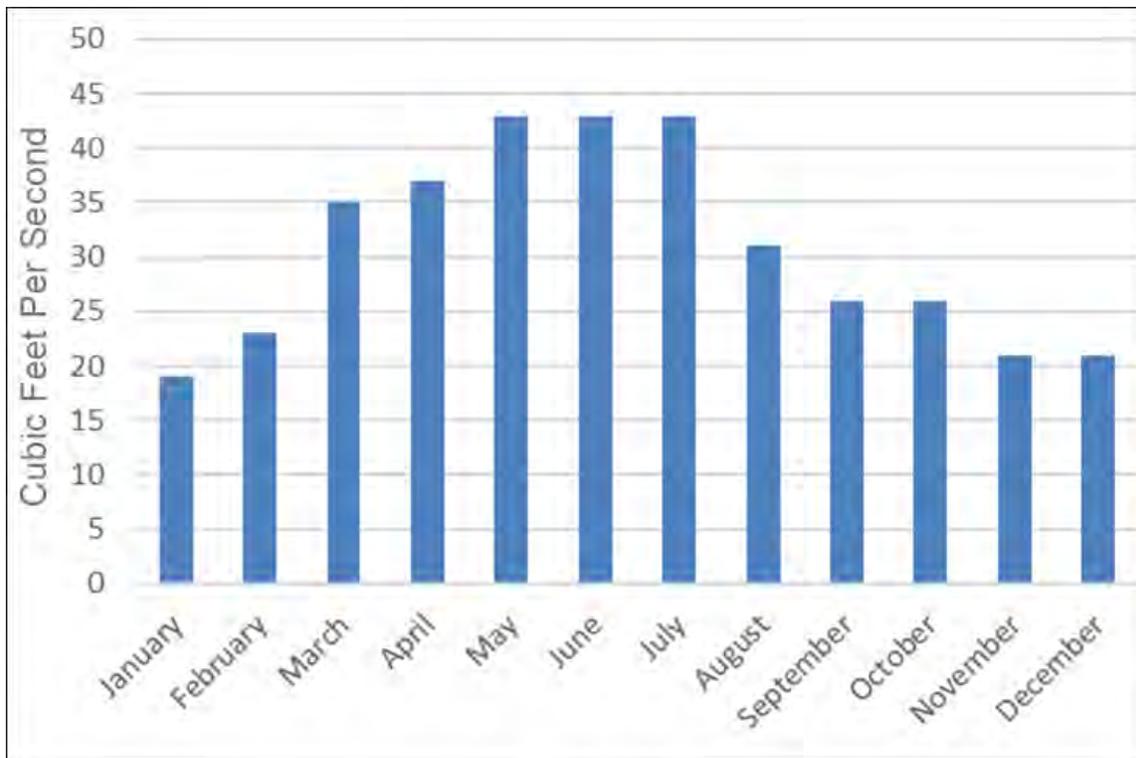
The typical irrigation demand shown in Table 2-4 of the Draft EIR reflects the amount of water that was typically diverted in each month to meet the demands of the crops grown on the project site addressed in the analysis of the proposed project (including all of the Onyx Ranch lands except the Boone field plus one-third of the Smith Ranch). The typical irrigation demand is designed to serve as a limiting factor on the amount of water that will be moved as part of the proposed project so that the amount of water moved reflects what would have otherwise been diverted for use on the project site, absent the proposed project.

The numbers in Table 2-4 on page 2-19 of the Draft EIR were derived from an evaluation of the actual diversion of water to the project site between 2009 and 2017. In response to comments, the RRBWSD further evaluated these numbers by reviewing the diversions in 2018 and 2019 and provides the “adjusted” typical irrigation demand as shown below in the revisions to Table 2-4 and in Figure 9-2. This typical monthly demand does not include demand to serve the Boone field and does not include demand to serve the two-thirds of the Smith Ranch that are not a part of the proposed project.

**TABLE 2-4  
 ONYX RANCH AND ONE-THIRD INTEREST IN SMITH RANCH  
 TYPICAL IRRIGATION DEMAND BY MONTH (2009-~~2019~~2017)<sup>a</sup>**

Month	Typical Monthly Demand (cfs)
January	21.19
February	26.23
March	44.35
April	49.37
May	49.43
June	49.43
July	46.43
August	29.31
September	26.26
October	46.26
November	29.21
December	25.21

<sup>a</sup> The year 2011 is excluded because it was an unusually high flow and diversion year.  
 SOURCE: Rosedale-Rio Bravo Water Storage District, April 2019a, December 2020.



SOURCE: Rosedale-Rio Bravo Water Storage District, April 2019a, December 2020.

Onyx Ranch South Fork Valley Water Project

**Figure 9-2**  
 Onyx Ranch and One-Third Interest in Smith Ranch  
 Typical Irrigation Demand By Month (2009 to 2019)

## 9.2 Individual Comment Responses

### 9.2.1 Kern County Public Works (KCPW)

#### KCPW-1

This comment recommends three conditions to “be placed in the record” for the proposed project related to survey monuments per Sections 8771 and 8994 of the Professional Land Surveyor’s Act in the event of the issuance of a building permit or grading permit. As explained below, no building or grading permits are anticipated to be required for the proposed project.

As discussed in detail in the Draft EIR, Chapter 2, Project Description, on page 2-19, the proposed project involves changing the points of diversion and place of use for the RRBWSD’s pre-1914 appropriate surface water rights in the South Fork of the Kern River from the project site to the RRBWSD diversion point on the San Joaquin Valley floor. With the proposed project, the fields and pastures currently irrigated with surface water on the Onyx Ranch portion of the project site would be converted to non-irrigated pasture or native vegetation except for the Boone Field. On the Smith Ranch portion of the project site, the proposed project would result in a 33 percent reduction in irrigated acres (page 2-23, Draft EIR). Although this would result in modified use of the diversion ditches on the project site, most ditches would continue to be used by the RRBWSD or surrounding landowners (pages 2-23 and 2-24, Draft EIR). The conversion of irrigated fields and pastures to non-irrigated fields and pastures for grazing would require modification of existing agricultural practices on the project site. This would include working the fields with tractors, chisel plows, and disk plows. This activity would be similar or less intensive than the existing agricultural practices on the project site (pages 2-25 and 2-26, Draft EIR). No grading permits would be required for this preparation of the agricultural fields for the proposed project.

The proposed project would result in the development, on an as needed basis, of up to 12 shallow low-volume wells powered by solar facilities and their accompanying aboveground water tank to provide livestock water throughout grazing areas on the project site. The shallow wells are located internal to the portions of project site owned by the RRBWSD and would not require issuance of a grading or building permit by the Kern County Public Works Department nor a well permit from the Environmental Health Department. However, consistent with the Subdivision Map Act, in the event that an improvement requiring grading and/or a building permit would occur on the project site requiring survey monuments, they would be provided consistent with Sections 8771 and 8774 of the Professional Land Surveyor’s Act.

#### KCPW-2

Refer to Response to Comment KCPW-1.

#### KCPW-3

Refer to Response to Comment KCPW-1.

## 9.2.2 Eastern Kern Air Pollution Control District (EKAPCD)

### **EKAPCD-1**

As discussed in the Draft EIR, Chapter 2, Project Description, on page 2-26, and Section 3.5 Air Quality, on pages 3.5-27 and 3.5-28, the proposed project has the potential to create fugitive dust emissions from land preparation, maintenance activities, and livestock transport and grazing. During the implementation and ongoing operation activities for the proposed project, potential fugitive dust emissions would be suppressed per the EKAPCD Rule 402, Fugitive Dust, which requires control of fugitive dust from certain unpaved roadways, bulk storage piles, construction and demolition projects, and land leveling and clearing projects and Rule 402.2, Agricultural Operations, which specifically pertains to commercial agricultural operations larger than 10 acres. Additionally, as presented in the Draft EIR, Section 3.5 Air Quality, on page 3.5-19, the proposed project would be compatible with the Kern River Valley Specific Plan (KRVSP) Conservation Element Air Quality Policies 5.5-1 through 5.5-3, which require enforcement of measures to suppress fugitive dust. The proposed project would also occur in compliance with KRVSP Conservation Air Quality Implementation Measure 5.5-1, which requires fugitive dust control during active agriculture activities, water ditch maintenance, harvesting activities, and maintenance of fallow land. Additionally, as explained in the Draft EIR on page 3.5-27, pursuant to EKAPCD Rule 402.2, the RRBWSD would submit a new or modified Conservation Management Practice plan for the proposed project to the EKAPCD, as applicable.

As discussed in the Draft EIR on pages 3.5-24 and 3.5-25, the proposed project would include the development, on an as needed basis, up to 12 shallow low-volume wells powered by solar facilities to provide livestock water and improved livestock distribution for more effective use of available forage on the project site. The solar-powered wells, which are not connected to the power grid, would operate during daylight hours and rely on water storage in accompanying aboveground water storage tanks for use during overcast weather or after dark. No stationary equipment with 50 or greater horsepower would be provided as a result of the proposed project.

## 9.2.3 California Department of Transportation (Caltrans)

### **Caltrans-1**

The comment is noted for the record.

### **Caltrans-2**

The statement that “no work will be performed within the State right-of-way” as a result of the proposed project is correct. The fact that Caltrans has no comments on the proposed project is noted for the record and will be forwarded to the RRBWSD Board of Directors for their review and consideration.

## 9.2.4 Ellen Schafhauser (SCHAF)

### **SCHAF-1**

As explained in the Draft EIR, Chapter 2, Project Description, on page 2-21, the proposed project would not result in the pumping of groundwater so it can be put in the South Fork of the Kern River in order to flow downstream. The project does not propose to drain the Kern River Valley

as shown on pages 1 through 28 of Appendix B of Appendix E, groundwater levels do not deplete over time with the project. Summary of Findings shown on page 11 of Appendix E states “the Project is predicted to result in a net increase of groundwater in storage across the Study Area.” Potential Impact UTIL-1 beginning on page 3.15-12 made the finding that no impact would occur to surface water supplies of others and fluctuations in groundwater levels would be negligible.

### **SCHAF-2**

As discussed in detail in the Draft EIR, Chapter 2, Project Description, on page 2-19, the proposed project involves changing the points of diversion and place of use for the RRBWSD’s pre-1914 appropriate surface water rights in the South Fork of the Kern River from the project site to the RRBWSD diversion point on the San Joaquin Valley floor. The proposed changes would allow water to flow past the project site, resulting in a net increase in surface flows within the South Fork of the Kern River and the Isabella Reservoir. To accomplish this, with the proposed project, the fields and pastures currently irrigated with surface water on the Onyx Ranch portion of the project site would be converted to non-irrigated pasture or native vegetation except for the Boone Field. On the Smith Ranch portion of the project site, the proposed project would result in a 33 percent reduction in irrigated acres (page 2-23, Draft EIR). The proposed project would not allow for the South Fork of the Kern River to be “hardened or diverted into a piping system” for delivery to the Isabella Reservoir.

As stated in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-63 and 3.6-64, the proposed project “would result in the conveyance of more water in the Kern River downstream of the points of diversion to the Smith Ranch and the Onyx Ranch relative to existing conditions; thus, there would be a benefit to the South Fork of the Kern River by reducing surface water diversions and allowing more water to remain within the main river channel to support the extensive Fremont cottonwood forest and associated riparian habitats of the South Fork of the Kern River.” This would include the Kern River Preserve directly downstream of the project site as shown in Figure 3.6-1.

As explained in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-35, due to stream channel infiltration, evapotranspiration, and subsurface outflow to the Isabella Reservoir, a portion of the surface water from the project site that would remain in the South Fork of the Kern River with the proposed project would infiltrate down through the riverbed and recharge the aquifer. This would increase the volume of groundwater in storage in the Kern River Valley Groundwater Basin resulting in a beneficial effect with the implementation of the proposed project.

### **SCHAF-3**

As discussed in detail in the Draft EIR, Section 3.10 Hazards and Hazardous Materials, on pages 3.10-25 and 3.10-26, with adherence to the regulatory requirements that address fire hazard reduction, implementation of the proposed project would not expose people or structures to significant risks from pollutant concentrations from a wildfire or cause the uncontrolled spread of a wildfire, including on the project site and in the South Fork Valley. The impact of the proposed project related to fire hazard would be less than significant.

**SCHAF-4**

Refer to Response to Comment SCHAF-2 for a discussion of the proposed project's characteristics and the effect on surface water in the South Fork Valley. Refer to Response to Comment EKAPCD-1 for a discussion of the potential impacts of the proposed project related to fugitive dust. The comment expressing opinion regarding the Owens Valley is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**SCHAF-5**

The comment about solar panels on the project site is unclear. The proposed project does not include the development of industrial solar panels as described in the comment. As discussed in the Draft EIR, Chapter 2, Project Description, on page 2-25, the proposed project would result in the development, on an as needed basis, of up to 12 shallow low-volume wells powered by solar facilities and their accompanying aboveground water tank to provide livestock water throughout grazing areas on the project site. The solar facility for each well would include a solar panel 6 by 6 feet in size located approximately 6 feet above the ground. As a result, solar panels installed under the proposed project would not result in a significant impact to aesthetics or the visual characteristics of the project site and the surrounding area.

**SCHAF-6**

This comment regarding the proposed project is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to the Draft EIR, Section 3.6 Biological Resources regarding the analysis of the potential impacts of the proposed project on the biological resources on the project site and in the surrounding South Fork Valley.

**SCHAF-7**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to Response to Comments SCHAF-1 and SCHAF-2 for a discussion of the analysis of the potential impacts of the proposed project on surface water and groundwater in the Kern River Valley Groundwater Basin. Refer to the Draft EIR, Section 3.6 Biological Resources regarding the analysis of the potential impacts of the proposed project on the biological resources on the project site and in the South Fork Valley.

## 9.2.5 CharlAnn Gregory (GREG)

**GREG-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**GREG-2**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**GREG-3**

The comment regarding the "Historic contour ditches of the South Fork" is unclear. The proposed project does not include physical modification to existing ditches in the South Fork Valley. The

RRBWSD does and, with implementation of the proposed project, would continue to operate certain ditch systems that meet the need of other existing water right holders along with preparation of data records as described in in the Draft EIR, Chapter 2, Project Description, Project Element 1 on page 2-20.

#### **GREG-4**

The “shipping” of groundwater from the Kern River Valley to “Bakersfield and beyond” is not consistent with the Draft EIR Project Description nor the Project Objectives (see Draft EIR, Chapter 2, Project Description, page 2-7).

#### **GREG-5**

The RRBWSD does would not currently use historical flows to determine the percentage of water to take out of the South Fork of the Kern River for irrigation of the Onyx Ranch and Smith Ranch on the project site. The Draft EIR, Chapter 2, Project Description, on pages 2-17 to 2-19 and the discussion of Project Element 1 on page 2-20 describe how the computed amount of surface water to move downstream would be calculated with the implementation of the proposed project. Each day it would be determined how much water is available based on the water rights structure and the amount that would be allowed to remain in the South Fork of the Kern River would be that amount up to the irrigation demand. The method is neutral in regards to climatic changes. Each day’s actual flow would be the basis for the calculation of the amount of water that would remain in the South Fork of the Kern River. It is expected that climatic changes could impact the amount of water available for the proposed project as other changes in climatic conditions have changed the amount of water available to the project site in the past.

For additional information, refer to **Master Response E – Water Rights**.

#### **GREG-6**

As discussed in the Draft EIR, Section 3.8 Geology and Soils, on page 3.8-23, the proposed project would maintain ground cover on the existing fields, which would continue to stabilize soils and prevent soil erosion during and after the proposed transition to non-irrigated fields and pastures. Additionally, the Draft EIR, Section 3.6 Biological Resources analyzes the potential impacts of the proposed project on the biological resources on the project site and in the surrounding South Fork Valley. The Draft EIR evaluates the potential impact of the proposed project to special-status wildlife and plant species in Potential Impact BIO-1 on pages 3.6-46 to 3.6-56. The Draft EIR concludes that with the implementation of Mitigation Measures BIO-1, BIO-2, and BIO-3, the impacts to special-status wildlife and plant species would be less than significant.

#### **GREG-7**

This comment regarding “creating a ‘dust bowl’ during our many windy days” and “severe breathing issues” shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to Response to Comment EKAPCD-1 for discussion of fugitive dust emissions and the proposed project’s compliance with East Kern Air Pollution Control District (EKAPCD) Rule 402: Fugitive Dust and implementation measures of the Kern River Valley Specific Plan. As explained in the Draft EIR, Section 3.5 Air Quality, starting on page 3.5-29, the proposed project would generate fugitive dust emissions from land preparation. As shown in

Table 3.5-5 and Table 3.5-6, during field and pasture transitions, emissions from the proposed project would result in fewer PM10 and PM2.5 emissions (fugitive dust) than under existing conditions and would not exceed the EKAPCD thresholds. As a result, the proposed project would not violate air quality standards and would result in a less than significant impact.

### **GREG-8**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

## **9.2.6 Alison Hernandez (HERN)**

### **HERN-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Regarding the comment about past, present and future drought, the Draft EIR analysis anticipates both conditions where there would be drought and wet periods. Regarding the comment linking the proposed project to natural warming trends, as explained in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-35, due to stream channel infiltration, evapotranspiration, and subsurface outflow to the Isabella Reservoir, a portion of the surface water from the project site that would remain in the South Fork of the Kern River with the proposed project would infiltrate down through the riverbed and recharge the aquifer. This would increase the volume of groundwater in storage in the Kern River Valley Groundwater Basin resulting in a beneficial effect with the implementation of the proposed project.

### **HERN-2**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

The Draft EIR, Chapter 4, Growth Inducement, on pages 4-1 through 4-5, provides an analysis of the potential for the proposed project to induce growth. As stated on page 4-5 (and modified slightly in Chapter 10), “the proposed project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, the potential for impacts related to growth inducement would be less than significant.”

The Draft EIR, Section 3.15 Utilities, Service Systems, and Energy, on pages 3.15-12 through 3.15-16, provides an analysis of the potential for the proposed project to affect water supplies. The analysis concludes, on pages 3.15-15 and 3.15-16, that the proposed project would not result in significant impacts to surface water supplies or groundwater supplies available to serve adjacent land uses, communities, and local water suppliers in the South Fork Valley.

### **HERN-3**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

### **HERN-4**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

## 9.2.7 Suzy Parker and Dick Land (PARK)

### **PARK-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

The Draft EIR, Section 3.6 Biological Resources, on page 3.6-60, concludes that the proposed project would result in an increase in surface water flows in the South Fork of the Kern River downstream of the project site, providing a beneficial effect to riparian habitats. Additionally, the Draft EIR, Section 3.15 Utilities, Service Systems, and Energy, pages 3.15-15 and 3.15-16, concludes that the proposed project would not result in significant impacts to surface water supplies or groundwater supplies available to serve adjacent land uses, communities, and local water suppliers in the South Fork Valley. The Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-37, concludes that the proposed project would result in a net increase in groundwater storage in the Kern River Valley Groundwater Basin.

### **PARK-2**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

The Draft EIR, Section 3.11 Hydrology and Water Quality, evaluates the potential effects of the proposed project to water quality and water quantity. As discussed in the Draft EIR, on pages 3.11-33 and 3.11-34, implementation of the proposed project would not violate any water quality standards or otherwise substantially degrade surface water or groundwater quality.

As stated above in Response to Comment PARK-1, the proposed project would not result in significant impacts to surface water supplies or groundwater supplies available to serve adjacent land uses, communities, and local water suppliers in the South Fork Valley.

### **PARK-3**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

The Draft EIR, Section 3.6 Biological Resources, evaluates the potential impacts of the proposed project on the biological resources on the project site and in the surrounding South Fork Valley. Additionally, the Draft EIR evaluates the potential impact of the proposed project on special-status wildlife and plant species in Potential Impact BIO-1 on pages 3.6-46 to 3.6-56. The Draft EIR concluded that with the incorporation of Mitigation Measures BIO-1, BIO-2, and BIO-3, on pages 3.6-52 to 3.6-54, the potential impacts to special-status wildlife and plant species would be reduced to a less than significant level.

As discussed in the Draft EIR, Section 3.13 Population and Employment, pages 3.13-17 and 3.13-18, the increase in surface water flows associated with the proposed project would support existing recreational opportunities and businesses in the Kern River Valley. Additionally, the persons these businesses employ would not be affected by the proposed project.

**PARK-4**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**PARK-5**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

## 9.2.8 Glen and Gloria Wellman (WELL)

**WELL-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**WELL-2**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

The Draft EIR, Section 3.6 Biological Resources, on page 3.6-60, concludes that the proposed project would result in an increase in surface water flows in the South Fork of the Kern River downstream of the project site, providing a beneficial effect to riparian habitats. Additionally, the Draft EIR, Section 3.15 Utilities, Service Systems, and Energy, on page 3.15-15 and 3.15-16, concludes that the proposed project would not result in significant impacts to surface water supplies or groundwater supplies available to serve adjacent land uses, communities, and local water suppliers in the South Fork Valley. The Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-37, concludes that the proposed project would result in a net increase in groundwater storage in the Kern River Valley Groundwater Basin.

**WELL-3**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

The Draft EIR, Section 3.6 Biological Resources, provides an analysis of the potential impacts of the proposed project on the biological resources on the project site and in the surrounding South Fork Valley. The Draft EIR evaluates the potential impact of the proposed project to special-status wildlife and plant species in Potential Impact BIO-1 on pages 3.6-46 to 3.6-56. The Draft EIR concludes that with the incorporation of Mitigation Measures BIO-1, BIO-2, and BIO-3, on pages 3.6-52 to 3.6-55, the potential impacts to special-status wildlife and plant species would be reduced to a less than significant level.

**WELL-4**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**WELL-5**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**9.2.9 Second Point Water Rights Holders (2NDPT)****2NDPT-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

Regarding the potential impact of the proposed project on flows of the Kern River, refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

Regarding the potential impact of the proposed project on existing water rights, refer to **Master Response E – Water Rights**.

Contractual agreements with Kern River Interests such as Buena Vista Water Storage District are mentioned in the Draft EIR on page 3.15-15. The proposed project would not affect any existing agreements with Buena Vista Water Storage District or rights to utilize the RRBWSD's recharge facilities. See also **Master Response F – RRBWSD Place of Use**.

**2NDPT-2**

Regarding the adequacy of the project description, the Draft EIR, Chapter 2, Project Description, includes a description of the proposed project, including all information required by CEQA to comprise an adequate project description without supplying extensive detail beyond that needed for evaluation and review of the environmental impacts (CEQA Guidelines Section 15124). The following indicates in *italics* what the project description should include consistent with the CEQA Guidelines Section 15124, followed by the location in the Draft EIR where this information is provided:

- *The precise location and boundaries of the proposed project on a detailed map and a regional map.* These maps are included in the Draft EIR, Chapter 2, Project Description, Section 2.2 Project Location, as Figures 2-1, 2-2, and 2-3, on pages 2-3, 2-4, and 2-5, respectively.
- *A statement of objectives sought by the proposed project.* The Draft EIR, Chapter 2, Project Description, Section 2.4 Project Objectives, on page 2-7, provides the objectives for the proposed project.
- *A general description of the project's technical, economic, and environmental characteristics.* This information is found in the Draft EIR, Chapter 2, Project Description, Section 2.6 Project Site Water Rights and Proposed Diversion, Section 2.7 Description of the Proposed Project, and Section 2.8 Project Implementation, on pages 2-16 through 2-26.
- *A statement briefly describing the intended uses of the EIR.* This information is found in the Draft EIR, Chapter 2, Project Description, in Section 2.10 Discretionary Actions, Approvals, and Permits, on page 2-27.

Regarding the potential impact of the proposed project to the 2<sup>nd</sup> Point Kern River water rights, refer to **Master Response E – Water Rights**.

Regarding the potential impact of the proposed project to storage capacity in Isabella Reservoir, refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

### **2NDPT-3**

Refer to **Master Response E – Water Rights**.

### **2NDPT-4**

Refer to **Master Response A – Calculation of Project-Related Water** and **Master Response B – Coordination of Flows and Downstream Impacts**.

### **2NDPT-5**

Refer to **Master Response M – Typical Irrigation Demand**.

### **2NDPT-6**

The groundwater modeling and associated no-injury factor calculated as part of the proposed project take into account the changes to return flows and the amount of subsurface flow into Isabella Reservoir that would result from implementation of the proposed project. The no-injury factor would account for losses between the Onyx Ranch and Isabella Reservoir that would result due to increased evapotranspiration, increased streambed infiltration, and increased subsurface outflow. Refer to **Master Response A – Calculation of Project-Related Water** and **Master Response C – No-Injury**. See also **Master Response B – Coordination of Flows and Downstream Impacts** and.

### **2NDPT-7**

Existing conditions on the project site includes vegetation cultivated in support of cattle grazing. The proposed project would allow existing conditions to continue by planting vegetation capable of surviving a natural precipitation regime while also providing grazing forage for cattle, as described in the Draft EIR, Chapter 2, Project Description, on page 2-23. The proposed project would reduce the irrigation required onsite to sustain the vegetation planted for cattle grazing. The reduction in irrigation is accounted for in the determination of project-related water. Refer to **Master Response A – Calculation of Project-Related Water**.

Refer also to **Master Response B – Coordination of Flows and Downstream Impacts**, and **Master Response H – Typical Irrigation Demand**.

### **2NDPT-8**

As stated in the Draft EIR, Chapter 1, Introduction, on page 1-3, “the RRBWSD acquired the Onyx Ranch and one-third interest in Smith Ranch and the associated pre-1914 appropriative water rights on the South Fork of the Kern River. The purpose of the proposed project is to enable the RRBWSD to change the points of diversion and place of use of the surface water on the Onyx and Smith Ranches in order to move the water downstream for diversion and use in the RRBWSD’s service area.” The RRBWSD water rights include one-third of the associated pre-1914 appropriative water rights for Smith Ranch. Therefore, the remaining two-thirds of the

associated pre-1914 appropriative water rights for Smith Ranch are not included in the calculation of water available for diversion under the proposed project and will not change as a result of proposed project implementation. The remaining two-thirds of the associated pre-1914 appropriative water rights for Smith Ranch will remain limited to two-thirds of the Smith Ranch for irrigation.

#### **2NDPT-9**

Refer to **Master Response D – No-Injury** and **Master Response E – Water Rights**. Refer to the Hydrogeological Evaluation with Clarification in Revised Appendix E to this Final EIR for information about the methodology for including evapotranspiration studies into the groundwater modeling.

#### **2NDPT-10**

The amount of water to be transferred by the proposed project is clearly described in the Draft EIR in Section 2.6 Project Site Water Rights and Proposed Diversion, on pages 2-16 through 2-19, and is sufficient to allow for the analysis of potential impacts to the environment as required by CEQA. The analysis of impacts is found in Chapters 3, 4, and 5 of the Draft EIR. For additional clarification, refer to **Master Response A – Calculation of Project-Related Water** and **Master Response H – Typical Irrigation Demand**.

#### **2NDPT-11**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response E – Water Rights**.

#### **2NDPT-12**

Refer to **Master Response F – RRBWSD Place of Use** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

#### **2NDPT-13**

Regarding RRBWSD's legal right to water, refer to **Master Response E – Water Rights**.

Regarding RRBWSD's legal and physical ability to move the water downstream, how the amount of water available is calculated, and a description of the operation of moving said water, refer to **Master Response A – Calculation of Project-Related Water** and **Master Response B – Coordination of Flows and Downstream Impacts**.

Regarding how the proposed project would function without invasion of or detriment to existing 2<sup>nd</sup> priority rights of Kern River water right holders, refer to **Master Response C – No-Injury**.

#### **2NDPT-14**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response E – Groundwater Impacts to Kern Sub-basin**, and **Master Response F – RRBWD Place of Use**.

**2NDPT-15**

Contractual agreements with Kern River Interests such as Buena Vista Water Storage District are discussed in the Draft EIR, Section 3.15 Utilities, Service Systems, on page 3.15-15. The proposed project would not affect any existing agreements with Buena Vista Water Storage District or rights to utilize the RRBWSD’s recharge facilities. See also **Master Response F – RRBWSD Place of Use**.

**2NDPT-16**

Regarding impacts to the Kern County Sub-basin, refer to **Master Response D – Groundwater Impacts to Kern Sub-basin**. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**. Regarding whether the proposed project would promote growth within the RRBWSD service area, refer to the Draft EIR, Chapter 4, Growth Inducement.

**2NDPT-17**

Refer to **Master Response A – Calculation of Project-Related Water**, **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response E – Water Rights**, and **Master Response F – RRBWSD Place of Use**.

**2NDPT-18**

CEQA Guidelines section 15123 requires an EIR summary to identify the “areas of controversy known to the Lead Agency including issues raised by agencies and the public.” As explained in the Draft EIR, Executive Summary, on page ES-13, consistent with the requirements of CEQA Guidelines Section 15123, the areas of controversy identified by the comment are stated in Section ES.7 and are as follows: “Potential impacts to storage and at Isabella Reservoir due to the reduction in surface water diverted to the project site;” and “Potential impacts to flow and injury to water rights holders in the Lower Kern River, downstream of Isabella Reservoir.”

For a discussion of the potential for downstream impacts and storage in Isabella Reservoir, see **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury** and **Master Response E – Water Rights**.

**2NDPT-19**

Refer to **Master Response H – Project Alternatives**. As discussed in the Draft EIR, Chapter 5, Alternatives Analysis, on page 5-8, the 50 Percent Reduction Alternative was determined to be appropriate as an alternative to the proposed project and was fully analyzed in the EIR (see Draft EIR, pages 5-15 to 5-23). As required by Section 15126.6I of the CEQA Guidelines, the No Project Alternative was analyzed to allow decision-makers to compare the impacts of the proposed project to the impacts that would occur in the foreseeable future if the proposed project is not approved (see Draft EIR, pages 5-9 through 5-15). CEQA Guidelines Section 15126.6(c) requires that the factors that “may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.” “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA, California Public Resources Code Section 21061.1). In the assessment of the 50 Percent Reduction Alternative and

the No Project Alternative, the feasibility, which included economic factors, was taken into consideration when assessing whether the alternatives would be possible to implement.

#### **2NDPT-20**

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

### **9.2.10 City of Bakersfield (BAK)**

#### **BAK-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The RRBWSD received the City of Bakersfield's (City's) comments to the NOP and considered the comments during preparation of the Draft EIR. The NOP comment letter from the City is included in Appendix A to the Draft EIR. CEQA does not require a lead agency to respond to comments provided during the NOP review period. CEQA only requires the lead agency to send the NOP to OPR and to responsible and trustee agencies (CEQA Guidelines Section 15082); the City of Bakersfield is not a responsible or trustee agency.

The comment does not specify the "data, information and analysis" that is missing from the Draft EIR. The Draft EIR demonstrates that the proposed project would have no significant impacts to the local environment or the Kern River, as well as no impact to the City's water resources and supplies. Refer to **Master Response C – No-Injury**.

#### **BAK-2**

The comment states that the City's NOP comments are incorporated as part of the City's comments on the Draft EIR as Exhibit A. Responses to the City's NOP comment letter are provided below (see responses to BAK-A-1 through BAK-A-52) subsequent to the responses to the City's Draft EIR comment letter.

Regarding water rights, refer to **Master Response E – Water Rights**. Regarding the movement of water through Isabella Reservoir and through the Kern River channel to the RRBWSD service area, refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F – RRBWSD Place of Use**. Regarding alleged violations of Water Code section 1706, refer to **Master Response C – No-Injury**, and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

#### **BAK-3**

Refer to **Master Response E – Water Rights**.

#### **BAK-4**

Refer to **Master Response E – Water Rights**.

#### **BAK-5**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-6**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-7**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-8**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-9**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**BAK-10**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-11**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response E – Water Rights**.

**BAK-12**

While the project site is defined in the Draft EIR, Chapter 2, Project Description, on page 2-1, as the Onyx Ranch and Smith Ranch, the Draft EIR does not state that the project area for analysis is restricted to the project site. The Draft EIR evaluates both direct and indirect impacts as required by CEQA (CEQA Guidelines Section 15126.2). The Draft EIR, Chapter 2, Project Description, includes discussion of the Isabella Reservoir and areas below Isabella Reservoir, as stated on page 2-1:

The increased flows resulting from the proposed project would be released through the Isabella Dam and flow downstream in the Lower Kern River until the water is diverted at the RRBWSD diversion points. From there, the RRBWSD would deliver the water to recharge basins and channels within and near its service area west of the City of Bakersfield (see Figure 2-1). The RRBWSD existing groundwater banking and conjunctive-use projects, operations, and CEQA documentation are detailed in the RRBWSD’s annual Operations Report which is found online at: <https://www.rrbwsd.com/newsletter-notices>.

The Draft EIR, Chapter 2, Project Description, explains that the Kern River Interests, including the City, will not “suffer a loss of water through the Project” as the comment suggests. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response F – RRBWSD Place of Use**.

The comment does not specify the “required and necessary information” that is missing from the Draft EIR. The Draft EIR identifies all significant project impacts.

**BAK-13**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury** and **Master Response E – Water Rights**.

**BAK-14**

The baseline conditions in Isabella Reservoir and the Kern River are included in the Draft EIR in Section 3.11 Hydrology and Water Quality.

**BAK-15**

The comment does not specify the “related Project Impacts” that are missing from the Draft EIR. In the Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, the cumulative impacts are evaluated for all of the environmental topics identified for analysis during the scoping process for the Draft EIR. Section 3.1 Format of the Environmental Impact Analysis, on page 3-1, explains the format of the environmental analysis; Section 3.2 Cumulative Impacts Methodology, on page 3-4 to 3-15, specifically explains the cumulative impacts methodology, including the cumulative projects considered in the analysis as listed in Table 3-2 and described on pages 3-6 to 3-15; and Sections 3.3 through 3.15 include the analyses of cumulative impacts for all of the environmental topics addressed in the Draft EIR.

**BAK-16**

The comment does not specify how the Draft EIR “does not properly or sufficiently consider alternatives to the Project.” The Draft EIR includes the analysis of project alternatives in Chapter 5, Alternatives Analysis. The No Project Alternative is evaluated in the Draft EIR on pages 5-9 to 5-15. Refer to **Master Response H – Project Alternatives**.

**BAK-17**

The RRBWSD has not committed to the proposed project. Once the Final EIR for the proposed project is certified, then the RRBWSD Board of Directors can consider the approval of the proposed project.

**BAK-18**

The Draft EIR reflects a good faith effort to investigate and disclose environmental impacts of the project in full compliance with the requirements of CEQA. The Draft EIR, Chapter 1, Introduction and Chapter 2, Project Description, presents background information about the proposed project and clearly provides a description of the proposed project, titled the Onyx Ranch South Fork Valley Water Project, including the proposed project’s purpose and objectives on pages 2-7 and 2-8. In Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, Chapter 4, Growth Inducement, and Chapter 5, Alternatives Analysis, the potential environmental impacts of the proposed project are analyzed and mitigation measures are provided for the identified significant impacts. The analyses in these Chapters are supported by the Technical Appendices to the Draft EIR. The Draft EIR, Chapter 5, Alternatives Analysis, on pages 5-9 to 5-15, provides an analysis of the No Project Alternative. As documented in the Draft EIR, the implementation of the proposed project, with incorporation of the mitigation measures, would have no significant, unavoidable, adverse environmental impacts including to the Kern River or to local or regional water resources and supplies.

CEQA does not require technical perfection in an EIR, but rather adequacy, completeness, and a good-faith effort at full disclosure (CEQA Guidelines Section 15003(i)). A court does not pass judgement upon the correctness of an EIR’s environmental conclusions, but only determines if the EIR is sufficient as an informational document (Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 711). The RRBWSD has complied with CEQA by providing an adequate, complete, and good-faith effort at full disclosure in the Draft EIR and supporting technical documents. [CEQA Guidelines Section 15003(i), 15151; Browning-Ferris Industries v. City Council (1986) 181 Cal.App.3d 852, 862: “where a general comment is made, a general response is sufficient”; see also, Eureka Citizens for Responsible Government v. City of Eureka (2007) 147 Cal.App.4th 357, 378: “Responses to comments need not be exhaustive; they need only demonstrate a ‘good faith, reasoned analysis.’ (Citations)”]

The RRBWSD has not attempted to “obscure and hide details of the Project” or “confuse the public and hide the details and impacts” on the environment as the comment suggests. The RRBWSD has complied with all public scoping and disclosure requirements of CEQA as explained in the Draft EIR, Chapter 1, Introduction, on page 1-6, including issuance of the Notice of Preparation (NOP) and Initial Study, holding two scoping meetings during the NOP review period, one located in the Kern River Valley and one located in the City of Bakersfield at the RRBWSD office. The Draft EIR, Chapter 2, Project Description, on page 2-1, clearly explains the reduced diversion of water for use on agricultural lands and the resulting increased flows in the Kern River, and, on page 2-7, provides the objectives to use the project-related water for groundwater recharge in the RRBWSD service area.

The analysis in the Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, demonstrates that the proposed project would have no significant environmental impacts, with incorporation of mitigation measures, to the project site, the surrounding project area, or the Kern River. Additionally, no significant impacts to the City’s water resources and supplies and no significant impacts to other entities that divert and use Kern River water would occur. Refer to **Master Response C – No-Injury**, **Master Response B – Coordination of Flows and Downstream Impact**, and **Master Response F – RRBWSD Place of Use**.

#### **BAK-19**

The comment states that the Draft EIR project description is incomplete and does not comply with the requirements of CEQA. The suggestion that the project description is incomplete is not supported by substantial evidence. The Draft EIR, Chapter 1, Introduction and Chapter 2, Project Description, provides a clear, accurate project description, that includes all of the information required by CEQA and the CEQA Guidelines, to comprise an adequate description of the proposed project without supplying extensive detail beyond that which is needed for evaluation and review of the environmental impacts as required by CEQA Guidelines Section 15124. According to the CEQA Guidelines Section 15124, an EIR should include: (1) a detailed map of the precise location of the proposed project as well as a regional map; (2) a statement of the objectives of the proposed project; (3) a general description of the project’s characteristics; and (4) a brief statement describing the intended uses of the EIR. The Draft EIR includes all of these project description requirements. Detailed maps of the project site location and the regional location are included in Chapter 2, Project Description as Figures 2-2 and 2-1, on pages 2-4 and

2-3, respectively. The Draft EIR, Chapter 2, Project Description, includes: the objectives of the proposed project on pages 2-7 and 2-8; a detailed description of the proposed project and its components are included on pages 2-16 through 2-23; and a description of the implementation of the proposed project on pages 2-23 through 2-26. A list of the discretionary actions, approvals, and permits for which may be required for implementation of the proposed project and for which the Draft EIR may be used is included on page 2-27.

**BAK-20**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-21**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-22**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-23**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-24**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-25**

Flows through Isabella Reservoir would not be diminished as a result of the proposed project. As a result, no negative impacts to power generation or power generation rights are anticipated as a result of the proposed project. See also **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-26**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-27**

As stated in the Draft EIR, Executive Summary, on page ES-2, and Chapter 2, Project Description, on pages 1-5 and 2-7, “(t)he proposed project would result in the use of the surface water moved downstream in the RRBWSD’s service area as a beneficial use in Kern County.”

**BAK-28**

The comment does not specifically address the Draft EIR. The comment is noted for the record.

**BAK-29**

Regarding the adequacy and completeness of the project description, refer to Response to Comment BAK-19.

The agreements, arrangements, and procedures for the storage of water in Isabella Reservoir is not required in order to evaluate the environmental effects of the proposed project; the storage of

water in Isabella Reservoir is described in the Draft EIR, Chapter 2, Project Description, on page 2-1. The release of water from Isabella Reservoir is described on page 2-1 and in Section 3.11 Hydrology and Water Quality, on page 3.11-28; the transportation of water in the Kern River Channel in conjunction with water accruing to existing Kern River rights is described on page 2-1; the diversion of project-related water into the RRBWSD service area is described on page 2-1. As a result, the Draft EIR does not constitute improper “piecemealing” as suggested by the comment.

The entire Onyx Ranch South Fork Valley Water Project being proposed for consideration of approval is described in the Draft EIR. The RRBWSD is not splitting the proposed project into small pieces to avoid environmental review. As noted in the Draft EIR, Chapter 2, Project Description, on page 2-1, the previously prepared and certified CEQA documents for the existing RRBWSD groundwater banking and conjunctive-use projects are available online. The proposed project would not alter the existing and permitted operation and capacity of the RRBWSD existing groundwater banking and conjunctive-use projects. The description of the proposed project is complete and adequate and allows for the analysis of all environmental impacts.

**BAK-30**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, and Master Response E – Water Rights.**

**BAK-31**

Refer to **Master Response B – Coordination of Flows and Downstream.**

**BAK-32**

Refer to **Master Response E – Water Rights.**

**BAK-33**

The comment does not specifically address the Draft EIR. The Draft EIR is not written in a way that requires readers “to sift through obscure minutiae or appendices” to find important components of the analysis. The comment is noted for the record.

**BAK-34**

Regarding the project site and project area, refer to Response to Comment BAK-12.

The City and other Kern River Interests will not experience any impacts to their Kern River surface water supplies as a result of the project. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury.**

Regarding the adequacy of the project description, refer to Response to Comment BAK-19.

Regarding environmental impacts downstream of Isabella Reservoir, refer to **Master Response B – Coordination of Flows and Downstream Impacts, Master Response D – Groundwater Impacts to Kern Sub-basin, and Master Response F –RRBWSD Place of Use.**

**BAK-35**

Regarding the project area and project description, refer to Response to Comment BAK-12 and BAK-19.

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-36**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response E – Water Rights**.

**BAK-37**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-38**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-39**

Refer to **Master Response C – No-Injury** and **Master Response E – Water Rights**.

**BAK-40**

The Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, addresses the potential environmental impacts that could result from implementation of the proposed project, including the direct, indirect, and cumulative impacts associated with implementation of the proposed project, including short-term and long-term impacts (see explanation on page 3-2 of the Draft EIR). The Draft EIR includes an analysis of the potential impacts to the Kern River, flows of water in the Kern River, and the environment in and around the Kern River in Section 3.11 Hydrology and Water Quality, Section 3.6 Biological Resources, and Section 3.8 Geology and Soils. The Draft EIR includes an analysis of impacts on the local groundwater basin in Section 3.11 Hydrology and Water Quality, on pages 3.11-33 through 3.11-37 and 3.11-43 to 3.11-44. The Draft EIR includes an analysis of impacts to water supply in Section 3.15 Utilities, Service Systems, and Energy, on pages 3.15-12 through 3.15-16. The proposed project would not result in a transfer of water from Kern River Interests to the RRBWSD; refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-41**

The Draft EIR provides substantial evidence to support the determination that impacts to the Kern River would be less than significant in Section 3.11 Hydrology and Water Quality. The comment does not provide evidence to refute the significance conclusions for impacts to the Kern River as evaluated in the Draft EIR. The hydrogeological evaluation of proposed project impacts to

groundwater and Kern River flow is included as Appendix E to the Draft EIR, updated as described in Revised Appendix E to this Final EIR (see **Master Responses C – No-Injury**), and used to support the analysis in the Draft EIR, Section 3.11 Hydrology and Water Quality.

#### **BAK-42**

Regarding the project site and project area, refer to Response to Comment BAK-12. Regarding the adequacy of the project description, refer to Response to Comment BAK-19. The comment does not specify, or provide substantial evidence to support, the “number of potential impacts to the environment” that the Draft EIR “dismisses or minimizes.” The Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, addresses the potential environmental impacts that could result from implementation of the proposed project, including the direct, indirect, and cumulative impacts associated with implementation of the proposed project, including short-term and long-term impacts. All environmental topics mentioned in the comment are adequately addressed in Chapter 3 of the Draft EIR. Also refer to Response to Comment BAK-18.

#### **BAK-43**

The comment includes summaries of the findings of various legal court decisions without making specific comments about the Draft EIR. The comment does not specify or provide substantial evidence to support the allegation that the Draft EIR includes “unexplained conclusions.” The format of the environmental impact analysis in the Draft EIR is explained in Section 3.1 Format of the Environmental Impact Analysis, on page 3-1, and the analysis includes an environmental setting, regulatory framework, impact analysis, and mitigation measures. For each potential impact discussed in the Draft EIR, this format provides the reasoning supporting the EIR’s impacts findings and the supporting evidence.

The Draft EIR, Section 3.15 Utilities, Service Systems, and Energy, on pages 3.15-12 through 3.15-16, includes an analysis of potential impacts to water supply.

#### **BAK-44**

CEQA Guidelines Section 15123 requires an EIR summary to identify the “areas of controversy known to the Lead Agency including issues raised by agencies and the public.” The Draft EIR, Executive Summary, Section ES.7, Areas of Controversy and Issues of Concern, on page ES-13, addresses this CEQA requirement.

As identified by the comment, the areas of controversy include issues raised by the City, other Kern River Interests, and other local water agencies, as well as issues local to the Kern River Valley raised by organizations, residents, and landowners in the South Fork Valley. The comment suggests that ongoing litigation between the RRBWSD and neighboring water districts should be included, but does not specify the disputes or districts. The RRBWSD presumes that the comment refers to litigation filed by RRBWSD in 2010 relating to the EIR for the so-called “Monterey Plus” project (which included the transfer of the Kern Water Bank to local interests) and separate litigation relating to the operation of the Kern County Water Agency’s Pioneer project. Both of the referenced cases have been final for several years. The RRBWSD has determined that such

litigation related to groundwater pumping near the RRBWSD's boundaries by others and is not material to the disclosure of environmental impacts associated with the proposed project.

In response to the comment, the following item is added to the list of issues on page ES-13 of the Draft EIR:

- Documentation of water rights to be utilized for the proposed project.

For additional discussion regarding the issues raised in the comment, also refer to **Master Response E – Water Rights** and **Master Response F – RRBWSD Place of Use**.

#### **BAK-45**

Baseline conditions for the Isabella Reservoir, the Kern River, the diversion and use of water from the Kern River, and the local groundwater basin are included in the Draft EIR, Chapter 2, Project Description and Chapter 3.11 Hydrology and Water Quality. The Hydrologic Study Area for the impact analysis is shown in Figure 3.11-1, on page 3.11-4, and includes these features.

As stated above in Response to Comment BAK-40, the Draft EIR, Section 3.11 Hydrology and Water Quality, Section 3.6 Biological Resources, and Section 3.8 Geology and Soils, include an analysis of the potential impacts to the South Fork of the Kern River, flows of water in the South Fork of the Kern River, and the environment in and around the project site in the South Fork of the Kern River. See **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F – RRBWSD Place of Use** for a discussion of the analysis of the potential for environmental impacts downstream of the Isabella Reservoir and Dam and within RRBWSD's service area on the San Joaquin Valley floor.

#### **BAK-46**

As discussed in the Draft EIR, Section 3.2 Cumulative Impacts Methodology, particularly as presented in Table 3-2 and Figure 3-1, on pages 3.2-7 through 3.2-10, the cumulative impacts analysis is based on a well-defined geographic and temporal scope. The temporal scope of the cumulative analysis is stated on page 3-5 as projects: "that have recently been completed, are currently under construction, or are reasonably foreseeable." Table 3-2, on pages 3-7 through 3-9, provides the cumulative projects that fall under this temporal scope. Cumulative projects E through J, which are all San Joaquin Valley water banking projects, are assessed in the cumulative impact analysis in the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-44 and 3.11-45.

Additionally, the comment indicates that all City of Bakersfield projects should be included, but does not list which projects. The comment does specifically note that the City of Bakersfield's 2800 Acre recharge project, the Kern County Water Agency's Pioneer Project, and the Kern Water Bank should have been included in the Draft EIR cumulative impact analysis. The City of Bakersfield's 2800 Acre recharge project has been operational since at least 1981 (according to KCWA's Water Supply Report from January 1996), and does not fall within the temporal scope of cumulative projects in the Draft EIR. Similarly, the Kern County Water Agency's Pioneer Project became operational as of 1996 and does not fall within the temporal scope of cumulative

projects in the Draft EIR. The Kern Water Bank has been operational for 25<sup>2</sup> years and is not considered a cumulative project in the Draft EIR. Since these projects have been operational for a number of years, their facilities and operations are considered to be part of existing baseline environmental conditions, and as such do not require consideration as cumulative projects. The influence of these existing projects on the physical environment are considered to be reflected in the existing baseline conditions and thus are included in the impact analyses for direct, indirect, and cumulative project impacts as part of the baseline.

The comment indicates that the Draft EIR does not include new and planned projects within the Groundwater Sustainability Plans (GSPs) prepared on behalf of the Kern River Groundwater Sustainability Agency (GSA) and the Kern Groundwater Authority GSA. This is incorrect as one of the projects listed in the Kern River GSA GSP<sup>3</sup> is defined in the Draft EIR as Cumulative Project F Kern Delta Water District Water Allocation Plan in Table 3-2, on page 3-8 and described on page 3-14 and 3-15.

Additionally, the proposed project would not result in a “shift in water supplies away from the City and other Kern River interests” as stated in the comment and, therefore, would not result in “significant adverse impacts on local water supplies, and groundwater recharge and extraction.” As such, the Draft EIR does not include, and does not need to be revised to include, all planned and future projects of the Kern River Interests as listed in the relevant GSP.

Regarding the comment that the Draft EIR does not evaluate the reasonably foreseeable future effects of the project, including a reduction in Kern River flows and water available for diversion, refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **BAK-47**

Refer to **Master Response H – Project Alternatives**.

#### **BAK-48**

Purchasing the Onyx Ranch does not preclude the RRBWSD from consideration of project alternatives. Refer to **Master Response H – Project Alternatives**. The RRBWSD has not committed to the proposed project. The RRBWSD Board of Directors cannot move forward with the consideration of approval of the proposed project until the Final EIR for the proposed project is certified. As stated in the Draft EIR, Chapter 1, Introduction, on page 1-3, when the RRBWSD acquired the Onyx Ranch portion of the project site in 2009, the purchase of the property by the RRBWSD was addressed in a Notice of Exemption filed by the RRBWSD with the Kern County Clerk on February 15, 2013. Similarly, when the RRBWSD acquired one-third interest of the Smith Ranch, a second Notice of Exemption was filed by the RRBWSD with the Kern County Clerk on November 11, 2015, to comply with CEQA.

#### **BAK-49**

The City and other Kern River Interests will not experience any impacts to their Kern River surface water supplies as a result of the proposed project. Similarly, the proposed project would

<sup>2</sup> [http://www.kerngwa.com/assets/kern-water-bank-storage-project-plan\\_draft.pdf](http://www.kerngwa.com/assets/kern-water-bank-storage-project-plan_draft.pdf)

<sup>3</sup> [http://www.kernrivergsa.org/?page\\_id=966](http://www.kernrivergsa.org/?page_id=966)

have no impact to applications to the California State Water Resources Control Board to appropriate Kern River water, including the RRBWSD's application. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-50**

Refer to **Master Response E – Water Rights and Master Response C – No-Injury**.

**BAK-51**

Refer to **Master Response C – No-Injury**.

**BAK-52**

As explained in the Draft EIR, Chapter 4, Growth Inducement, on page 4-1, growth-inducing impacts can either be direct or indirect. Implementation of the proposed project would not have direct growth inducement effects, as it does not propose development of new housing, either in the Kern River Valley or the RRBWSD service area, that would attract additional population (Draft EIR page 4-4). Additionally, implementation of the proposed project would not result in permanent or short-term employment that would indirectly stimulate the need for additional housing and services to support the new employment demand. In fact, as identified in Section 3.13 Population and Employment, employment may be slightly reduced as a result of the proposed project. Therefore, the proposed project would not indirectly induce population growth by establishing new employment opportunities or housing to accommodate such employees.

Furthermore, as discussed in the Draft EIR, on page 4-4, the proposed project would help RRBWSD replace the 10,000 AFY of contracted SWP water that has been curtailed due to environmental restrictions in the Delta. In this way, the proposed project would essentially replace SWP water with a sustainable local supply and would not indirectly have a significant impact due to growth inducement.

**BAK-53**

RRBWSD acknowledges in the Draft EIR, Chapter 4, Growth Inducement, on page 4-3 and in Table 4-1, that average urban use has doubled since 1990 while crop use has decreased slightly, and the overall demand for water has remained rather constant. According to water supply and demand forecasting methodologies as required by SGMA and DWR, the RRBWSD anticipates a 15,000 AFY supply shortage of which the proposed project helps to replace by the 2025 goal. As stated in the Draft EIR, Section 2.4 Project Objectives, on page 2-8, the proposed project would “replace a portion of the RRBWSD’s contracted SWP water supply that has become unreliable due to environmental restrictions in the Delta.” Therefore, future demand would not be offset and the proposed project need would not be eliminated, since the proposed project would essentially replace SWP water with a sustainable local supply.

**BAK-54**

Refer to **Master Response E – Water Rights**.

**BAK-55**

Refer to **Master Response E – Water Rights** and **Master Response H – Typical Irrigation Demand**.

**BAK-56**

The flow data that is included in the Draft EIR, Chapter 2, Project Description, on page 2-8, is based on a technical analysis of USGS Onyx Gage Station data conducted by Thomas Harder & Company (2019) as cited in the footnotes. The comment does not provide evidence to support the allegations that the gage data provided in the Draft EIR is incorrect.

**BAK-57**

The current status of the Isabella Reservoir is provided in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-16, in the discussion of the baseline conditions including the Isabella Lake Dam Safety Modification Project.

**BAK-58**

The comment is noted for the record.

**BAK-59**

Refer to **Master Response E – Water Rights**.

**BAK-60**

Refer to **Master Response E – Water Rights** and **Master Response H – Typical Irrigation Demand**.

**BAK-61**

As stated in the Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, on pages 3-1 and 3-2:

In accordance with CEQA Guidelines Section 15125(a), the environmental setting contains a description of the regional and local physical environmental conditions on the project site and in the project vicinity at the time of the publication of the NOP. This environmental setting constitutes the existing or baseline physical conditions against which the implementation of the proposed project is assessed in order to determine whether an environmental impact would occur (CEQA Guidelines Section 15126.2(a)).

The NOP for the proposed project was published on February 22, 2018, which would constitute the baseline for the environmental setting timeframe for the proposed project. Therefore, the RRBWSD provided the latest crop data for the project site through 2017 in the Draft EIR. CEQA does not require the RRBWSD to identify crops grown on the project site prior to 2009.

**BAK-62**

Refer to **Master Response E – Water Rights**.

**BAK-63**

Refer to **Master Response E – Water Rights** and **Master Response H – Typical Irrigation Demand**.

**BAK-64**

The RRBWSD's existing groundwater recharge, conveyance facilities, and diversion points from the Kern River are shown in the Draft EIR, Chapter 1, Introduction, in Figure 1-1 and described on pages 1-2 and 1-3.

**BAK-65**

Refer to **Master Response E – Water Rights**.

**BAK-66**

Refer to **Master Response E – Water Rights**.

**BAK-67**

Refer to **Master Response A – Calculation of Project-Related Water**, **Master Response B – Coordination of Flows and Downstream Impacts**, and **Master Response E – Water Rights**.

**BAK-68**

The RRBWSD acquired Onyx Ranch in 2009 as explained in the Draft EIR, Chapter 1, Introduction, on page 1-3. In addition, as stated above for Response to Comment BAK-61, the NOP for the proposed project was published on February 22, 2018, which would constitute the baseline timeframe for the environmental setting for the proposed project. Therefore, the RRBWSD provided the typical water demand for Onyx Ranch through 2017 in Table 2-3 of the Draft EIR, Chapter 2, Project Description. The comment does not substantiate why historic diversions should be provided for a longer period of time, or how many years prior to 2009 should be included. The best available data was utilized. Also refer to **Master Response H – Typical Irrigation Demand** for an update to typical monthly demand based on data from 2018 and 2019.

**BAK-69**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-70**

Refer to **Master Response A – Calculation of Project-Related Water**, **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, **Master Response E – Water Rights**, and **Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-71**

Refer to **Master Response A – Calculation of Project-Related Water**, **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, **Master Response E – Water Rights**, and **Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-72**

Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-73**

Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-74**

The 13-year period for the modeled comparison of the existing condition to the proposed project is not considered incomplete or limited information as the comment states. The comment does not substantiate why a longer period of time needs to be studied, nor how much longer of a period needs to be studied. The calibrated model does consider actual diversions and flow information as well as South Fork of the Kern River flows into Isabella Reservoir. Also refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-75**

Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-76**

Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand**. Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-77**

The Draft EIR analysis indeed used USACE daily Isabella Reservoir flow records to calculate daily flows. Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation**

**Demand.** Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-78**

Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand.** Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-79**

Refer to **Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response E – Water Rights, and Master Response H – Typical Irrigation Demand.** Also refer to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to the Final EIR).

**BAK-80**

The end uses for water generated by the proposed project are stated in the Draft EIR, Chapter 2, Project Description, on page 2-1, as follows:

The RRBWSD proposes to change the points of diversion and place of use for the water rights associated with these parcels so that the water can be delivered in the RRBWSD service area on the San Joaquin Valley floor and used for irrigation and groundwater recharge.

**BAK-81**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-82**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-83**

During periods of high-flow and mandatory release as a result of snowmelt, the RRBWSD would receive project-related water as calculated. Refer to **Master Response A – Calculation of Project-Related Water.** During periods of heavy rainfall that precludes irrigation, the calculation of redirected project-related water would be zero, which would be similar to existing conditions at the project site when irrigation ceases during heavy precipitation.

In addition, the RRBWSD would also take Kern River floodwater at its existing facilities in the San Joaquin Valley via the notice order process as has been the custom in the past. There would be no change to this practice. RRBWSD would respond quickly, as it has in the past, during periods of mandatory release. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-84**

The proposed project would not decrease the quantity of water available to the City and, therefore, would not result in potential impacts on public services or housing development. As discussed in the Draft EIR, Chapter 4, Growth Inducement, on page 4-4, the proposed project would help RRBWSD replace the 10,000 AFY of contract SWP water that has been curtailed due to environmental restrictions in the Delta. While the proposed project would increase water supply reliability, project-related water would be a replacement of SWP water no longer provided to the RRBWSD. In this way, the proposed project would not be a new supply that would remove an obstacle to growth inducement that could create “development islands” suggested by the comment. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, and **Master Response C – No-Injury**.

**BAK-85**

Cumulative projects E through J, which are all San Joaquin Valley water banking projects and not located in the Kern River Valley, have been assessed in the Draft EIR, Section Hydrology and Water Quality, on page 3.11-44 and -45, in the hydrology and water quality cumulative impact analysis. As presented in the Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, in Table 3-1 on page 3-5, the geographic scope for other environmental topics is limited to the Kern River Valley, which is based on where the potential environmental impacts associated with the implementation of the proposed project would occur. For a discussion of the potential for downstream impacts, see **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-86**

The Notice of Preparation (NOP) for the McAllister Ranch Groundwater Storage and Recovery Project was issued in June 2020 after the proposed project’s Draft EIR was released. As a result, the Draft EIR has been revised to reflect the fact that the James Groundwater Storage and Recovery Project is now referred to as the McAllister Ranch Groundwater Storage and Recovery Project with approximately 2,072 acres to be used for recharge.

The Draft EIR, Section 3.2 Cumulative Impacts Methodology, text in Table 3-2, on page 3-8, is revised as follows:

City of Bakersfield (Buena Vista Water Storage District is project sponsor)	<del>James-McAllister Ranch</del> Groundwater Storage and Recovery Project	Bakersfield, CA	Groundwater Banking and Recovery	Construction and operation of shallow recharge ponds totaling ≈4,400 <u>2,072</u> acres, water conveyance facilities, and up to 14 groundwater wells and well pumping plants to store water and pump it in times of surplus.	Notice of Preparation (NOP) was released on <u>June 12, 2020</u> <del>May 4, 2012<sup>G</sup></del>
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The Draft EIR, Section 3.2 Cumulative Impacts Methodology, text in Table 3-2, on page 3-9, is revised as follows:

<sup>6</sup> [https://ceqanet.opr.ca.gov/2012051023https://files.ceqanet.opr.ca.gov/262512-2/attachment/smKXgHLQk-OlbwPRfBSc0RgrqQ1ZP3JNVsAE2Vh-abQ7IEq9hzKypxY6\\_8DHku2s1R1Fb505YXPvSSmx0](https://ceqanet.opr.ca.gov/2012051023https://files.ceqanet.opr.ca.gov/262512-2/attachment/smKXgHLQk-OlbwPRfBSc0RgrqQ1ZP3JNVsAE2Vh-abQ7IEq9hzKypxY6_8DHku2s1R1Fb505YXPvSSmx0)

The Draft EIR, Section 3.2.5 Cumulative Related Project Descriptions, text on page 3-14 is revised as follows:

### **James Groundwater Storage and Recovery Project McAllister Ranch Groundwater Storage and Recovery Project**

The ~~James Groundwater Storage and Recovery Project~~ McAllister Ranch Groundwater Storage and Recovery Project is a proposed ~~2,070~~ 2,072-acre project in southwest Bakersfield designed to recharge, store, and recover water to provide a reliable, affordable, economically viable, and usable water supply ~~to provide a cost effective and reliable water supply for landowners within the RRBWSD and BVWSD. The project would help provide an affordable and reliable water supply to approximately 25,000 acres of irrigated agriculture and over 10,000 residents within the RRBWSD service area, and to the lands and landowners within the BVWSD (BVWSD and RRBWSD, 2012). Approximately 150,000 AF of water could be stored annually and up to 56,000 AF water could be extracted annually (City of Bakersfield, 2020).~~

The project property, known as McAllister Ranch, was formerly a planned residential development that was in the early stages of construction. Due to the downturn in the real estate market and project financing issues, development was discontinued and the property sat idle for several years until it was sold in a bankruptcy proceeding. ~~Rosedale and BVSD jointly purchase the property in 2011. The CEQA process is anticipated to begin in 2019 or later was issued in June 2020 with issuance of the NOP (City of Bakersfield, 2020) (BVWSD and RRBWSD, 2012).~~

#### **BAK-87**

The City's 2800 Acre recharge project is currently operational as of the early 1980s and does not fall within the temporal scope of cumulative projects in the Draft EIR.

#### **BAK-88**

As stated on Draft EIR, Chapter 1, Introduction, on page 1-3, the project-related water would be used within the RRBWSD service area on the San Joaquin Valley floor. The comment speculates operations that are not described in the Draft EIR. It should be noted that if any water transfers are made to third parties, additional CEQA evaluation would be required.

**BAK-89**

The proposed project would not shift up to 12,000 AFY from the City or other Kern River Interests. Therefore, the Draft EIR does not need to identify, discuss or analyze the impacts stated in the comment. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-90**

The proposed project would add flow to the Kern River and would not shift water from the Kern River Interests to the RRBWSD. Refer to **Master Response C – No-Injury**. Therefore, the proposed project would not alter the amount of water used by local water districts and the Kern River Interests to serve agricultural lands. The proposed project would not reduce the quantity of water available for agricultural use. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

The project-related water would not be transferred or sold outside of Kern County as described via this CEQA analysis. The end uses for water that would remain in the South Fork of the Kern River as a result of the proposed project are stated in the Draft EIR, Chapter 2, Project Description, on page 2-1 as follows:

The RRBWSD proposes to change the points of diversion and place of use for the water rights associated with these parcels so that the water can be delivered in the RRBWSD service area on the San Joaquin Valley floor and used for irrigation and groundwater recharge.

**BAK-91**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response D – Groundwater Impacts to Kern Sub-basin**. The proposed project would not result in any ground disturbance or new facilities downstream of the Isabella Reservoir and would have no effect to air quality, including in the San Joaquin Valley portion of Kern County.

**BAK-92**

The proposed project would not result in any ground disturbance or new facilities downstream of the Isabella Reservoir and would have no effect to air quality, including in the San Joaquin Valley portion of Kern County. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**BAK-93**

Refer to Response to Comment BAK-12 for a discussion of the project area. The City and other Kern River Interests would not be impacted by the proposed project by a reduction in Kern River water supplies. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response F - RRBWSD Place of Use**.

**BAK-94**

The proposed project would not affect existing water supplies in the Kern County Sub-basin; no water would be transferred to the RRBWSD from other local water districts as a result of the proposed project. The proposed project would not result in any ground disturbance or new facilities downstream of the Isabella Reservoir and would have no effect to air quality. Furthermore, the proposed project-related water supply would be used in Rosedale's service area for existing land uses and would not support new development (agriculture-related or otherwise) that would result in secondary impacts. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury** and **Master Response F - RRBWSD Place of Use**.

**BAK-95**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area because no change to the environment would occur in this area that requires analysis. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-96**

The proposed project would not reduce water supplies for downstream diverters that could have secondary impacts on biological resources as stated by the comment. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-97**

The proposed project would add flow to the Kern River and would not result in a “decreased supply of Kern River flows” as stated by the comment. Refer to and **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response F - RRBWSD Place of Use**.

**BAK-98**

The proposed project would add flow to the Kern River and would not “result in a significant shift of Kern River surface water supplies away from existing users to Rosedale” that could impact biological resources. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response F - RRBWSD Place of Use**.

**BAK-99**

Refer to Response to Comment BAK-12 for a discussion of the project area. As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities and those available to RRBWSD. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-100**

As the comment states, and as acknowledged by the quoted text, the South Fork of the Kern River is under the jurisdiction of the USACE, RWQCB, and CDFW. As stated in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-30 and 3.6-31, the agricultural ditches on the project site are not waters of the U.S. and are not under the jurisdiction of the USACE. The agricultural ditches on the project site have potential to be considered waters of the State.

As further stated in the Draft EIR, on page 3.6-62, there would be no permits required from the USACE, RWQCB, or CDFW as a result of implementation of the proposed project because there would be no proposed discharge of dredged material or fill, or pollutants or contaminants into waters of the State. In addition, “activities as a result of the proposed project would not result in regulated activities subject to CFWC Section 1600 et seq. as these artificial agricultural irrigation ditches are not a river, stream, or lake and there would be no proposed diversion of the natural flow of any river stream, or lake; instead, the proposed project would maintain natural flows within the South Fork of the Kern River” (Draft EIR page 3.6-62).

**BAK-101**

The analysis of the potential impacts of the proposed project for the southwestern willow flycatcher and the yellow-billed cuckoo and associated habitat is included in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-47 to 3.6-48 and 3.6-51 to 3.6-52.

**BAK-102**

The comment is noted for the record. As quoted in the comment, the proposed project would maintain the natural flow within the South Fork of the Kern River, by forgoing the diversion of water to the Onyx Ranch and the Smith Ranch.

**BAK-103**

The RRBWSD estimates that the proposed low-volume wells powered by solar facilities would produce up to approximately 10-20 AFY, which equates to approximately 0.1-0.2 cfs. This is a *de minimus* amount of water that would not affect flows in the South Fork of the Kern River.

**BAK-104**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze additional impacts associated with delivery and use of water in the RRBWSD service area per its existing conjunctive-use project which has already been analyzed. There would be no change to the environment that would occur in this area that requires additional analysis that has not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

The Draft EIR, Section 3.6 Biological Resources, on page 3.6-5, discusses the Canebrake Ecological Reserve and the Audubon California Kern River Preserve located adjacent to the project site. Refer to the Draft EIR, page 3.6-63, for the detailed analysis of the potential impacts to wildlife corridors including those provided by the Canebrake Ecological Reserve and Audubon California's Kern River Preserve. The USFWS South Fork Wildlife Area is discussed in the Draft EIR, on pages 3.6-5, 3.6-47, and 3.6-63.

**BAK-105**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-106**

The proposed project would not result in a loss of water supplies to the region or increased pumping and changes in land use as asserted by the comment. As described in the Draft EIR, Chapter 2, Project Description, on page 2-1, the proposed project would not replace reduced surface water diversions with groundwater pumping on the project site. As concluded in the Draft EIR, Section 3.12 Land Use and Planning, on page 3.12-30, the implementation of the proposed project, with the incorporation of mitigation measures, would not result in significant impacts to land use. The Draft EIR, Section 3.6 Biological Resources, on pages 3.6-46 through 3.6-56, provides an analysis of the potential impacts to candidate, sensitive, or special status species with implementation of the proposed project. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**BAK-107**

The Draft EIR, Section 3.6 Biological Resources, on pages 3.6-47 to 3.6-48 and 3.6-51 to 3.6-52, provides the analysis of the potential impacts to the southwestern willow flycatcher, the yellow-billed cuckoo, and their associated habitat (including critical habitat) with implementation of the proposed project.

**BAK-108**

The Draft EIR, Section 3.6 Biological Resources, on pages 3.6-56 to 3.6-60, provides the analysis of the potential impacts to riparian habitat and sensitive natural communities with implementation of the proposed project.

**BAK-109**

The proposed project would add flow to the Kern River downstream of the project site and downstream of Isabella Reservoir. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**BAK-110**

The proposed project would not result in any ground disturbance downstream of the Isabella Reservoir and would have no effect to cultural resources. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**BAK-111**

The proposed project would not result in any ground disturbance or new facilities downstream of the Isabella Reservoir and would have no effect to geology and soils in that area. Refer to **Master**

**Response B – Coordination of Flows and Downstream Impacts and Master Response F - RRBWSD Place of Use.**

**BAK-112**

The proposed project would not result in a reduction in availability of surface water to the Kern River Interests. As such, there would be no pumping by Kern River Interests to replace surface water supplies. None of the project components would affect greenhouse gas emissions in the San Joaquin Valley portion of Kern County. Refer to **Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, and Master Response D – Groundwater Impacts to Kern Sub-basin.**

**BAK-113**

See Response to Comment BAK-112.

**BAK-114**

See Response to Comment BAK-112.

**BAK-115**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts, Master Response D – Groundwater Impacts to Kern Sub-basin, and Master Response F - RRBWSD Place of Use.**

**BAK-116**

Refer to **Master Response A – Calculation of Project-Related Water.**

Comments suggest the RRBWSD should measure South Fork of the Kern River flow into the Isabella Reservoir. The RRBWSD considered and rejected this concept because the hydrologic analysis of the South Fork Valley showed that there are no locations to accurately measure the flow entering the Isabella Reservoir due to the braided nature of the channel immediately upstream of the Reservoir. Thus, a measurement gage on the South Fork of the Kern River channel would not accurately measure the amount of water that would reach the Isabella Reservoir as a result of the proposed project.

**BAK-117**

Refer to **Master Response D – Groundwater Impacts to Kern Sub-basin.**

**BAK-118**

Refer to **Master Response D – Groundwater Impacts to Kern Sub-basin.**

**BAK-119**

Since the proposed project would not result in a reduction in availability of surface water to the City and, therefore, would not result in impacts to land use and planning, there is no need to discuss other GSPs in the San Joaquin Valley. Also refer to **Master Response D – Groundwater Impacts to Kern Sub-basin.**

**BAK-120**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**BAK-121**

The proposed project would not result in a reduction in availability of surface water to the Kern River Interests. As such, there would be no pumping by the Kern River Interests to replace surface water supplies. Refer to **Master Response C – No-Injury**.

The comment does not provide substantial evidence as to why the groundwater model should include a longer period of time, nor how much longer of a period needs to be studied. The comment does provide data to demonstrate the statement that “the accuracy and reliability of information on Kern River supplies and flows increase substantially when more information is used in a study or report.”

**BAK-122**

RRBWSD owns and controls the Onyx Ranch property and has full ability and intent to implement and enforce the reductions in groundwater pumping and diversions described as part of the proposed project.

**BAK-123**

The proposed project would add flow to the Kern River and would not result in increased pumping by the Kern River Interests to replace lost water supplies. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-124**

The proposed project would not result in a reduction in availability of surface water to the Kern River Interests. As such, there would be no pumping by the Kern River Interests to replace surface water supplies. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-125**

The proposed project would not result in a reduction in availability of surface water to the Kern River Interests. As such, there would be no pumping by the Kern River Interests to replace surface water supplies. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-126**

The proposed project would not result in a reduction in availability of surface water supplies to the Kern River Interests. As such, there would be no pumping by the Kern River Interests to replace surface water supplies. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-127**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-128**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-129**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-130**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-131**

The proposed project would not result in a reduction in availability of surface water supplies to the Kern River Interests. As such, there would be no pumping by the Kern River Interests to replace surface water supplies. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-132**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**. Since the proposed project would not result in a reduction in availability of surface water to the City and, therefore, would not result in impacts to land use and planning, there is no need to mention other GSPs in the San Joaquin Valley.

**BAK-133**

Refer to Responses to Comments BAK-115 through BAK-132 above, as well as **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response D – Groundwater Impacts to Kern Sub-basin**, and **Master Response F - RRBWSD Place of Use**.

**BAK-134**

The proposed project would not result in a reduction in availability of surface water to the Kern River Interests. As such, there would be no pumping by the Kern River Interests to replace surface water supplies. Refer to as **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-135**

The comment is based on an incorrect assumption that the proposed project would replace or displace other Kern River supplies of a prior right holder. The proposed project-related water will flow through Isabella Reservoir as an additional supply above and beyond the supplies that would flow through Isabella Reservoir absent the project. The proposed project does not contemplate storage in Isabella Reservoir that would displace supplies of others. See also **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-136**

The proposed project would create a new supply of water that will flow through Isabella Reservoir. The new supply of water would not be stored in Isabella Reservoir. The quantity of water involved in the proposed project is very small compared to the normal flow rates through Isabella. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-137**

The proposed project would not result in a reduction in availability of surface water to the City and other Kern River Interests and, therefore, would not result in impacts to land use and planning in the City and other parts of Kern County. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**BAK-138**

The City's Kern River water rights would not be affected by the proposed project. Refer to **Master Response C – No-Injury, Master Response B – Coordination of Flows and Downstream Impacts, Master Response D – Groundwater Impacts to Kern Sub-basin, and Master Response F - RRBWSD Place of Use**. Since the proposed project would not result in a reduction in availability of surface water to the City and, therefore, would not result in impacts to land use and planning, there is no need to mention other land use plans or GSPs in the San Joaquin Valley.

**BAK-139**

The proposed project would not result in a reduction in availability of surface water to the Kern River Interests. As such, there would be no pumping by the Kern River Interests or need to use imported water to replace surface water supplies. Refer to as **Master Response B – Coordination of Flows and Downstream Impacts, Master Response D – Groundwater Impacts to Kern Sub-basin, and Master Response F - RRBWSD Place of Use**.

**BAK-140**

In the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-44 and 3.11-45, Cumulative Projects E through J, which are all San Joaquin Valley water banking projects below the Isabella Reservoir and Dam, are assessed in the cumulative impact analysis. As explained in Section 3.12 Land Use, on pages 3.12-31 and 3.12-32, the only cumulative projects that could have impacts to land use when combined with the proposed project are located in the Kern River Valley. As a result, there are no cumulative land use impacts identified in and around the City of Bakersfield.

**BAK-141**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-142**

The City would not lose any water supply as a result of the proposed project. As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities. Also refer to **Master Response C – No-Injury and Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-143**

The proposed project would not result in a reduction in availability of surface water to the City or other Kern River Interests. As such, there would be no effect on the supply of water available to serve their customers and residents. Refer to **Master Response C – No-Injury, Master Response B – Coordination of Flows and Downstream Impacts**, and **Master Response F - RRBWSD Place of Use**.

**BAK-144**

The proposed project would add flow to the Kern River downstream of the project site and downstream of the Isabella Reservoir and Dam. The proposed project would not result in a loss of water supplies by the Kern River Interests. Refer to **Master Response C – No-Injury and Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-145**

Refer to Response to Comment BAK-144.

**BAK-146**

The proposed project would add flow to the Kern River, would not affect the City's water supplies, and would not result in increased pumping by the City or the other Kern River Interests to replace lost water supplies. As a result, increases in energy consumption would not occur. See also **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-147**

The proposed project would not introduce up to 12,000 AFY acre-feet of water to urban Bakersfield. As noted in Response to Comment BAK-90, the proposed project would provide water for irrigation and groundwater recharge to support agricultural, as well as small amounts of urban, land uses. The Draft EIR, Chapter 4, Growth Inducement, on page 4-4 and 4-5, states:

... [the] RRBWSD's mission is to "acquire surface water supplies for the preservation of water levels and quality throughout the district to ensure an affordable and sustainable water supply for all landowners." The landowners within the RRBWSD's service area are predominantly agricultural and require water for irrigation purposes.

In addition, the approximately 2,000 to 12,000 AFY from the proposed project would help replace the reduction in 10,000 AFY of imported water supply to the RRBWSD from the SWP,

thereby, augmenting the groundwater basin with a sustainable local supply (Draft EIR page 4-4). Therefore, the Draft EIR, Chapter 4, Growth Inducement, concludes that the proposed project would not be growth inducing.

**BAK-148**

Refer to Response to Comment BAK-147.

**BAK-149**

The Draft EIR, Section 3.11 Hydrology and Water Quality, pages 3.11-33 through 3.11-22, concludes that the proposed project would not have significant impacts on the Kern River or the San Joaquin Valley, including the downstream Kern River Interests and their water rights. The proposed project would not result in a “shift” in 2,000 to 12,000 AFY of Kern River water from the Kern River Interests to the RRBWSD as stated in the comment. CEQA Guidelines Section 15126.6 requires that the analysis of alternatives be limited to alternatives that would avoid or substantially lessen any of the significant impacts of a project. Since the Draft EIR did not find any significant impacts to the San Joaquin Valley or the water rights of the Kern River Interests, less impactful alternatives to reduce this impact are not required to be considered. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response H – Project Alternatives**.

**BAK-150**

The Draft EIR considered a reasonable range of alternatives to the proposed project. Refer to **Master Response H- Project Alternatives**. The selection and analysis of alternatives to the proposed project is independent of details about water agreements and arrangements, which have no relationship to environmental effects of the proposed project. Refer to Response to Comment BAK-149.

**BAK-151**

Refer to **Master Response H – Project Alternatives**.

**BAK-152**

The comment’s preference for the No Project Alternative is noted for the record. As required by Section 15126.6(e) of the CEQA Guidelines, in the Draft EIR, Chapter 5, Alternatives Analysis, on pages 5-9 through 5-15, the No Project Alternative was analyzed to allow decision-makers to compare the impacts of the proposed project to the impacts that would occur in the foreseeable future if the proposed project is not approved. In the Draft EIR, Chapter 2, Project Description, Section 2.6 Project Site Water Rights and Proposed Diversion, clearly describes water rights associated with the proposed project, all of which began diversion between 1861-1883 and have continued to do so openly and notoriously for 150 years. It is not accurate to describe such longstanding water right diversions as “highly questionable and dubious.”

**BAK-153**

Refer to **Master Response H – Project Alternatives**. CEQA Guidelines Section 15126.6 explains that the lead agency, in this case the RRBWSD, is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those

alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 and *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376). It is typical for an EIR to include a reduced intensity alternative. In the Draft EIR, the 50 Percent Diversion Alternative was analyzed in detail and meets the range of reasonable alternatives required by CEQA and the CEQA Guidelines.

The RRBWSD asserts that all necessary components of the project are described and analyzed in the Draft EIR. Refer to Response to Comment BAK-149. The environmentally superior alternative is appropriately discussed in the Draft EIR, Chapter 5, Alternatives Analysis, on pages 5-24 through 5-26.

#### **BAK-154**

The comment provides a summary of findings from the Hydrogeological Technical Report included as Appendix E to the Draft EIR and a Technical Memorandum (2019) prepared by Thomas Harder & Co. This comment is noted for the record.

#### **BAK-155**

The comment states that the Technical Report in Appendix E is “based on faulty data sets and assumptions built into the model,” but provides no substantial evidence to support this claim. The comment is noted for the record. The commenter is referred to Revised Appendix E for revisions made as a result of comments received on the Draft EIR.

#### **BAK-156**

The comment is noted for the record. The United States Army Corps of Engineers operations reports and data for Isabella Reservoir were used in the development and calibration of the groundwater flow model used for the analysis presented in Appendix E of the Draft EIR and the Revised Appendix E in this Final EIR.

#### **BAK-157**

The comment is noted for the record. The comment restates information included in the Hydrogeological Technical Report included in Appendix E to the Draft EIR.

#### **BAK-158**

Groundwater recharge from precipitation is presented in Tables 4 and 6 of Revised Appendix E, which are the groundwater budgets for the No Project and With-Project scenarios, respectively. Precipitation recharge was estimated from an isohyetal map of the Hydrogeological Study Area and the precipitation/recharge relationship presented in Maxey Eakin, 1949. Precipitation was not included in the analysis as a water supply source to meet the evapotranspiration needs of the crops.

#### **BAK-159**

The comment is noted for the record. It is unclear what part of the analysis the comment is referring.

**BAK-160**

The comment is noted for the record. Overestimation of diversions occurred prior to 2013. However, after 2013, surface water diversions were more carefully measured and are more reliable.

**BAK-161**

Regarding the methods for measuring and verifying flows and diversions by water rights holders on the South Fork of the Kern River, refer to **Master Response A – Calculation of Project-Related Water**.

**BAK-162**

The comment is noted for the record. In the Draft EIR, Chapter 2, Project Description, provides the maximum and minimum instantaneous flow in cubic feet per second (cfs) at the Onyx Gage station on page 2-9 and 2-19, and regulated flow in cubic feet per second below Isabella Dam on page 2-19.

**BAK-163**

The USGS Onyx Station is the only gauging station on the South Fork of the Kern River.

**BAK-164**

The Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR) considers the best available scientific data and performs a thorough analysis consistent with industry standards and generally acceptable modeling standards.

**BAK-165**

Refer to **Master Response C – No-Injury**.

**BAK-166**

The comment is noted for the record. Refer to Responses to Comments KDWD-B-1 through KDWD-B-21.

**BAK-167**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments received, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation

measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

## **City of Bakersfield EXHIBIT A**

### **BAK-A-1A**

Regarding compliance with CEQA and the scope and content of the Draft EIR, refer to Response to Comments BAK-18. Regarding viability of the proposed project, refer to Response to Comments BAK-2.

### **BAK-A-1B**

The NOP for the Draft EIR was prepared in compliance with CEQA requirements. According to CEQA Guidelines Section 15082, the contents of an NOP shall include sufficient information to enable responsible agencies to make a meaningful response, and at a minimum the NOP shall include a description of the project, the location of the project, and probable environmental effects of the project. The NOP for the proposed project is included in Appendix A to the Draft EIR. The NOP includes an Initial Study that identifies the project location (see Initial Study Figure 1-1 and 1-2), describes the project setting (see Initial Study pages 1-1 to 1-19), describes the project purpose, background and objectives (see Initial Study pages 1-19 to 1-27), described the proposed project, (see Initial Study pages 1-28 to 1-30) and the probable environmental effects of the project (see Initial Study pages 2-1 to 3-37).

Regarding compliance with CEQA and the scope and content of the project description, refer to Response to Comments BAK-19. The Draft EIR includes a list of all potentially significant impacts of the project as well as all mitigation measures in Table ES-1 of the Executive Summary. The analysis of alternatives is included in Chapter 5 of the Draft EIR.

### **BAK-A-2**

Refer to **Master Response E – Water Rights**.

### **BAK-A-3**

Refer to **Master Response A – Calculation of Project-Related Water**. RRBWSD is unable to respond to the comments regarding conclusions by “two law firms that recently investigated the Onyx Ranch property” because the analysis and conclusions of these two law firms were not provided.

### **BAK-A-4**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

### **BAK-A-5**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

**BAK-A-6**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, Master Response D – Groundwater Impacts to Kern Sub-basin, and Master Response E – Water Rights.**

The Draft EIR evaluates cumulative impacts associated with the proposed project together with other groundwater banking projects, with the list of cumulative projects provided in Table 3-2 starting on page 3-7.

**BAK-A-7**

Refer to Response to Comment BAK-A-1B.

**BAK-A-8**

The Draft EIR, Chapter 2, Project Description, provides additional detail about the proposed project since publication of the NOP. Regarding the adequacy of the project description, refer to Response to Comment BAK-19. The project description in the Draft EIR includes details about the physical features of the proposed project in Section 2.7 and Section 2.8, as well as agreements, conditions, and infrastructure necessary for implementation of the project.

The proposed project would not impact the City and its water rights and supplies. Refer to **Master Response C – No-Injury.**

The purpose of the proposed project has been clarified in the Draft EIR, Chapter 2, Project Description, Section 2.3 Purpose and Background of the Proposed Project, on page 2-7, which states that the “purpose of the proposed project is to enable the RRBWSD to change the points of diversion and place of use of the surface water on the Onyx and Smith Ranches in order to move the water downstream for diversion and use in the RRBWSD’s service area.”

Regarding the coordination of flows from Isabella Reservoir, through Isabella Dam and to the RRBWSD service area, refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-9**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts and Master Response C – No-Injury.**

**BAK-A-10**

Refer to **Master Response A – Calculation of Project-Related Water and Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-11**

Refer to **Master Response C – No-Injury.**

**BAK-A-12**

The Draft EIR, Chapter 2, Project Description, Section 2.2 Project Location, on pages 2-2 and 2-3 including Figure 2-1 Regional Project Location, provides the location and size of the project site,

which includes the Onyx Ranch and the Smith Ranch. Regarding the project site and project area evaluated for potential impacts, refer to Response to Comment BAK-34 and **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **BAK-A-13**

The RRBWSD’s current water rights and supplies, diversion, delivery and use of water within its service area, and the intended use of water generated through the project can be found in the Draft EIR on pages 1-1 through 1-3. The Draft EIR, Chapter 2, Project Description, Section 2.3 Purpose and Background of the Proposed Project, on page 2-7, provide the purpose and need for the proposed project.

The Draft EIR, Executive Summary on page ES-2, Chapter 1, Introduction on page 1-5, and Chapter 2, Project Description on pages 2-7, 2-9 and 2-22, identifies that other Kern River water rights and supplies are held by other entities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**, Response to Comment BAK-32, and **Master Response E – Water Rights**.

#### **BAK-A-14**

CEQA Guidelines Section 15123 requires an EIR summary to identify the “areas of controversy known to the Lead Agency including issues raised by agencies and the public.” In the Draft EIR, Executive Summary, on page ES-13, the areas of controversy identified during the scoping process are summarized. As identified by the comment, the areas of controversy include issues raised by the Kern River Interests and other local water agencies, as well as local issues raised by residents and landowners in the South Fork Valley and the surrounding Kern River Valley. Refer to Response to Comment BAK-44.

#### **BAK-A-15**

Refer to Response to Comment BAK-47.

#### **BAK-A-16**

Refer to Response to Comment BAK-46.

#### **BAK-A-17**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response F –RRBWSD Place of Use**.

#### **BAK-A-18**

The comment is noted for the record.

#### **BAK-A-19**

In response to the comment to the text of the NOP, the text of the Draft EIR was revised to correctly reflect the description of entities with water rights along the Kern River downstream of

Isabella Dam. The text of the Draft EIR, Chapter 2, Project Description, reads as follows on page 2-9:

Several entities have water rights or access to water via agreement along the Kern River downstream of the Isabella Dam, including the City of Bakersfield, Olcese Water District, North Kern Water Storage District, Kern Delta Water District, the Buena Vista Water Storage District, and Kern County Water Agency (Kern River Interests). The RRBWSD receives Kern River water from the City of Bakersfield and other Kern River Interests through contractual arrangements

**BAK-A-20**

In response to the comment to the text of the NOP, the text of the Draft EIR was revised to correctly reflect the description about recordkeeping of daily flow on the Kern River and, therefore, no revision is needed. The text of the Draft EIR, Chapter 2, Project Description, on page 2-9 correctly states:

The Kern River Watermaster prepares and keeps daily records on the flow of the waters of the Upper Kern River and the storage and release of surface water to the Lower Kern River from the Isabella Reservoir for deliveries to water right holders in the San Joaquin Valley as coordinated by the City of Bakersfield Water Resources Department.

**BAK-A-21**

The Draft EIR, Chapter 2, Project Description, on page 2-9, includes a description of the releases from the Isabella Dam to the Kern River.

**BAK-A-22**

In response to the comment to the text of the NOP, the description of net increases in flows associated with the proposed project has been revised in the Draft EIR, on pages 2-19 and 2-20.

**BAK-A-23**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**BAK-A-24**

Refer to **Master Response E – Water Rights**.

**BAK-A-25**

Refer to **Master Response E – Water Rights**, and **Master Response H – Typical Irrigation Demand**.

**BAK-A-26**

The Draft EIR, Chapter 2, Project Description, on pages 2-7 and 2-8, provides the objectives for the proposed project. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-A-27**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-28**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-29**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-30**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-31**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-32**

The Draft EIR, Chapters 3 through 5, includes an analysis of the potential impacts of the implementation of the proposed project on the project site (the Onyx Ranch and the Smith Ranch) including project impacts associated with reduced diversions to the Onyx Ranch site. The proposed project does not include conversion of agricultural lands to non-agricultural uses (see Draft EIR, Section 3.4 Agriculture, page 3.4-24).

**BAK-A-33**

The proposed project is not considered a water transfer, but rather a change in the point of diversion and place of use as described in the Draft EIR, Chapter 2, Project Description. Economic impacts associated with the proposed project are discussed in the Draft EIR, Section 3.13 Population and Employment. Impacts associated with water supply are discussed in the Draft EIR, Section 3.11 Hydrology and Water Quality and Section 3.15 Utilities, Service Systems, and Energy. The areas of controversy are included in the Executive Summary of the Draft EIR, on page ES-13, and in Chapter 1, Introduction, on page 1-7. Refer to Response to Comment BAK-44. As stated in the NOP, on page 1-29, and the Draft EIR, on page 2-10, the water rights disputes mentioned in the comment were resolved through the 1902 Arbitration Decree.

**BAK-A-34**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-35**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-36**

As stated in the Draft EIR, Chapter 2, Project Description, on page 2-1, “[t]he proposed project would not replace reduced surface water diversions with groundwater pumped on the project site.”

**BAK-A-37**

The list of discretionary actions, approvals and permits is included in the Draft EIR, Chapter 2, Project Description, on page 2-27. The RRBWSD's pending application to appropriate Kern River water is not part of the proposed project. Therefore, the State Water Resources Control Board would not have discretionary approval over the proposed project. As to the City's and other Kern River Interests' authority over Rosedale's ability to transport water in the Kern River channel, the comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**BAK-A-38**

The RRBWSD's pending application to appropriate Kern River water is not part of the proposed project, is not an alternative to the proposed project, and would not affect or alter the proposed project if approved by the State. This EIR for the Onyx Ranch South Fork Valley Water Project does not need to evaluate the application to appropriate Kern River water.

**BAK-A-39**

Refer to Response to Comment BAK-34.

**BAK-A-40**

The Draft EIR concludes that the proposed project would not have a significant impact to greenhouse gas emissions (GHGs). The analysis of impacts to GHGs is included in the Draft EIR, Section 3.9 Greenhouse Gas Emissions.

**BAK-A-41**

The Draft EIR evaluates the proposed project's impacts to population and housing in Section 3.13 Population and Employment, Chapter 4, Growth Inducement, as well as the Initial Study in Appendix A to the Draft EIR (see Initial Study pages 3-26 to 3-27).

**BAK-A-42**

The Draft EIR evaluates the proposed project's impacts to utilities and service systems in Section 3.15 Utilities, Service Systems, and Energy. The proposed project would have no impact to the quantity of water available to the City's utility system. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**BAK-A-43**

The Draft EIR evaluates the proposed project's impacts to Farmland in Section 3.4 Agriculture. The proposed project would not convert of agricultural lands to non-agricultural uses.

**BAK-A-44**

The Draft EIR evaluates the proposed project's impacts to groundwater in Section 3.11 Hydrology and Water Quality, including groundwater impacts in the vicinity of Onyx Ranch and Smith Ranch and groundwater benefits in the RRBWSD service area. The proposed project would have no impact to the City's recharge and banking programs that have not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities. Refer to **Master**

**Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, and Master Response D – Groundwater Impacts to Kern Sub-basin.**

**BAK-A-45**

The Draft EIR evaluates the proposed project’s impacts to water quality in Section 3.11 Hydrology and Water Quality. The proposed project would not have impacts that result in adverse effects to the City’s water quality that have not already been analyzed previously in the CEQA documents for RRBWSD’s existing facilities. Refer to **Master Response B – Coordination of Flows and Downstream Impacts, Master Response C – No-Injury, and Master Response D – Groundwater Impacts to Kern Sub-basin.**

**BAK-A-46**

The Draft EIR includes an analysis of project impacts to land use in Section 3.12 Land Use and Planning. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-47**

As stated in the Draft EIR on page 3.6-1, the analysis in the Initial Study concludes that there would be no significant impacts to habitat conservation plans and natural community conservation plans. Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-48**

As stated in the Draft EIR, Section 3.6 Hydrology and Water Quality, on page 3.6-1, the analysis in the Initial Study concludes that there would be no significant impact habitat conservation plans and natural community conservation plans to Refer to **Master Response B – Coordination of Flows and Downstream Impacts.**

**BAK-A-49**

The Draft EIR includes an analysis of growth inducement in Chapter 4, Growth Inducement.

**BAK-A-50**

As stated in the Draft EIR, Chapter 2, Project Description, on page 2-1, “[t]he proposed project would not replace reduced surface water diversions with groundwater pumped on the project site.” In addition, the proposed project would not affect the water rights or water supplies of the City of Bakersfield or other Kern River Interests. Refer to **Master Response B – Coordination of Flows and Downstream Impacts and Master Response C – No-Injury.**

**BAK-A-51**

The proposed project is not considered a water transfer but rather a change in the point of diversion and place of use as described in the Draft EIR, Chapter 2, Project Description. Economic impacts associated with the proposed project are discussed in the Draft EIR, Section 3.13 Population and Employment. Impacts associated with water supply are discussed in the Draft EIR, Section 3.11 Hydrology and Water Quality and Section 3.15 Utilities, Service Systems, and Energy. Impacts associated with dust and risks of valley fever are discussed in the

Draft EIR, Section 3.5 Air Quality. The proposed project does not include conversion of agricultural lands to non-agricultural uses (see Draft EIR, Section 3.4 Agriculture, page 3.4-24).

**BAK-A-52**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

## 9.2.11 California Department of Fish and Wildlife (CDFW)

**CDFW-1**

The comment is noted for the record. The comments submitted by CDFW during the public review period for the scoping process for the Notice of Preparation (NOP) of the Draft EIR are included in Appendix A, Public Participation, of the Draft EIR. The comments submitted by CDFW were used in the definition of the scope and content of the analyses provided in the Draft EIR.

The summary of the CDFW's role as a trustee agency and responsible agency is acknowledged. The Draft EIR lists the CDFW as a responsible and/or trustee agency for the implementation of the proposed project in Chapter 2, Project Description, Section 2.10, on page 2-27.

The summary of the CDFW's interest in water flows related to their biological expertise is acknowledged.

**CDFW-2**

The comment that provides a summary of the project description information in the Draft EIR, Chapter 2, Project Description, is noted for the record.

**CDFW-3**

The comment is noted for the record. The analysis in the Draft EIR, Section 3.6 Biological Resources discusses that special status species may be present in locations not depicted in the California Natural Diversity Database (CNDDDB) where there is suitable habitat and features capable of supporting them. As described in the Draft EIR, Section 3.6 Biological Resources, on page 3.6-16, the CNDDDB and other databases were reviewed. Additionally, special-status species observed during field surveys (i.e., Kern red-winged blackbird) that were not included in the database review were also evaluated in the Draft EIR on pages 3.6-18, 3.6-28, 3.6-47, and 3.6-50.

**CDFW-4**

The special-status species in the table provided in the CDFG comment letter were evaluated in the Draft EIR, Section 3.6 Biological Resources. Refer to Subsection Special Status Species, beginning on page 3.6-16, and Table 3.6-2 and Table 3.6-3, on pages 3.6-17 through 3.6-28.

**CDFW-5**

Two rare community types exist along the South Fork of the Kern River: the Great Valley Cottonwood Riparian Forest (Riparian Forest); and the Central Valley Drainage Hardhead/Squawfish Stream. As discussed in the Draft EIR, Section 3.6 Biological Resources, on page 3.6-11, the Fremont Cottonwood Forest community, identified in the Draft EIR as a

sensitive natural community, occurs on the project site. The Central Valley Drainage Hardhead/Squawfish Stream does not occur on the project site. According to the CNDDDB, this habitat is mapped approximately 1.7 miles upstream of the project site.

The Draft EIR recognizes the South Fork of the Kern River supports local and regional wildlife movement. The Draft EIR, Section 3.6 Biological Resources, on page 3.6-63 states the following:

... the South Fork of the Kern River is not only an important resource for wildlife to find water and food, but also contains riparian vegetation that provides habitat for nesting and breeding, cover from predators, and connectivity to other adjacent habitat areas that are important for local and regional wildlife movement, including nearby conservation areas (i.e., U.S. Forest Service South Fork Wildlife Area to the west, Audubon California's Kern River Preserve to the west, and Canebrake Ecological Reserve to the west, south, and east).

The Draft EIR, on pages 3.6-11, 3.6-30, discusses the importance of the Fremont Cottonwood Forest community on the project site and to the surrounding habitat in the South Fork Valley. Refer to the Draft EIR, pages 3.6-47 through 3.6-6, for the detailed analysis of the potential impacts to Fremont Cottonwood Forest community as a sensitive natural community and as habitat for other special status species.

The Draft EIR, Section 3.6 Biological Resources, on page 3.6-5, discusses the Canebrake Ecological Reserve and the Audubon California Kern River Preserve located adjacent to the project site. Refer to the Draft EIR, page 3.6-63 for the detailed analysis of the potential impacts to wildlife corridors including those provided by the Canebrake Ecological Reserve and Audubon California's Kern River Preserve.

The Draft EIR, on page 3.6-5, discusses the designation of the South Fork of the Kern River Valley as a Globally Important Bird Area in the United States. The Draft EIR, on page 3.6-31, discusses wildlife movement and habitat linkages. Refer to the Draft EIR, page 3.6-63 to 3.6-65 for the detailed analysis of the potential impacts of the proposed project on wildlife movement.

#### **CDFW-6**

The question provided in the comment is analyzed in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-46 through 3.6-56.

The second part of the comment is noted for the record. The text provided does not pertain to the content or adequacy of the analysis in the Draft EIR.

#### **CDFW-7**

The comment is noted for the record. The comment does not pertain to the content or adequacy of the analysis in the Draft EIR.

#### **CDFW-8**

The comment is noted for the record. The comment does not pertain to the content or adequacy of the analysis in the Draft EIR.

**CDFW-9**

The comment is noted for the record. The comment does not pertain to the content or adequacy of the analysis in the Draft EIR.

**CDFW-10**

The Draft EIR, Chapter 2, Project Description, page 2-23, describes the land management practices for the agricultural fields and pastures on the project site. As described on page 2-23, all fields and pastures currently irrigated with surface water on the Onyx Ranch would be converted to non-irrigated pasture or native vegetation except for Boone Field. The Boone Field, which has non-transferrable riparian rights, would continue to be irrigated similar to existing conditions or fallowed to make more surface water available for the pre-1914 appropriative rights. The transition to non-irrigated pasture would be achieved by planting vegetation capable of surviving a natural precipitation regime while also providing grazing forage for cattle. With implementation of the proposed project, a Grazing Management Plan would be developed to identify grazing practices, performance standards, and associated monitoring to achieve soil conservation, weed management, and agricultural productivity objectives.

On the Smith Ranch, no substantial changes to agricultural practices would occur with implementation of the proposed project other than a 33 percent reduction in irrigated acres. More effective use of existing available forage can be made with modifications to grazing management activities and the implementation of a Grazing Management Plan, including seasonal livestock rotation, residual dry matter targets, fence maintenance (including potential replacement of existing fences), and establishment of additional livestock watering locations.

In response to the comment that suggests a restoration and management plan for fallowed lands, the following text has been added to Project Element 6 – Land Management, on page 2-23:

With the proposed project, a Grazing Management Plan would be developed to identify grazing practices, performance standards, and associated monitoring to achieve soil conservation, weed management, and agricultural productivity objectives. Inter-annual variability of pasture productivity could occur due to the total reliance on natural precipitation for pasture production. The Grazing Management Plan would also include drought management strategies for grazing activities, utilizing replacement feed, use of off-site pastures, early calf weaning, and herd culling in dry years. In areas of Onyx Ranch where fields would be converted to native vegetation or if Boone Field is fallowed, a restoration and management plan for fallowed crop and pasture lands would be prepared and implemented as part of the Grazing Management Plan to address: (1) actions to facilitate early identification of non-native invasive species; (2) methods to remove and immobilize the spread of non-native invasive species such as purple loosestrife (*Lythrum salicaria*), tamarisk, dodder (*Cuscuta* sp.), Russian thistle (*Salsola tragus*); and (3) seeding or planting of appropriate native plants.

**CDFW-11**

The 50 Percent Diversion Alternative is described in the Draft EIR, Chapter 5, Alternatives Analysis, on page 5-15, The analysis of the potential impacts of this alternative in comparison to the impacts of the proposed are analyzed on pages 5-16 through 5-26.

**CDFW-12**

The comment is noted for the record.

**CDFW-13**

The comment is noted for the record.

**CDFW-14**

The Draft EIR, Section 3.6 Biological Resources, Potential Impact BIO-1, Potential Impact BIO-2, and Potential Impact BIO-3, on pages 3.6-46 through 3.6-60, provide analyses of the potential impacts of the changes in groundwater levels on riparian vegetation and wildlife habitat. The potential impacts with implementation of the proposed project were determined to be less than significant with incorporation of Mitigation Measures BIO-1, BIO-2, BIO-3 and BIO-4.

Additionally, the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-26 through 3.11-30, discusses that the proposed project would increase the overall amount of water in storage in the Kern River Valley Groundwater Basin. As shown in the Draft EIR in Figures 3.11-5 and 3.11-6 on pages 3.11-31 and 3.11-32, respectively, the groundwater levels in the riparian forest area just east of the Isabella Reservoir would rise with implementation of the proposed project, increasing the amount of water available to the riparian forest in this area. Finally, the reduction in the volume of surface water diverted to the project site for irrigation in the existing condition would increase the volume of surface water in the South Fork of the Kern River, delivering more water directly to riparian vegetation.

**CDFW-15**

The comment is noted for the record.

**CDFW-16**

The comment is noted for the record.

**CDFW-17**

The comment is noted for the record. The 11 hydrographs in the attachment to the comment letter show actual measured groundwater levels between 2005 and 2018 at the wells located closest to the South Fork of the Kern River as shown in Figure 3.11-6 of the Draft EIR. The 11 hydrographs show that under existing conditions groundwater levels vary in space and time and have been measured both above and below the 7.0-foot depth below ground surface (bgs), the red line for which has been added by CDFW. As shown by the green lines for the Calibrated Model and the purple lines for the With-Project Scenario, the proposed project would not alter these existing conditions, and groundwater elevations would continue to fluctuate above and below the 7.0-foot depth bgs. It is noted that model results more reliably show relative changes in groundwater

levels expected from the proposed project as opposed to absolute values, which are more dependent on model calibration at any given well.

The terminology for groundwater-dependent ecosystems (GDEs) is used in this comment and throughout the remainder of the CDFW comment letter. As described in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-43, the Department of Water Resources (DWR) considers the Kern River Valley Groundwater Basin to be a low priority basin. As such, the Kern River Valley Groundwater Basin is not subject to a Sustainable Groundwater Management Act (SGMA) Groundwater Sustainability Plan. Therefore, an inventory of potential GDEs is not required. However, sensitive natural communities, aquatic habitats, and habitats supporting special-status species, some of which may be potential GDEs are evaluated in the Draft EIR, Section 3.6 Biological Resources.

#### **CDFW-18**

The comment provides excerpts from the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-35 and 3.11-36. The comment is noted for the record.

#### **CDFW-19**

The Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-35 to 3.11-37, evaluates the effects of the implementation of the proposed project to groundwater levels and groundwater storage in the Kern River Valley Groundwater Basin. The analysis in the Draft EIR confirms the statement in the comment “that the increase in storage is not distributed uniformly across the Project area, but appears to be concentrated closer to Isabella Reservoir and away from the Project lands.” As stated in the analysis in the Draft EIR, for Potential Impact HYDRO-2, on page 3.11-35, “the proposed project would increase the volume of groundwater in storage by about 18,224 AF, resulting in a beneficial effect.” However as further stated on page 3.11-35, “groundwater levels would be expected to decrease in some areas, primarily within and around the project site, and increase in other areas further downstream of the project site, depending on the season.” The analysis in the Draft EIR modeled the greatest increases in groundwater levels to occur at wells located approximately 1 mile east of Isabella Reservoir.

#### **CDFW-20**

The comment is noted for the record. The comment summarizes the impact analysis presented in the Draft EIR, Section 3.6 Biological Resources, for Potential Impact BIO-2 on pages 3.6-56 to 3.6-60.

#### **CDFW-21**

This comment addresses the analysis of the proposed project’s potential impacts on aquifer volumes and groundwater levels in the Draft EIR, Section 3.11 Hydrology and Water Quality, Potential Impact HYDRO-2, on pages 3.11-35 to 3.11-37. This comment focuses on certain specific data points including one modeled approximately 15.6-foot decrease in groundwater levels beneath the project site and states that the Draft EIR should “consider that the Project-induced declines are added to the natural seasonal fluctuations.” However, the comment does not place the decrease amount in context (i.e., location and season). As explained in the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-26 through 3.11-30, the groundwater

modeling conducted for the proposed project considered both high groundwater/rainy season conditions (in this case May 2011) and low groundwater/dry season conditions (in this case December 2016), and applied these groundwater levels throughout the modeled area of the Kern Valley Groundwater Basin. The context for the cited approximately 15.6-foot modeled decrease in groundwater level is as follows:

- The 15.6-foot modeled groundwater decrease would occur at the Nicoll Field – Old Ag Well, shown in the Draft EIR, Figure 3.11-6 on page 6.11-32, and would not occur throughout the entire Kern River Valley Groundwater Basin. Decreases in groundwater levels in all other areas would be less. Note that groundwater levels would increase in the area closer to Isabella Reservoir as shown in both Figure 3.11-5 on page 6.11-31 (dry season low groundwater levels) and Figure 3.11-6 (wet season high groundwater levels).
- The 15.6-foot modeled decrease would occur as a maximum decrease in groundwater levels during the rainy season. In other words, this amount of decrease would not occur every single year; decreases in groundwater levels in other years would be less.
- The 15.6-foot modeled decrease in groundwater levels would occur during the rainy season when groundwater levels are at their highest. In other words, groundwater levels may not rise as much as they currently do in the limited areas shown in Figures 3.11-5 and 3.11-6, but they would still rise during the rainy season. Consequently, water supply wells in the Kern River Valley Groundwater Basin would continue to be able to supply their users, as they do now. In addition, given that this condition would only occur during the rainy season when groundwater levels are at their highest and river flow is at its highest, there would be no significant impact to flow in the South Fork of the Kern River, and thus no significant impact to the riparian forest in and along the river.

In summary, the riparian habitat and local water supply users would not be adversely affected during the rainy season. Furthermore, as shown in the Draft EIR, Section 3.11 Hydrology and Water Quality, in Figure 3.11-6, on page 3.11-32, the decreases in groundwater level that would occur during the rainy season in areas where there is riparian habitat would only occur in a stretch of the South Fork of the Kern River between Weldon and Onyx and the decreases in groundwater levels would be on the order of less than 10 feet. As previously noted, groundwater levels would still rise during the rainy season, just not as much. In the area downstream of Weldon closer to Isabella Reservoir, groundwater levels would incrementally increase more than under the existing conditions. This is because a portion of the surface water no longer diverted for irrigation would infiltrate down to the aquifer in the riparian area closer to the Isabella Reservoir.

There is the potential for an adverse effect to occur to riparian habitat during the dry season when groundwater levels are at their lowest. The modeled effects on groundwater levels during the dry season are discussed in the Draft EIR, on pages 3.11-25 through 3.11-30, and shown in Figure 3.11-5, on page 3.11-33. As explained on page 3.11-29, groundwater levels during low groundwater conditions are predicted to decrease in some areas, but increase in others. This would include an increase in groundwater levels of up to approximately 4.1 feet at Well 20N01 located about 1 mile east of the Isabella Reservoir and about 3.75 miles west of the project site, and a maximum decrease of approximately -5.9 feet at the Onyx Ranch Headquarters domestic well located at the Onyx Ranch on the project site at Onyx Ranch and outside of the riparian corridor. As shown on Figure 3.11-5, groundwater levels in and along the South Fork of the Kern

River between Weldon and Onyx would experience maximum decreases of only a couple of feet at most. Note that this would be a maximum that would only occur during the dry season and only in a relatively dry year; decreases in less dry years would be less. Given that there would be such minor water level changes of less than -5 feet during low groundwater conditions and that normal seasonal fluctuations are on the order of 10 to 20 feet, it is expected that the impact to riparian habitat would be negligible as concluded in the Draft EIR.

#### **CDFW-22**

The comment states that the data provided in the Draft EIR conflicts with the Draft EIR conclusions that there would be no potential impacts to Groundwater Dependent Ecosystems (GDEs) or riparian habitat due to reduced groundwater levels. The comment bases this conclusion on several incorrect assertions, some of which are discussed above in Response to Comment CDFW-21. As discussed above in the Response to Comment CDFW-21 and in the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-25 through 3.11-30, the potential impacts to riparian habitat due to fluctuations in groundwater levels would be negligible.

This comment addresses the groundwater levels shown on hydrographs provided in Appendix E to the Draft EIR, which has been revised and included as Revised Appendix E to this Final EIR. These hydrographs were also provided as an attachment to the CDFW comment letter with some revisions as discussed in Response to Comment CDFW-17. The specific parts of the comment are addressed as follows:

**Constant decrease in groundwater level:** The comment states that there would be “an almost constant decrease in groundwater level over the no Project condition.” The comment focuses on the hydrographs for Wells HYD-2 and HYD-13 and does not discuss the other hydrographs provided in Appendix E to the Draft EIR (which has been revised and included as Revised Appendix E to this Final EIR). The hydrographs for these two wells do show lower groundwater levels for the With-Project Scenario (proposed project) throughout the modeled timeframe. The decrease of groundwater levels in Well HYD-2 range from near zero to a maximum of about 6 feet. Similarly, the decrease of groundwater levels in Well HYD-13 range from zero to a maximum of about 10 feet. Water levels at these wells do not decline over time as compared to the without project scenario. The slopes of the trend lines for both the calibrated model and the With-Project scenarios are virtually identical. These two wells mentioned in the comment do not represent the modeled response of all wells included throughout the Hydrologic Study Area. Appendix E and Revised Appendix E present hydrographs for 27 wells distributed throughout the modeled Hydrologic Study Area. Of these, 14 wells show a decrease to groundwater levels for the With-Project Scenario relative to current conditions, typically ranging from zero to a few feet. However, the hydrographs for 13 of the wells show a result that is mixed; sometimes groundwater levels are lower and sometimes groundwater levels are higher than current conditions. Therefore, it cannot be concluded that the proposed project would result in a constant decrease in groundwater levels.

**Seasonal fluctuations:** The comment states that the proposed project would result in a reduction in the amplitude of seasonal fluctuations of groundwater levels for individual wells. Appendix E to the Draft EIR (which has been revised and included as Revised Appendix E to this Final EIR)

presents hydrographs for 27 wells distributed throughout the modeled Hydrologic Study Area. The hydrographs for some wells show a reduced seasonal fluctuation and others do not. The reduced seasonal fluctuation in the With-Project scenario is most pronounced in wells near the Project area (e.g., Mack Field West, Lieb Piezo, Nicholl Field, Hyd-13) where applied water and return flow is substantially reduced. The water is being redirected down the South Fork Kern River as surface flow into Isabella Reservoir instead of a portion percolating into the groundwater as return flow.

**Root depth thresholds:** While some literature suggests Fremont cottonwood trees are known to have taproots up to approximately seven feet deep, the U.S. Department of Agriculture (USDA) suggests rooting depths in mature Fremont cottonwood stands are up to 16 feet (USDA 2019). Wells HYD-2 and HYD-13 are located in the vicinity of Fremont cottonwood forest as shown in the Draft EIR in Figures 3.6-2a through 3.6-2c and Figures 3.11-5 and 3.11-6. The hydrographs for Wells HYD-2 and HYD-13, which are included in Appendix E of the Draft EIR and Revised Appendix E to this Final EIR, show that once the drought ends, groundwater levels would recover to within the 7- to 16-foot depth interval. Similarly, Wells HYD-1, HYD-4, HYD-9, HYD-11 also are located in the vicinity of Fremont cottonwood forest, and hydrographs for these wells show similar trends of recovery of groundwater levels to within the 7- to 16-foot depth interval following the drought years of approximately 2014 through 2017. Wells Lieb Piezo and Mills S are located on the edge of Fremont cottonwood forest and agricultural fields, and hydrographs for these wells also show similar trends of groundwater level recovery (see Revised Appendix E).

The Draft EIR, Section 3.6 Biological Resources, on page 3.6-57 has been revised as follows to provide additional sources regarding root depth of Fremont cottonwood stands and further explanation of the analysis of the potential impacts to this sensitive natural community:

*As cited in the Hydrogeological Evaluation of the Onyx Ranch Project prepared by Thomas Harder & Co, which is provided in Appendix E Hydrogeological Technical Report to this Draft EIR, the proposed project may result in a decrease of groundwater levels of up to approximately 15.6 feet beneath the project site; however, this would occur during wet/rainy periods (e.g., May 2011) when precipitation and groundwater levels typically are at their highest. Specifically, decreases in groundwater levels between approximately 10 and up to 15.6 feet during the wet/rainy periods would be limited to areas that include segments of Hillside, Nicoll, and Mack agricultural ditches within portions of Landers II and Nicoll Tracts. In the areas of Nicoll and Mack agricultural ditches, Fremont cottonwood forest is not present. In the area of Hillside agricultural ditch, Fremont cottonwood forest is present; however, but since surface water flows in Hillside ditch only occur during March through May, the Fremont cottonwood forest along this ditch is primarily supported by groundwater and precipitation for the remainder of the year and thus would not be affected by temporary fluctuations in groundwater levels during wet/rainy periods.*

Surface vegetation and natural communities are most affected and constrained by periods of low groundwater levels, which typically occur in late autumn or early

winter, just before the beginning of the rainy season. During dry periods, the proposed project may result in groundwater level decreases estimated to be approximately 0 to 4 feet along the South Fork of the Kern River, including areas occupied by Fremont cottonwood forest. However, this temporary fluctuation in the groundwater level would be well within the rooting depths of Fremont cottonwood trees. Further, due to the availability of a perennial water source of the South Fork of the Kern River, potential impacts would be less than significant.

While some literature suggests Fremont cottonwood trees are known to have taproots up to approximately seven feet deep (Stromberg, 2013), one source suggests rooting depths in mature Fremont cottonwood stands are 9.8 to 16.4 feet (USDA, 2019). This suggests that Therefore, while groundwater levels may fall below the ~~accepted~~ more conservative seven-foot root growth limit for cottonwood trees on a periodic basis during the wet/rainy season, and sensitive individuals (e.g., young saplings, declining trees) may decline as a result, it is not expected that the community ~~as a whole~~ would be significantly affected due to the availability of precipitation in the winter months. In addition, any decrease in surface flow within the agricultural ditches and the decrease in irrigation in the agricultural tracts as a result of the proposed project would result in the conveyance of more water into the South Fork of the Kern River, which supports the majority of Fremont cottonwood forest in the potential impact area as shown in Figure 3.6-2. As such, the additional flow in the South Fork of the Kern River would likely benefit this community and improve the overall condition of the Fremont cottonwood forest within the potential impact area and the South Fork Valley. Therefore, with implementation of the proposed project, the potential impacts to Fremont cottonwood forest would be less than significant.

**Drought recovery:** The comment expresses concern regarding the hydrographs for Wells HYD-2 and HYD-13 for the 2013 to 2016 modeled time period that simulates a drought, stating that the groundwater levels would not recover from the drought. However, the hydrographs for Wells HYD-2 and HYD-13 in Appendix E to the Draft EIR (which has been revised and included as Revised Appendix E to this Final EIR) clearly show that groundwater levels recover to shallower levels once the drought ends, demonstrated by measured groundwater levels at ground surface at Wells HYD-2 and HYD-13 during 2017 and 2018. This recovery of groundwater levels during 2017 and 2018 after the drought of 2013 to 2016 is evident in the hydrographs of other wells as well, such as Wells HYD-1, HYD-9 and the Prince Well.

### **CDFW-23**

The column entitled “South Fork River ET” in Tables 4 and 6 of Appendix E to the Draft EIR, and Revised Appendix E to this Final EIR, represent ET in and immediately adjacent to the South Fork of the Kern River Channel. The cause of the reduction in ET is a lowering of groundwater levels in the Project simulation versus the model baseline.

**CDFW-24**

In the Draft EIR, Section 3.6 Biological Resources, sensitive natural communities and aquatic habitats are analyzed in Potential Impact BIO-2, on page 3.6-56, and Potential Impact BIO-3, on page 3.6-60, respectively, and it is acknowledged that these habitats could rely on groundwater to some degree. As stated on page 3.6-30, “Vegetation within these communities may depend on hydrology supplied from natural or artificial drainages or a high groundwater table.”

The comment states that a monitoring program for groundwater levels is not included in the Draft EIR as a mitigation measure. However, this is because the proposed project has several monitoring elements that are part of the Project Elements, as described in the Draft EIR, Chapter 2, Project Description, Section 2.7 Description of the Proposed Project. Project Element 1 describes the collection of surface water flow diversion data. Project Element 2 describes the collection of groundwater well pumping data from water supply wells, which would include depth to groundwater level data. Project Element 3 describes the collection of groundwater level and water quality data. Project Element 4 describes the use of the groundwater-surface water model that would use the above-listed data to analyze the impact of the project. The monitoring program does not need to be listed as a mitigation measure because it is part of the project.

**CDFW-25**

See Response to Comment CDFW-21.

**CDFW-26**

As stated above in Response to Comment CDFW-17 and as described in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-43, DWR considers the Kern River Valley Groundwater Basin to be a low priority basin. As such, the Kern River Valley Groundwater Basin is not subject to a SGMA Groundwater Sustainability Plan, and an inventory of potential GDEs is not required. However, sensitive natural communities, aquatic habitats, and habitats supporting special-status species, some of which may be potential GDEs, are evaluated in the Draft EIR, Section 3.6 Biological Resources.

As described in the Draft EIR, Chapter 2, Project Description, Section 2.7 Description of the Proposed Project, on page 2-21, the proposed project includes Project Element 3 that consists of the collection of groundwater level and water quality data. In response to this comment, in the Draft EIR, Section 3.6 Biological Resources, Mitigation Measure BIO-1 on page 3.6-52, has been revised as follows to include relevant groundwater data in the Assessment and Monitoring Program:

**BIO-1: Assessment and Monitoring Program:** A qualified biologist shall prepare and implement a pre-project and post-project Assessment and Monitoring Program. The pre-project phase of the program shall confirm and update the existing baseline conditions and extents of the creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, and sandbar willow thickets within the potential impact area. The post-project phase of the program shall be developed to systematically monitor the condition of each of the aforementioned sensitive natural communities and riparian habitats located within the potential impact area to determine whether each sensitive natural community and/or

riparian habitat is experiencing a level of disturbance as a result of the project implementation and operational activities.

For the Assessment and Monitoring Program, the physical condition of each sensitive natural community and riparian habitat shall be documented during both the pre-project and post-project monitoring activities. Documentation shall include, but is not limited to: GPS mapping to monitor community extents, qualitative and quantitative vegetation analysis (including native and non-native cover), relevant groundwater data, and annual reporting. Vegetation analysis methods, including determination of the level of site disturbance, shall be conducted in accordance with accepted industry standards, such as the CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment (Rapid Assessment) and Relevé methods (CDFW, 2019b). Post-project monitoring activities shall continue for a period of 5 years, to be initiated one year following implementation of the project. Pre-project surveys and post-project monitoring documentation shall be submitted to and retained at the RRBWSD administrative office.

The CDFW-CNPS Rapid Assessment/Relevé method of vegetation sampling includes the following standards for classifying disturbances from the reduction or elimination of surface water diversion (Disturbance Code 14) and other disturbances within the potential impact area:

- Light: less than 33% of the stand is impacted.
- Moderate: between 33% and 66% of the stand is impacted.
- Heavy: more than 66% of the stand is impacted.

If the assessment and monitoring program determines a Light, Moderate, or Heavy Disturbance (as defined in the CDFW-CNPS Rapid Assessment/Relevé methods) in the potentially impacted sensitive natural communities and/or riparian habitats identified, the area of impact shall be quantified through comparison with the established pre-project baseline conditions. For purposes of comparing post-project implementation conditions after the 5-year monitoring period with the pre-project baseline conditions, the impacts characterized as Light, Moderate, or Heavy Disturbance shall include:

- Light: less than 33% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Moderate: between 33% and 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Heavy: more than 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat

If the monitoring biologist determines that extraneous factors (i.e., drought, non-project-related anthropogenic influences, other uncontrollable factors) could have adversely influenced absolute native cover of the sensitive natural community

and/or riparian habitat during the 5-year monitoring period, the monitoring period may be extended at the monitoring biologist's discretion to account for these factors.

At the conclusion of the monitoring period, impacts evaluated in terms of Light, Moderate, or Heavy Disturbance shall be mitigated as described below.

**Mitigation Options at Conclusion of 5-Year Monitoring Period:** For impacts to creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, or sandbar willow thickets, the RRBWSD shall provide one or a combination of the following mitigation options unless the habitat is occupied by tri-colored blackbird (which would be mitigated in accordance with BIO-2):

1. No mitigation required for Light Disturbance.
2. On- and/or off-site preservation, creation, restoration, and/or enhancement of sensitive natural communities or riparian habitat at a ratio no less than 1:1 for Moderate Disturbance impacts, and no less than 2:1 for Heavy Disturbance impacts. A habitat mitigation plan (HMP) shall be developed to include information on site selection, grading and site preparation, seeding and planting plans, irrigation, maintenance and monitoring activities, success criteria, adaptive management/contingency measures, and provisions for site preservation and long-term management. The HMP shall focus on the preservation, creation, restoration, and/or enhancement of equivalent habitats within suitable habitat areas of the project site and/or off-site.
3. The purchase of mitigation credits from an approved mitigation bank at a ratio of no less than 1:1 for Moderate Disturbance and no less than 2:1 for Heavy Disturbance.

### **CDFW-27, CDFW-28, and CDFW-29**

The estimate of annual redirected water reported in the Draft EIR, Chapter 2, Project Description, page 2-22, of 7,265 AFY was based on the total net redirected water of 94,442 over the 13-year analysis period as shown in Table 2 of Appendix E to the Draft EIR. The Smith Ranch diversion values in Table 2 of Appendix E of the Draft EIR are incorrect. The corrected values are provided in Table 2 of the Hydrogeological Evaluation with Clarification provided in Revised Appendix E to this Final EIR (Thomas Harder & Co., 2020; Revised Appendix E to this Final EIR). It is noted that the correction results in a higher volume of net redirected water (98,156 AF) than previously reported (94,452 AF). The net redirected water used for the groundwater flow model is correct but was not transcribed to Table 2 of Appendix E correctly. This error does not change the estimated volume of water available as a result of the proposed project over the 13-year simulation period (78,183 AF).

### **CDFW-30**

The comment is noted for the record.

### **CDFW-31**

The comment is noted for the record.

**CDFW-32**

Canal losses associated with the proposed project (referred to as With-Project scenario in Revised Appendix E to this Final EIR, Table 6) are associated with surface water deliveries to the Smith Ranch, Boone Field, and all other non-project entities that receive surface water.

**CDFW-33**

The total irrigation demand of the crops consists of the sum of consumptive use plus return flow after accounting for available precipitation. This total irrigation demand is met through a combination of surface water diversions from the South Fork of the Kern River and groundwater pumping. The statement that the losses exceed the supply in the groundwater budget neglects to take into account the supply of surface water to meet irrigation demand.

**CDFW-34**

In response to the comment, the following Footnote 13 has been added to page 7 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>13</sup> Surface diversions from the South Fork Kern River to the canals are simulated using the Stream Flow Routing (SFR2) package of MODFLOW. The values for canal loss reported in Tables 3 through 6 are model-derived. In the calibrated model (No Project), the relatively shallow groundwater around the canals limits the infiltration of water from the canals to the groundwater. In the Project scenario, lower groundwater levels in the vicinity of the canals results in increased canal losses, even though fewer canals are in service because of the Project.

Sources of irrigation water in the With-Project scenario are surface water diversions from the South Fork of the Kern River and groundwater pumping.

Remaining irrigated area in the With-Project scenario is 254 acres and includes the Boone Field and 2/3 of the Smith Ranch. The types of crops anticipated to be grown in these areas are the same as what has been grown in the past: pasture grass, alfalfa, and oats.

The amount of water applied to produce 1,199 AFY of deep percolation on the project site in the With-Project scenario includes, on average, 875 AFY of groundwater pumping (see Table 5 of Revised Appendix E), 744 AFY of surface water deliveries to the Boone property via the Nicoll/Pruitt diversion, and 641 AFY of surface water deliveries to the Smith Ranch via the Branson/Smith Ranch diversion structure (see Table 2 of Revised Appendix E). Thus, the total applied water to produce 1,199 AFY of deep percolation is anticipated to be on the order of 2,260 AFY.

The deep percolation of applied water on the Boone Field and Smith Ranch is estimated to be approximately 53 percent of the applied water.

**CDFW-35**

Some of the values reported in Table 2 of Appendix E to the Draft EIR were incorrect (see also Response to Comments CDFW-27, CDFW-28, and CDFW-29). Revised Table 2 is provided in Revised Appendix E to this Final EIR. As shown, the revised difference in Smith Ranch diversions is 8,338 AF over the 13-year analysis period.

**CDFW-36**

As described in Section 6.0 of Appendix E to the Draft EIR, Smith Ranch diversions were reduced by one-third, relative to historical diversions, in the With-Project scenario evaluated with the model. The reduction in diversions was implemented at the beginning of the model simulation (2005 hydrologic conditions). The water not diverted to Smith Ranch was allowed to flow downstream in the South Fork of the Kern River channel.

**CDFW-37**

Table 2 of Appendix E to the Draft EIR (and Table 2 of Revised Appendix E to this Final EIR) lists all surface water diversions from the South Fork of the Kern River that are within the model (not just Onyx Ranch and Smith diversions). Audubon, D. Prince, and Hafenfeld are not Onyx Ranch diversions. In the No Project historical condition (i.e., Baseline), 203,158 AF of water was diverted from the combination of all diversion points (With-Project and non-Project) from 2005 through 2017 in order to provide a complete model water budget.

**CDFW-38**

The Draft EIR, Chapter 2, Project Description, Table 2-4 on page 2-19, provides typical monthly water demand (in cfs) for irrigation at Onyx Ranch and one-third interest in Smith Ranch. The typical monthly water demand is not comparable to the average annual diversions shown in Table 2-3 for the Onyx Ranch Diversions from the South Fork of the Kern River, over the period of 2009 to 2017. The calculated demand of 25,981 AFY provided in the comment is not accurate or applicable to the analysis of project-related water use. The Draft EIR, Chapter 2, Project Description, on page 2-21, states that the “RRBWSD would not pump groundwater to meet the typical irrigation demand on the Onyx and Smith Ranches (see Table 2-4).” As explained in **Master Response A – Calculation of Project-Related Water**, in the Draft EIR, on page 2-17, the RRBWSD would compare the amount of water available under its water rights to the typical irrigation demand, by month, on the project site without the proposed project (Table 2-4). The lesser amount would be used as the basis for further calculating project-related water. In addition, details regarding the typical irrigation demand are clarified in **Master Response H – Typical Irrigation Demand**.

**CDFW-39**

Refer to Response to Comment CDFW-38. The calculated demand of 25,981 AFY provided in the comment is not accurate or applicable to the analysis of project-related water use. The Draft EIR, on page 2-21, states that the “RRBWSD would not pump groundwater to meet the typical irrigation demand on the Onyx and Smith Ranches (see Table 2-4).”

**CDFW-40**

As stated above for Responses to Comments CDFW-37, CDFW-38, and CDFW-39, there are no discrepancies in the groundwater modeling related to water diversions and groundwater pumped, or excessive amounts of applied water. The proposed project would not result in a waste or unreasonable use under the California Constitution as stated in the Draft EIR, Section 3.11 Hydrology and Water Quality, page 3.11-18. The groundwater model has not been re-run in response to the comment.

**CDFW-41**

The 50 Percent Diversion Alternative is described in the Draft EIR, Chapter 5, Alternatives Analysis, on page 5-15. The analysis of the potential impacts of this alternative in comparison to the impacts of the proposed is analyzed on pages 5-16 through 5-26.

**CDFW-42**

The comment is noted for the record.

**CDFW-43**

As discussed in the Draft EIR, Section 3.6 Biological Resources, on page 3.6-46 and page 3.6-47, the proposed project would result in the development, on an as needed basis, of up to 12 shallow, low-volume wells which would be sited in previously disturbed areas and upland areas on the project site and, therefore, outside of sensitive natural communities, riparian areas, and marsh habitats. Therefore, habitat for special-status birds such as southwestern willow flycatcher, western yellow-billed cuckoo, least Bell's vireo, and tri-colored blackbird would be avoided by the proposed project, and no impacts to these species are anticipated.

In addition, well installation would be scheduled outside of the avian nesting season to avoid potential impacts associated with project construction and ground disturbing activities. The text of the Draft EIR, on page 3.6-46, has been revised to correct the applicable avian nesting season as follows:

All well installations would be scheduled outside of the ~~September 1—February 14~~ February 1-September 15 avian nesting ~~bird~~ season. Therefore, installation and operation of the solar wells would result in no impacts to special-status plants or wildlife (including southwestern willow flycatcher and western yellow-billed cuckoo) or their habitats, and no mitigation is required.

**CDFW-44**

There is no development associated with the proposed project except for the installation of wells. As discussed in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-46 and 3.6-47, the proposed project would result in the development, on an as needed basis, of up to 12 shallow, low-volume wells which would be sited in previously disturbed areas and upland areas on the project site and, therefore, outside of sensitive natural communities, riparian areas, and marsh habitats. The proposed wells will be sited to avoid all sensitive and riparian habitat, including suitable habitat for southwestern willow flycatcher and western yellow-billed cuckoo. See Response to Comment CDFW-43. No mitigation is required.

**CDFW-45**

Ground-disturbing activities associated with the installation of the shallow, low-volume wells would occur to avoid the nesting bird season, including the nesting season of southwestern willow flycatcher and western yellow-billed cuckoo. Therefore, focused surveys would not be necessary. See Response to Comment CDFW-43.

**CDFW-46**

Ground-disturbing activities associated with the well installations would avoid the nesting bird season, including the nesting season of southwestern willow flycatcher and western yellow-billed cuckoo. Therefore, avoidance measures would not be necessary. See Response to Comment CDFW-43.

**CDFW-47**

See Response to Comment CDFW-43 and Response to Comment CDFW-44. Ground-disturbing activities associated with the well installations would avoid the nesting bird season, including the nesting season of southwestern willow flycatcher and western yellow-billed cuckoo, and would avoid suitable habitat for these species as well. Therefore, the circumstance when a State Incidental Take Permit would be required would not occur.

**CDFW-48**

The comment is noted for the record.

**CDFW-49**

See Response to Comment CDFW-43.

**CDFW-50**

See Response to Comment CDFW-43. There is no development associated with the proposed project besides well installations. The proposed wells would be sited to avoid all sensitive and riparian habitat, including suitable habitat for least Bell's vireo. No mitigation is required.

**CDFW-51**

Ground-disturbing activities associated with the well installations would avoid the nesting bird season, including the nesting season of least Bell's vireo. Therefore, focused surveys would not be necessary. See Response to Comment CDFW-43.

**CDFW-52**

Ground-disturbing activities associated with the well installations would avoid the nesting bird season, including the nesting season of least Bell's vireo. Therefore, avoidance measures would not be necessary. See Response to Comment CDFW-43.

**CDFW-53**

See Response to Comment CDFW-43 and Response to Comment CDFW-50. Ground-disturbing activities associated with the well installations would avoid the nesting bird season, including the nesting season of least Bell's vireo, and would avoid suitable habitat for this species as well.

Therefore, the circumstance when a State Incidental Take Permit would be required would not occur.

**CDFW-54**

The comment is noted for the record.

**CDFW-55**

The proposed wells would be sited to avoid all riparian and marsh habitats, including habitats suitable for tri-colored blackbird. See Response to Comment CDFW-43. No mitigation is required.

**CDFW-56**

See Response to Comment CDFW-55.

**CDFW-57**

Ground-disturbing activities associated with the well installations would avoid the avian nesting season. Therefore, focused surveys would not be necessary. See Response to Comment CDFW-43.

**CDFW-58**

Ground-disturbing activities associated with the well installations would avoid the avian nesting season. Therefore, avoidance measures would not be necessary. See Response to Comment CDFW-43.

**CDFW-59**

See Response to Comment CDFW-43 and Response to Comment CDFW-55. Ground-disturbing activities associated with the well installations would avoid the nesting bird season, including the nesting season of tri-colored blackbird, and would avoid suitable habitat for this species as well. Therefore, the circumstance when a State Incidental Take Permit would be required would not occur.

**CDFW-60**

In response to this comment, in the Draft EIR, Section 3.6 Biological Resources, Mitigation Measure BIO-1, on page 3.6-52 through 3.6-54, has been revised as follows to allow for flexibility in the term of the monitoring period to extend beyond five years if additional groundwater level information is needed, as well as flexibility in the timing of mitigation to be implemented prior to the end of the monitoring period. In addition, RRBWSD identified a fourth mitigation option, which has been added to Mitigation Measure BIO-1 below:

**BIO-1: Assessment and Monitoring Program:** A qualified biologist shall prepare and implement a pre-project and post-project Assessment and Monitoring Program. The pre-project phase of the program shall confirm and update the existing baseline conditions and extents of the creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, and sandbar willow thickets within the potential impact area. The post-project phase of the program shall be developed to systematically monitor the condition of each of the aforementioned

sensitive natural communities and riparian habitats located within the potential impact area to determine whether each sensitive natural community and/or riparian habitat is experiencing a level of disturbance as a result of the project implementation and operational activities.

For the Assessment and Monitoring Program, the physical condition of each sensitive natural community and riparian habitat shall be documented during both the pre-project and post-project monitoring activities. Documentation shall include, but is not limited to: GPS mapping to monitor community extents, qualitative and quantitative vegetation analysis (including native and non-native cover), relevant groundwater data, and annual reporting. Vegetation analysis methods, including determination of the level of site disturbance, shall be conducted in accordance with accepted industry standards, such as the CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment (Rapid Assessment) and Relevé methods (CDFW, 2019b). Post-project monitoring activities shall continue for a period of 5 years, to be initiated one year following implementation of the project. Pre-project surveys and post-project monitoring documentation shall be submitted to and retained at the RRBWSD administrative office.

The CDFW-CNPS Rapid Assessment/Relevé method of vegetation sampling includes the following standards for classifying disturbances from the reduction or elimination of surface water diversion (Disturbance Code 14) and other disturbances within the potential impact area:

- Light: less than 33% of the stand is impacted.
- Moderate: between 33% and 66% of the stand is impacted.
- Heavy: more than 66% of the stand is impacted.

If the assessment and monitoring program determines a Light, Moderate, or Heavy Disturbance (as defined in the CDFW-CNPS Rapid Assessment/Relevé methods) in the potentially impacted sensitive natural communities and/or riparian habitats identified, the area of impact shall be quantified through comparison with the established pre-project baseline conditions. For purposes of comparing post-project implementation conditions after the 5-year monitoring period with the pre-project baseline conditions, the impacts characterized as Light, Moderate, or Heavy Disturbance shall include:

- Light: less than 33% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Moderate: between 33% and 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Heavy: more than 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat

If the monitoring biologist determines that extraneous factors (i.e., drought, non-project-related anthropogenic influences, other uncontrollable factors) could have adversely influenced absolute native cover of the sensitive natural community and/or riparian habitat during the 5-year monitoring period, or additional groundwater level data is needed to draw conclusions regarding observations of adverse habitat impacts related to groundwater levels, the monitoring period may be extended at the monitoring biologist's discretion to account for these factors.

At the conclusion of the monitoring period, impacts evaluated in terms of Light, Moderate, or Heavy Disturbance shall be mitigated as described below.

**Mitigation Options at Conclusion of 5-Year Monitoring Period:** For impacts to creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, or sandbar willow thickets, the RRBWSD shall provide one or a combination of the following mitigation options unless the habitat is occupied by tri-colored blackbird (which would be mitigated in accordance with BIO-2): The timing of implementation shall depend on if and when adverse impacts to these habitats are observed to be attributable to changes in surface water or groundwater conditions, and may be implemented prior to or at the end of the monitoring period.

1. No mitigation required for Light Disturbance.
2. On- and/or off-site preservation, creation, restoration, and/or enhancement of sensitive natural communities or riparian habitat at a ratio no less than 1:1 for Moderate Disturbance impacts, and no less than 2:1 for Heavy Disturbance impacts. A habitat mitigation plan (HMP) shall be developed to include information on site selection, grading and site preparation, seeding and planting plans, irrigation, maintenance and monitoring activities, success criteria, adaptive management/contingency measures, and provisions for site preservation and long-term management. The HMP shall focus on the preservation, creation, restoration, and/or enhancement of equivalent habitats within suitable habitat areas of the project site and/or off-site.
3. The purchase of mitigation credits from an approved mitigation bank at a ratio of no less than 1:1 for Moderate Disturbance and no less than 2:1 for Heavy Disturbance.
4. Returning flows to the agricultural ditches and fields in areas where Moderate or Heavy Disturbance impacts to any of the natural communities identified above supported by those ditches or fields are observed during monitoring.

#### **CDFW-61**

Refer to Response to Comment CDFW-60.

#### **CDFW-62**

As described in the Draft EIR, Chapter 2, Project Description, on page 2-1, "The proposed project would not replace reduced surface water diversions with groundwater pumped on the project site." The proposed project does not include pumping or exporting of groundwater.

**CDFW-63**

See Response to Comment CDFW-62. As described in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-43, the DWR considers the Kern River Valley Groundwater Basin to be a low priority basin. As such, the Kern River Valley Groundwater Basin is not subject to a SGMA Groundwater Sustainability Plan. Therefore, the proposed project is not subject to SGMA.

**CDFW-64**

As discussed in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-36 and 3.6-37, “The earthen irrigation ditches on the project site are not a river, stream, or lake. There would be no diversion of the natural flow of any river, stream or lake; rather, the proposed project would maintain the natural flows within the South Fork of the Kern River.” The project would not result in any direct impacts to riparian vegetation such as removal of riparian vegetation.

The proposed project does not involve activities that have the potential to (a) substantially divert or obstruct the natural flow of any river, stream or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; or (c) deposit debris, waste or other materials that could pass into any river, stream or lake, that would involve a Fish and Game section 1602 notification.

**CDFW-65**

The comment is noted for the record. This EIR complies with CEQA requirements for the proposed project.

**CDFW-66**

See **Master Response B – Coordination of Flows and Downstream Impacts** regarding water storage in Isabella Reservoir.

**CDFW-67**

See **Master Response B – Coordination of Flows and Downstream Impacts** regarding how the proposed project would not result in changes in the water elevation or water storage capacity of the Isabella Reservoir.

**CDFW-68**

See **Master Response C – No-Injury** and **Master Response E – Water Rights** regarding water rights and downstream users.

**CDFW-69**

Section 1707 enables the State Water Board to approve petitions to change existing water rights for the purposes of preserving or enhancing wetlands, protecting fish and wildlife, and recreation. The comment has been forwarded to the RRBWSD Board of Directors for consideration. The use of Section 1707 would not change the environmental impacts of the proposed project because the project-related water would take the same path down the river with or without the Section 1707 dedication for a portion of the channel and, thus, does not require further evaluation.

**CDFW-70**

The proposed project and the Kern Fan Groundwater Supply Project are not related projects as implied in this comment. However, the Kern Fan Groundwater Supply Project is evaluated in the Draft EIR as a cumulative project as discussed in the Draft EIR, Section 3.2 Cumulative Impacts Methodology, on pages 3-4 through 3-15. See **Master Response B – Coordination of Flows and Downstream Impacts** regarding the *de minimus* effect of a relatively small amount of water added to the Kern River during wet years downstream of the Isabella Reservoir. Therefore, there would be no cumulative impacts downstream of Isabella Reservoir to biological resources that would result from the combination of the proposed project and the Kern Fan Groundwater Supply Project.

**CDFW-71**

The comment notes potential impacts to special-status plant and wildlife species and habitats associated with the Kern Fan Groundwater Supply Project, which is not related to the proposed project as implied in the comment.

**CDFW-72**

The Kern Fan Groundwater Supply Project is evaluated in the Draft EIR as a cumulative project as discussed in the Draft EIR, Section 3.2 Cumulative Impacts Methodology, on pages 3-4 through 3-15. As described on in the Draft EIR, Section 3.6 Biological Resources, on page 3.6-65:

Given that the proposed project would result in the addition of water to the South Fork of the Kern River, there would be no reduction in water supply that is currently made available to habitats downstream of the Isabella Dam. Therefore, there would be no cumulative impacts to biological resources downstream of the Isabella Dam.

**CDFW-73**

The comment is noted for the record. Ground-disturbing activities associated with the well installations would avoid the avian nesting season as requested. See Response to Comment CDFW-43.

**CDFW-74**

The comment is noted for the record. Ground-disturbing activities associated with the well installations would avoid the avian nesting season, and therefore no pre-activity surveys or construction monitoring would be required. See Response to Comment CDFW-43.

**CDFW-75**

The comment is noted for the record. Ground-disturbing activities associated with the well installations would avoid the avian nesting season, and therefore no disturbance buffers would be required. See Response to Comment CDFW-43.

**CDFW-76**

The comment is noted for the record. The proposed project would comply with the Federal Endangered Species Act (FESA), and the RRBWSD would conduct consultation with federal agencies as required by law.

**CDFW-77**

The comment is noted for the record. No part of the proposed project involves BLM or USFWS land. The proposed project does not involve activities under the USFWS regulatory authority.

As discussed in the Draft EIR, Section 3.6 Biological Resources, on page 3.6-62:

Based on the nature of the proposed project activities (i.e., discontinuing water diversion to the agricultural ditches), permits are not required from the USACE pursuant to Section 404 of the Clean Water Act, since these agricultural ditches are not considered “waters of the U.S.” and there would be no proposed discharge of dredged material or fill into “waters of the U.S.” within the South Fork of the Kern River.

**CDFW-78**

The comment is noted for the record. The CEQA requirements are acknowledged.

**CDFW-79**

The environmental filing fee for the proposed project will be paid upon filing of the Notice of Determination.

**CDFW-80**

The comment is noted for the record.

**CDFW-81**

Attachment 1 is noted for the record. Attachment 1 is a table showing a Recommended Mitigation Monitoring and Reporting Program (MMRP) format that includes a list of the Recommended Mitigation Measures provided in the CDFW comment letter. Responses to the recommended mitigation measures are included above in Responses to Comments CDFW-6 through CDFW-61. As stated in the Draft EIR, Chapter 1, Introduction, on page 1-9, the mitigation measures adopted as part of the Final EIR will be included in a MMRP and implemented by the RRBWSD.

**9.2.12 Center for Biological Diversity (CBD)****CBD-1**

The introduction to the letter and reiteration of the proposed project description is acknowledged.

**CBD-2**

Potential impacts to sensitive species and habitats are evaluated in the Draft EIR, Section 3.6 Biological Resources, in Potential Impact BIO-1, on pages 3.6-46 to 3.4-56, and potential impacts to sensitive natural communities and riparian vegetation are evaluated in Potential Impact BIO-2, on pages 3.6-56 to 3.6-63.

**CBD-3**

Protocol level surveys for southwestern willow flycatcher and western yellow-billed cuckoo are not necessary for determining presence since those species are already known to be present in the project area based on database records and available literature. Focused rare plant surveys are not required to provide an analysis of potential impacts to rare plants; rather, CEQA requires an evaluation of the potential for special-status plant species to occur on the project site based on the presence of suitable habitat, disclosure of potential impacts to those individual plants or populations as a result of the proposed project, and avoidance, minimization, and mitigation measures to reduce or eliminate potential impacts. Potential impacts to special-status plants are discussed in the Draft EIR, Section 3.6 Biological Resources, on page 3.6-50.

**CBD-4**

The Draft EIR uses supporting technical information, including the *Biological Resources Technical Report* provided as Technical Appendix C to the Draft EIR, the *Hydrogeological Evaluation of the Onyx Ranch Project* provided as Technical Appendix C to the Draft EIR, and the references cited in these documents as well as the references cited in Section 3.6 Biological Resources and Section 3.11 Hydrology and Water Quality of the Draft EIR, to evaluate the potential impacts to biological resources.

**CBD-5**

The comment is noted for the record.

**CBD-6**

The existing riparian pastures located on Onyx Ranch and Smith Ranch on the project site are currently not irrigated and would not experience changes with implementation of the proposed project. As noted in the footnote of Table 2-1 in the Draft EIR, Chapter 2, Project Description, "Riparian Pasture fields are within the river bottom and are not irrigated." The proposed project would only affect the irrigated fields and irrigated pastures of Onyx Ranch and Smith Ranch. As stated in the Draft EIR, Chapter 2, Project Description, on pages 2-1 and 2-25, the RRBWSD proposes to reduce the diversion and use of surface water on the project site by converting irrigated fields and pasture to non-irrigated fields and pasture or native vegetation. Therefore, the riparian pasture areas would remain as riparian pasture and were not included in the evaluation of impacts associated with the transition of irrigated fields and pasture to non-irrigated fields and pasture or native vegetation.

The Draft EIR, Section 3.6 Biological Resources, in Potential Impact BIO-2, starting on page 3.6-58, analyzes potential impacts to the Givney Pasture (creeping rye grass turfs, salt grass flats, red willow thickets, and cattail marsh) including a quantitative analysis of potential projects impacts. The Draft EIR does use the hydrological modeling discussed in detail in Section 3.11 Hydrology and Water Quality and Appendix E to evaluate the potential impacts to riparian and aquatic resources. The Draft EIR, Section Biological Resources, on page 3.6-48 and 3.6-49, evaluates the potential impacts to tri-colored blackbird and its habitat with implementation of the proposed project.

**CBD-7**

As stated on in the Draft EIR, Section 3.6 Biological Resources, page 3.6-41, the impact analysis methodology is described as follows:

This section assesses the potential for biological resources to be affected by the aforementioned changes. The proposed changes in the baseline flows of each agricultural ditch and the associated fields as a result of the proposed project are depicted in Table 3.6-4. As explained in Table 3.6-4, the proposed project would not affect the existing operation of Scodie Ditch, Cottonwood Ditch, Lieb Ditch, Boone Ditch, Miller Ditch, or Prince Ditch. The proposed project would reduce either the flow volume or the period of time that water is typically flowing (referred to as “run time”), or both, in Mack Ditch, Landers Ditch, Nicoll Ditch, Hillside Ditch, and Smith Ditch, relative to existing conditions. The proposed project would eliminate flow in the Pruitt Ditch.

The phrase “potential impact area” as used in the analysis below is defined as the portions of the study area that may be affected by the proposed project including: agricultural fields and ditches that would see a reduction in irrigation or flow, including a 50-foot buffer. The total acreages of each existing vegetation communities and land cover type present within the potential impact area that may be affected by the proposed project are listed in Table 3.6-5. Table 3.6-5 only includes the ditches that would be affected by the proposed project as discussed above in Table 3.6-4.

In response to the part of the comment regarding the discussion on Potential Impact BIO-1, specifically that Mitigation Measure BIO-2 would reduce potential impacts to sensitive vegetation communities to less than significant levels, the following text has been added to the Impact Summary on page 3.6-60:

- Implementation of the proposed project would result in modifications to the timing and amount of surface water diverted from the South Fork of the Kern River and flow through the ditches on the project site. This would reduce or eliminate the irrigation of the fields within the potential impact area with the exception of Boone Field. Therefore, the proposed project would have potential significant impacts to the following sensitive natural communities and riparian habitats associated with the ditches and fields within the potential impact area: 399.4 acres of creeping rye grass turfs; 4.7 acres of red willow thicket; 19.0 acres of cattail marsh; 8.0 acres of mulefat thicket; and 5.0 acres of sandbar willow thickets. Incorporation of Mitigation Measure BIO-1 would reduce the potential significant impacts to these sensitive natural communities and riparian habitats to a less than significant level through implementation of an Assessment and Monitoring Program and requiring appropriate mitigation for habitat impacts.

**CBD-8**

The proposed project would not result in the removal of any sensitive or aquatic habitat such as cattail marsh. Tri-colored blackbirds were reported in Givney Pasture in 2014, but may not

necessarily be occupying the project site currently. As discussed in the Draft EIR, Section Biological Resources, on page 3.6-59, the potential impacts to cattail marsh could result from reduction of flow in the Landers Ditch which may also affect the Givney Pasture. As discussed in the Draft EIR, on pages 3.6-48 and 3.6-49, potential impacts to suitable breeding and foraging habitat for tri-colored blackbird would be mitigated to less than significant with incorporation of Mitigation Measures BIO-1 and BIO-2 through implementation of surveys and habitat monitoring, as well as replacement habitat if warranted by the measure.

#### **CBD-9**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** regarding how the proposed project would not result in changes in the elevation of the water in the Isabella Reservoir or water storage capacity of Isabella Reservoir. Therefore, no impacts to biological resources at Isabella Reservoir are anticipated.

#### **CBD-10**

The analysis of impacts to designated critical habitat for the southwestern willow flycatcher and the western yellow-billed cuckoo as well as a discussion of Primary Constituent Elements (PCEs) are included in the Draft EIR, Section 3.6 Biological Resources, on pages 3.6-51 and 3.6-52. This includes the analysis of the areas of designated critical habitat where reduced water availability could be affected with implementation of the proposed project.

#### **CBD-11**

The mitigation measures identified in the Draft EIR, Section 3.6 Biological Resources, include monitoring as the comment states, but also provide performance standards and a stepwise approach to reduce potential impacts to biological resources to less than significant levels.

#### **CBD-12**

In the Draft EIR, Section 3.6 Biological Resources, the purpose and intent of the biological reconnaissance surveys and vegetation mapping conducted for the analysis were to map the extent of the habitats that could be directly or indirectly impacted by the implementation of the proposed project and to identify special-status biological resources that could be supported by those habitats.

#### **CBD-13**

Refer to Response to Comment CDFW-60. In the Draft EIR, Section 3.6 Biological Resources, the fifth paragraph of Mitigation Measure BIO-1, on pages 3.6-52 through 3.6-54, has been revised as follows to allow for flexibility to extend the monitoring period beyond five years if additional groundwater level information is needed and provide flexibility in the timing of the mitigation to be implemented prior to the end of the monitoring period. Additionally, RRBWSD identified a fourth mitigation option. The text in underline has been added to Mitigation Measure BIO-1 as shown below.

**BIO-1: Assessment and Monitoring Program:** A qualified biologist shall prepare and implement a pre-project and post-project Assessment and Monitoring Program. The pre-project phase of the program shall confirm and update the existing baseline conditions and extents of the creeping rye grass turfs,

red willow thickets, cattail marsh, mulefat thickets, and sandbar willow thickets within the potential impact area. The post-project phase of the program shall be developed to systematically monitor the condition of each of the aforementioned sensitive natural communities and riparian habitats located within the potential impact area to determine whether each sensitive natural community and/or riparian habitat is experiencing a level of disturbance as a result of the project implementation and operational activities.

For the Assessment and Monitoring Program, the physical condition of each sensitive natural community and riparian habitat shall be documented during both the pre-project and post-project monitoring activities. Documentation shall include, but is not limited to: GPS mapping to monitor community extents, qualitative and quantitative vegetation analysis (including native and non-native cover), relevant groundwater data, and annual reporting. Vegetation analysis methods, including determination of the level of site disturbance, shall be conducted in accordance with accepted industry standards, such as the CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment (Rapid Assessment) and Relevé methods (CDFW, 2019b). Post-project monitoring activities shall continue for a period of 5 years, to be initiated one year following implementation of the project. Pre-project surveys and post-project monitoring documentation shall be submitted to and retained at the RRBWSD administrative office.

The CDFW-CNPS Rapid Assessment/Relevé method of vegetation sampling includes the following standards for classifying disturbances from the reduction or elimination of surface water diversion (Disturbance Code 14) and other disturbances within the potential impact area:

- Light: less than 33% of the stand is impacted.
- Moderate: between 33% and 66% of the stand is impacted.
- Heavy: more than 66% of the stand is impacted.

If the assessment and monitoring program determines a Light, Moderate, or Heavy Disturbance (as defined in the CDFW-CNPS Rapid Assessment/Relevé methods) in the potentially impacted sensitive natural communities and/or riparian habitats identified, the area of impact shall be quantified through comparison with the established pre-project baseline conditions. For purposes of comparing post-project implementation conditions after the 5-year monitoring period with the pre-project baseline conditions, the impacts characterized as Light, Moderate, or Heavy Disturbance shall include:

- Light: less than 33% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Moderate: between 33% and 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Heavy: more than 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat

If the monitoring biologist determines that extraneous factors (i.e., drought, non-project-related anthropogenic influences, other uncontrollable factors) could have adversely influenced absolute native cover of the sensitive natural community and/or riparian habitat during the 5-year monitoring period, or additional groundwater level data is needed to draw conclusions regarding observations of adverse habitat impacts related to groundwater levels, the monitoring period may be extended at the monitoring biologist's discretion to account for these factors.

At the conclusion of the monitoring period, impacts evaluated in terms of Light, Moderate, or Heavy Disturbance shall be mitigated as described below.

**Mitigation Options at Conclusion of 5-Year Monitoring Period:** For impacts to creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, or sandbar willow thickets, the RRBWSD shall provide one or a combination of the following mitigation options unless the habitat is occupied by tri-colored blackbird (which would be mitigated in accordance with BIO-2): The timing of implementation shall depend on if and when adverse impacts to these habitats are observed to be attributable to changes in surface water or groundwater conditions, and may be implemented prior to or at the end of the monitoring period.

1. No mitigation required for Light Disturbance.
2. On- and/or off-site preservation, creation, restoration, and/or enhancement of sensitive natural communities or riparian habitat at a ratio no less than 1:1 for Moderate Disturbance impacts, and no less than 2:1 for Heavy Disturbance impacts. A habitat mitigation plan (HMP) shall be developed to include information on site selection, grading and site preparation, seeding and planting plans, irrigation, maintenance and monitoring activities, success criteria, adaptive management/contingency measures, and provisions for site preservation and long-term management. The HMP shall focus on the preservation, creation, restoration, and/or enhancement of equivalent habitats within suitable habitat areas of the project site and/or off-site.
3. The purchase of mitigation credits from an approved mitigation bank at a ratio of no less than 1:1 for Moderate Disturbance and no less than 2:1 for Heavy Disturbance.
4. Returning flows to the agricultural ditches and fields in areas where Moderate or Heavy Disturbance impacts to any of the natural communities identified above supported by those ditches or fields are observed during monitoring.

#### **CBD-14**

Refer to Response to Comment CBD-13. In Mitigation Measure BIO-1, the performance criteria for impacts that require mitigation are defined by quantification of light, moderate, and heavy disturbance.

**CBD-15**

At this time, only the RRBWSD would receive the monitoring reports related to biological resources. However, the monitoring reports would be considered public documents and would be provided upon request by resource agencies or the public.

**CBD-16**

There are many methods available for both qualitative and quantitative assessment of vegetation communities. An example reference for methods to conduct qualitative and quantitative assessment of vegetation communities consists of *Developing a Monitoring Program for Riparian Revegetation Projects* (Lewis, Lennox and Nossaman, 2009). The combined CDFW-CNPS method is one approach recommended for communities within California and capable of assessing both woody and herbaceous vegetation. The technical bulletin *Using the California Rapid Assessment Method (CRAM) for Project Assessment as an Element of Regulatory, Grant, and other Management Programs* (California Wetland Monitoring Workgroup (CWMW), 2019) includes discussion for when the application of the California Rapid Assessment Method (CRAM), a component of the combined CDFW-CNPS method, is appropriate. This technical bulletin indicates the use of CRAM to support an evaluation of project impacts and mitigation. Winward (2000) describes three sampling methods, one of which, the vegetation cross-section method, may be used to evaluate the health of riparian vegetation. The vegetation cross-section method is based on data collection using line transects, a method that does not necessarily produce a more accurate evaluation of vegetation change than the use of combined CDFW-CNPS method, a technique widely accepted by the regulatory agencies.

In the Draft EIR, Section 3.6 Biological Resources, Mitigation Measure BIO-1, the recommended mitigation ratios are the minimum required for moderate or heavy disturbance to sensitive natural communities at the conclusion of five years of monitoring. The reference to Moilanen et al 2009 and Norton 2009 are directly applicable to the proposed project. Moilanen et al addresses theoretical modeling without any empirical evidence supporting higher mitigation ratios than 2:1. Norton evaluates two New Zealand examples for mitigation (described as biodiversity offsets) for habitat loss from development, suggesting that some mitigation may be inappropriate for rare habitat types or where threatened species are present. Rather than recommending specific mitigation ratios, Norton recommends six principles for consideration when designing mitigation measures, the first of which is avoidance of impact, just as in CEQA. The commitment to mitigation success is inherent in the incorporation of mitigation measures into the proposed project, which is consistent with the Norton principles. Therefore, no change to the proposed minimum 1:1 or 2:1 mitigation ratios for moderate or heavy disturbance would be required.

Regarding the suggestion for 1:1 mitigation for impacts to light disturbance, compensatory mitigation is typically required for permanent displacement or removal of a resource. It is expected that light disturbance of habitat means the habitat remains functioning as it currently does, while moderate or high disturbance of habitat results in habitat conversion/loss such that the habitat is no longer functioning as it did prior to disturbance, and therefore, should be replaced through the incorporation of mitigation.

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**CBD-17**

In the Draft EIR, Section 3.6 Biological Resources, the following text in Mitigation Measure BIO-1 (item 2), on pages 3.6-53 and 3.6-54, identifies information to be included in the HMP as follows:

... A habitat mitigation plan (HMP) shall be developed to include information on site selection, grading and site preparation, seeding and planting plans, irrigation, maintenance and monitoring activities, success criteria, adaptive management/contingency measures, and provisions for site preservation and long-term management. The HMP shall focus on the preservation, creation, restoration, and/or enhancement of equivalent habitats within suitable habitat areas of the project site and/or off-site ...

**CBD-18**

Multi-year surveys for tri-colored blackbird are not necessary and there is not a protocol survey established for this species, nor has CDFW required multi-year surveys for verifying presence/absence.

**CBD-19**

The comment expresses an opinion and suggests a 5:1 mitigation ratio for tri-colored blackbird nesting habitat and location of mitigation within the Kern River Valley. The comment does not provide evidence or analysis that supports this recommendation. The comment shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**CBD-20**

See Response to Comment CBD-3.

**CBD-21**

See Response to Comment CBD-3.

**CBD-22**

The Draft EIR, Section 3.6 Biological Resources, in Mitigation Measure BIO-3 (item 1), on page 3.6-54, offers translocation of alkali mariposa lily bulbs as one of several methods that could be implemented as mitigation. The other two methods are seed collection (item 2) and propagation and/or payment into a mitigation bank through an established in-lieu fee program specific to the conservation of alkali mariposa lily (item 3).

As discussed in the Draft EIR, on page 3.6-50, other special-status plants in the potential impact area on the project site do not occur within riparian or wetland communities, so no impact to those plant species would occur with implementation of the proposed project.

**CBD-23**

The Draft EIR, Section 3.6 Biological Resources, on page 3.6-61, quantifies the amount of salt grass flats within the potential impact area on the project site and where this habitat is found as follows:

The implementation of the proposed project has the potential to affect 154.4 acres of salt grass flats located within the potential impact area. Salt grass flats can be found along portions of the Hillside Ditch, as well as Landers I, Landers II, and Nicoll Tracts. With the proposed project, flow rates would be reduced by approximately 50 percent for the Hillside Ditch, approximately 75 percent in the Landers Ditch, and approximately 50 percent in the Nicoll Ditch. Therefore, implementation of the proposed project would have a potential significant impact to 2.8 acres of salt grass flats along the Hillside Ditch, 5.7 acres in the Landers I Tract, 143.6 acres in Landers II Tract, and 2.3 acres in Nicoll Tract.

**CBD-24**

The conclusion statement provided is noted for the record.

**9.2.13 Kern County Water Agency (KCWA)****KCWA-1**

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**KCWA-2**

Refer to **Master Response C – No-Injury** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

**KCWA-3**

As stated in the Draft EIR, Chapter 2, Project Description, on page 2-25, the proposed project would include development of up to 12 shallow, low-volume wells powered by solar facilities to provide livestock water and improved livestock distribution for more effective use of the

available forage on Onyx Ranch and Smith Ranch. Criteria for siting of the proposed wells on the project site is also provided on page 2-25 as follows, “Well locations and numbers would be determined during project implementation, on an as-needed basis, based on field and pasture transitions and livestock capacity. The solar wells would be sited at least 1,000 feet from the South Fork of the Kern River and outside of sensitive natural communities, riparian, and marsh habitats which include the following: Joshua tree woodland, Fremont cottonwood forest, creeping ryegrass turfs, red willow thickets, cattail marsh, mulefat thickets, sandbar willow thickets, and salt grass flats.” The Draft EIR appropriately analyzes the environmental impacts of installation and operation of these wells in each environmental section, independent of identifying the specific location on the project site. Regarding the comment about the Mack Ranch and Kelso Creek, wells would not be sited in the areas of the Kelso Creek floodplain.

#### **KCWA-4**

As stated on Draft EIR, Chapter 1, Introduction, on page 1-3, project-related water would be used within RRBWSD’s service area at existing facilities that are part of its Groundwater Recharge Project (i.e., Conjunctive Use Program). The Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, evaluates for each environmental topic the cumulative impacts associated with the proposed project together with other groundwater banking projects, on the list of cumulative projects provided in Table 3-2, on page 3-7 through 3-9. As indicated in Table 3-2, Cumulative Projects E through J are all San Joaquin Valley water banking projects, including the Kern Fan Authority Integration Project. The analysis of hydrological cumulative impacts is provided in the Draft EIR, Section 3.11 Hydrology and Water Quality, on pages 3.11-44 through 3.11-46. Also refer to **Master Response F – RRBWSD Place of Use**.

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments, some changes have been made to the Draft EIR and are provided in this Final EIR, Chapter 10, Revisions to the Draft EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

#### **KCWA-5**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to Response to Comment KCWA-4 above regarding recirculation.

## 9.2.14 Kern Delta Water District (KDWD)

### KDWD-1

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

Regarding the availability of Kern River water or water rights that would be available to KDWD, refer to **Master Response E – Water Rights** and **Master Response C – No-Injury**.

Regarding the adequacy of the project description, refer to Responses to Comments KDWD-2 and KDWD-3 below.

Regarding the evaluation of potential impacts, refer to Responses to Comments KDWD-7 through KDWD-21 below.

Regarding revision of the Draft EIR and recirculation, refer to Response to Comment KDWD-23 below.

### KDWD-2

Regarding the adequacy of the project description, the Draft EIR, Chapter 2, Project Description, includes a description of the proposed project, including all information required by CEQA to comprise an adequate project description without supplying extensive detail beyond that needed for evaluation and review of the environmental impacts (CEQA Guidelines Section 15124). The following indicates in *italics* what the project description should include consistent with the CEQA Guidelines Section 15124, followed by the location in the Draft EIR where this information is provided:

- *The precise location and boundaries of the proposed project on a detailed map and a regional map.* These maps are included in the Draft EIR, Chapter 2, Project Description, Section 2.2 Project Location, as Figures 2-1, 2-2, and 2-3, on pages 2-3, 2-4, and 2-5, respectively.
- *A statement of objectives sought by the proposed project.* The Draft EIR, Chapter 2, Project Description, Section 2.4 Project Objectives, on page 2-7, provides the objectives for the proposed project.
- *A general description of the project's technical, economic, and environmental characteristics.* This information is found in the Draft EIR, Chapter 2, Project Description, Section 2.6 Project Site Water Rights and Proposed Diversion, Section 2.7 Description of the Proposed Project, and Section 2.8 Project Implementation, on pages 2-16 through 2-26.
- *A statement briefly describing the intended uses of the EIR.* This information is found in the Draft EIR, Chapter 2, Project Description, in Section 2.10 Discretionary Actions, Approvals, and Permits, on page 2-27.

With implementation of the proposed project, the amount of surface water that would remain in the South Fork of the Kern River with the reduction in diversion and use of surface water on the project site (Onyx Ranch and Smith Ranch) is clearly identified in the Draft EIR, Chapter 2, Project Description, Section 2.6 Project Site Water Rights and Proposed Diversion, on pages 2-16

through 2-19. As stated on page 2-19, with implementation of the proposed project, “[t]he total amount of surface water would range from about 2,000 acre-feet per year to 12,000 acre-feet per year, depending on year type.” Additionally, the purpose of the proposed project and the amount of water that would flow downstream for use in the RRBWSD service area is discussed.

Historical surface flow diversion data for the South Fork of the Kern River is provided in the Draft EIR, Chapter 2, Project Description, in Section 2.6 Project Site Water Rights and Proposed Diversion, on pages 2-16 through 2-19. Table 2-3 on page 2-18 provides the Onyx Ranch historical diversions from the South Fork of the Kern River for years 2009 through 2017, as well as historical flow at the USGS Gage on the South Fork of the Kern River for the same year.

The no-injury factor is substantiated and justified in the Draft EIR, Chapter 2, Project Description, Subsection Quantity of Surface Water Involved in the proposed project, on pages 2-17 through 2-22. As stated on page 2-17, “the amount of water to be moved as a part of the proposed project would vary from year to year and month to month based on the following factors ...” These factors include: flow in the South Fork of the Kern River and the resulting amount of water available under the RRBWSD South Fork water right, typical irrigation demand, by month, on the project site without the proposed project, and a no-injury factor. The no-injury factor would account for losses between the project site and the Isabella Reservoir that would result due to increased evapotranspiration, increased streambed infiltration, and increased subsurface outflow. The RRBWSD would apply a no-injury factor of 20 percent to its computation of “redirected water” to determine the amount of water it would move through the Isabella Reservoir and Isabella Dam during implementation of the proposed project to avoid injury to other legal users of water.

It should be noted that the no-injury factor has been updated from 17 percent to 20 percent<sup>4</sup> as a result of a correction to the *Hydrogeological Evaluation of the Onyx Ranch Project*; the revised Hydrogeological Evaluation with Clarification is provided in Revised Appendix E to this Final EIR. The corrections to the Draft EIR that result from the revisions to the model analysis and Revised Appendix E to this Final EIR are included in Chapter 10, Revisions to the Draft EIR. Also refer to **Master Response C – No-Injury**.

As evidenced by the explanation above, the Draft EIR quantified the amount of surface water the proposed project would: allow to flow past the project site (Onyx Ranch and Smith Ranch), resulting in a net increase in surface flows within the South Fork of the Kern River; accumulate in the Isabella Reservoir, for release through the Isabella Dam; and flow downstream in the Lower Kern River to diversion points in the RRBWSD’s service area. The description of the proposed

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<sup>4</sup> As explained in Responses to Comments CDFW-27, CDFW-28, and CDFW-29, the estimate of annual redirected water reported in the Draft EIR, Chapter 2, Project Description, page 2-22, of 7,265 AFY was based on the total net redirected water of 94,442 over the 13-year analysis period as shown in Table 2 of Appendix E to the Draft EIR. The Smith Ranch diversion values in Table 2 of Appendix E of the Draft EIR are incorrect. The corrected values are provided in Table 2 of the Hydrogeological Evaluation with Clarification provided in Revised Appendix E to this Final EIR (Thomas Harder & Co., 2020; Revised Appendix E). It is noted that the correction results in a higher volume of net redirected water (98,156 AF) than previously reported (94,452 AF). The net redirected water used for the groundwater flow model is correct but was not transcribed to Table 2 of Appendix E correctly. This error does not change the estimated volume of water available as a result of the proposed project over the 13-year simulation period (78,183 AF).

project was provided to agencies, organizations, and other interested parties for review during the 60-day Draft EIR public review period. The Draft EIR did not defer the analysis and information about the proposed project resulting in critical determinations about the potential impacts of the proposed project to a later point in time, but rather sought out and included this information in the Draft EIR distributed for public review and comment.

Also refer to **Master Response A – Calculation of Project-Related Water** and **Master Response C – No-Injury**.

### **KDWD-3**

While the project site is defined in the Draft EIR, Chapter 2, Project Description, on page 2-1, as the Onyx Ranch and Smith Ranch, the Draft EIR does not state that the project area for analysis is restricted to the project site. The Draft EIR evaluates both direct and indirect impacts as required by CEQA Guidelines Section 15126.2. The Draft EIR, Chapter 2, Project Description, includes discussion of the Isabella Reservoir and the areas below Isabella Reservoir, as stated on page 2-1:

The increased flows resulting from the proposed project would be released through the Isabella Dam and flow downstream in the Lower Kern River until the water is diverted at the RRBWSD diversion points. From there, the RRBWSD would deliver the water to recharge basins and channels within and near its service area west of the City of Bakersfield (see Figure 2-1). The RRBWSD existing groundwater banking and conjunctive-use projects, operations, and CEQA documentation are detailed in the RRBWSD’s annual Operations Report which is found online at: <https://www.rrbwsd.com/newsletter-notices>.

See also Response to Comment KDWD-2 for a discussion of the project location included in the Draft EIR, Chapter 2, Project Description.

Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response F – RRBWSD Place of Use**.

### **KDWD-4**

Refer to Response to Comment KDWD-A-1 through KDWD-A-95. **Also refer to Master Response A – Calculation of Project-Related Water**, **Master Response C – No-Injury**, and **Master Response E – Water Rights**.

### **KDWD-5**

Although a lead agency may not give a proposed project’s purpose an artificially narrow definition, a lead agency may structure its EIR alternative analysis around a reasonable definition of underlying purpose and need, and not study alternatives that cannot achieve the basic objectives of the proposed project. The purpose of the proposed project that the comment cites, is stated in the Draft EIR, Executive Summary, on page 1-3, and Chapter 2, Project Description, Section 2.3 Purpose and Background of the Proposed Project, on page 2-7. The purpose is not used as a factor in Chapter 5, Alternatives Analysis. As required by the CEQA Guidelines Section 15126.6(c), the Alternatives Analysis is based on the project objectives stated in Chapter 2,

Project Description, Section 2.4 Project Objectives, on pages 5-2 and 5-3, which are not insufficiently narrow. Also refer to **Master Response H – Project Alternatives**.

**KDWD-6**

Refer to **Master Response J – Project Alternatives**.

**KDWD-7**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F – RRBWSD Place of Use**.

**KDWD-8**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD’s existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-9**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD’s existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

**KDWD-10**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD’s existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-11**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no change to the environment would occur in this area that requires analysis that has not already been analyzed previously in the CEQA documents for RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-12**

Cumulative projects E through J, which are all San Joaquin Valley water banking projects and not located in the Kern River Valley, have been assessed in the Draft EIR, Section Hydrology and Water Quality, on page 3.11-44 and -45, in the hydrology and water quality cumulative impact analysis. As presented in the Draft EIR, Chapter 3, Environmental Setting, Impact Analysis, and Mitigation Measures, in Table 3-1 on page 3-5, the geographic scope for other environmental topics is limited to the Kern River Valley, which is based on where the potential environmental impacts associated with the implementation of the proposed project would occur. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**KDWD-13**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no changes to the environment in the service area would occur that requires analysis that has not already been analyzed previously in the CEQA documents completed for the RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-14**

There are no changes proposed to the RRBWSD downstream facilities to accommodate the proposed project-related water (see Draft EIR page 3.11-25). As explained in the Draft EIR, Executive Summary, on page 1-2, existing groundwater banking and conjunctive-use projects that would be used are explained in RRBWSD's Operations Report found online at [www.rrbwsd.com/newsletter-notice](http://www.rrbwsd.com/newsletter-notice). Since existing or planned facilities would be used that have already been evaluated for cultural resources, including archival research or site surveys, there is no need to conduct supplemental evaluations. No ground disturbance or construction would occur downstream in the RRBWSD service area. As a result, no archival research or site surveys were conducted for downstream facilities. See also **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F - RRBWSD Place of Use**.

**KDWD-15**

As explained in the Draft EIR, Section 3.14 Tribal Cultural Resources, on page 3.14-10, there were no California Native American Tribes that have requested notification about projects under environmental review by the RRBWSD as the lead agency pursuant to Assembly Bill (AB) 52 and PRC Section 21080.3.1(b). It should be noted that this would include Tribes with interest in RRBWSD's service area (the location of the downstream impacts cited by the comment). Also refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master**

**Response F - RRBWSD Place of Use.** Nonetheless, on December 12, 2019, pursuant to the requirements of AB 52 requiring government to government consultation, the RRBWSD mailed consultation notification letters (dated December 8, 2020) to the California Native American Tribes identified by the NAHC as having traditional and cultural affiliation with the geographic area of the project site (PRC Section 21080.3.1 and PRC section 21073). As explained further in the Draft EIR, on page 3.14-11, no responses have been received and no tribal cultural resources have been identified as a result of the consultation.

#### **KDWD-16**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no changes to the environment in the service area would occur that requires analysis that has not already been analyzed previously in the CEQA documents completed for the RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **KDWD-17**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no changes to the environment in the service area would occur that requires analysis that has not already been analyzed previously in the CEQA documents completed for the RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

#### **KDWD-18**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no changes to the environment in the service area would occur that requires analysis that has not already been analyzed previously in the CEQA documents completed for the RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-19**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response E – Water Rights**. See also Response to Comments KDWD-B-1 through KDWD-B-21.

**KDWD-20**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no changes to the environment in the service area would occur that requires analysis that has not already been analyzed previously in the CEQA documents completed for the RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-21**

As explained in **Master Response F - RRBWSD Place of Use**, the Draft EIR did not analyze impacts associated with delivery and use of water in the RRBWSD service area. This is because no changes to the environment in the service area would occur that requires analysis that has not already been analyzed previously in the CEQA documents completed for the RRBWSD's existing facilities. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**KDWD-22**

As discussed in the Draft EIR, Chapter 4, Growth Inducement, on page 4-4, the proposed project would help RRBWSD replace the 10,000 AFY of the contracted SWP water supply that has become unreliable due to environmental restrictions in the Sacramento/San Joaquin Delta. While the proposed project would increase water supply reliability, project-related water would be a replacement of SWP water no longer provided to the RRBWSD. The proposed project would not be a new supply that would remove an obstacle to growth inducement. Additionally, as stated in the Draft EIR, on page 4-4, the RRBWSD does not have the authority to make land use decisions to halt or alter growth and development patterns or approvals, nor does it have the authority to address any of the potential significant, secondary effects of planned growth. Authority to implement those measures lies with the County of Kern, the City of Bakersfield, and other local agencies for incorporated communities. Also, refer to **Master Response F – RRBWSD Place of Use**.

**KDWD-23**

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant

environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

**KDWD-24**

The comment is noted for the record. See below for responses to comments provided in Exhibit A and Exhibit B.

**KDWD EXHIBIT A**

**KDWD-A-1**

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**KDWD-A-2**

Refer to **Master Response E – Water Rights.**

**KDWD-A-3**

Refer to **Master Response E – Water Rights**

**KDWD-A-4**

Refer to **Master Response E – Water Rights.**

**KDWD-A-5**

Refer to **Master Response E – Water Rights.**

**KDWD-A-6**

Refer to **Master Response E – Water Rights.**

**KDWD-A-7**

Refer to **Master Response E – Water Rights.**

**KDWD-A-8**

Refer to **Master Response E – Water Rights.**

**KDWD-A-9**

Refer to **Master Response E – Water Rights.**

**KDWD-A-10**

Refer to **Master Response E – Water Rights.**

**KDWD-A-11**

Refer to **Master Response E – Water Rights.**

**KDWD-A-12**

The proposed project has not been implemented and none of the RRBWSD's water rights have been transferred downstream of the Onyx Ranch, to-date. Also refer to **Master Response E – Water Rights**.

**KDWD-A-13**

Refer to **Master Response E – Water Rights**.

**KDWD-A-14**

The proposed project would not take and divert water that would otherwise be available to downstream Kern River users and would not impact other South Fork water users and water rights. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response E – Water Rights**.

**KDWD-A-15**

In the Draft EIR, Chapter 2, Project Description, Figure 2-3 Existing Land Uses at Project Site, on page 2-5, shows the boundaries of the project site (Onyx Ranch and Smith Ranch), including the portions that are not actively used for agricultural productivity and grazing. The agricultural fields within the Onyx Ranch and the Smith Ranch that are part of the project site are shown in Figure 2-4 Existing Tracts, Fields and Ditches, on page 2-9.

The RRBWSD works closely with the other diverters on the South Fork of the Kern River to measure, monitor, and coordinate diversions. Data is shared on a weekly basis. The RRBWSD would be able to see in this data if other diverters are diverting project-related water and take appropriate steps to stop these diversions. The Draft EIR assumes that all parties would divert in accordance with their rights and that others would not unlawfully divert the RRBWSD water.

**KDWD-A-16**

In the Draft EIR, Chapter 2, Project Description, Figure 2-4, Existing Tracts, Fields and Ditches, on page 2-11, shows the boundaries of Onyx Ranch and Smith Ranch, including the portions that are not actively used for agricultural productivity and grazing. As mentioned in the comment, certain ditches flow beyond the boundaries of Onyx Ranch and Smith Ranch, such as Boone Ditch, Mack Ditch, Hillside Ditch, etc. Where necessary for evaluation of project-related impacts, these off-site areas were considered, such as in the assessment of biological impacts. In the Draft EIR, Section 3.6 Biological Resources, Figure 3.6-1 Study Area, on page 3.6-3, shows the study area for the biological assessment including off-site ditches and the Landers 1 and Smith Ranch fields.

**KDWD-A-17**

Refer to **Master Response E – Water Rights**.

**KDWD-A-18**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response E – Water Rights**.

**KDWD-A-19**

Refer to **Master Response E – Water Rights** and **Master Response H – Typical Irrigation Demand**.

**KDWD-A-20**

Refer to **Master Response E – Water Rights**. The Smith Ranch has been irrigated pasture for over 100 years.

**KDWD-A-21**

Historical groundwater use was taken into account when developing the groundwater/surface water model for the proposed project, to estimate the amount of water that would be available to the RRBWSD for diversion in their service area, after accounting for the no-injury factor. The Draft EIR, Chapter 2, Project Description, on page 2-25, and Section 3.11 Hydrology and Water Quality, on page 3.11-9, discusses that the Onyx Ranch groundwater pumping is quantified as 3,000 – 8,000 AF per year. It is also averaged in the Draft EIR, Appendix E, on page 12, as 6,500 AF per year and documented by year on Table 3 in Appendix E. Refer to **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-22**

Refer to **Master Response E – Water Rights**. The 1902 Decree does not contain a property legal description for each decreed right or location information for named ditches, some of which have changed names over time. This information can be ascertained with a thorough review of the complete litigation file culminating in the 1902 Decree with reference to historic chains of title and other historic maps and reference information for the South Fork Valley. This level of detail and volume of historic information is not appropriate for a CEQA document. Further, it does not aid in the analysis of the potential impacts to the environment. Potential impacts to the environment are identified and analyzed by describing the current diversion and use of water without the project, the diversion and use of water with the project, and the potential impacts to the environment from the project.

**KDWD-A-23**

Refer to **Master Response E – Water Rights**.

**KDWD-A-24**

The Miller-Haggin agreement is acknowledged in the Draft EIR, Chapter 2, Project Description, on page 2-9. Also refer to **Master Response E – Water Rights**.

**KDWD-A-25**

As explained in Footnote A to Table 2-3 of the Draft EIR, the RRBWSD uses a combination of industry standard continuous flow measurement devices manufactured by Mace and SonTek (AgriFlow, FlowTracker, IQ). Flows into specific fields are not measured. The historic measurement records are available by reviewing the reports to the State Water Resources Control Board for statement numbers KV\_S021076, KV\_S021077, KV\_S021078, KV\_S021079 (located on [www.swrcb.ca.gov](http://www.swrcb.ca.gov)) as explained in Footnote A to Table 2-3. Historic measurement records are also included in Table 2 in Revised Appendix E to this Final EIR.

Also refer to **Master Response A – Calculation of Project-Related Water**, **Master Response E – Water Rights**, and **Master Response H – Typical Irrigation Demand**.

**KDWD-A-26**

Refer to **Master Response E – Water Rights**. The proposed project does not involve the transfer of riparian water from the Boone field, or the use of groundwater on the Boone field to replace transferred water. To the RRBWSD's current knowledge, the water rights associated with the Boone field have not been adjudicated.

**KDWD-A-27**

Refer to **Master Response E – Water Rights**. The proposed project does not involve the transfer of riparian water from the Boone field, or the use of groundwater on the Boone field to replace transferred water.

**KDWD-A-28**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-29**

The sources for the diversions included in the Draft EIR, Chapter 2, Project Description, Table 2-3, on page 2-18, are described in the table footnotes.

**KDWD-A-30**

The proposed project does not contemplate moving water downstream associated with riparian water use. Groundwater use on the proposed project site occurred when surface water supplies were insufficient and has been addressed in the *Hydrogeological Evaluation of the Onyx Ranch Project with Clarification* (Hydrogeological Evaluation with Clarification) provided in Revised Appendix E to this Final EIR. The proposed project only contemplates moving water that is both available under the RRBWSD water rights and would have been diverted and used absent the proposed project, as described in **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-31**

See Response to Comment KDWD-A-22. Regarding the portion of the comment related to historic and proposed flow changes in ditches at the proposed project site, the changes in diversion amounts and resulting impacts were analyzed in the Hydrogeological Evaluation with Clarification provided in Revised Appendix E to this Final EIR, to account for the complexity of the South Fork Valley hydrology. This analysis accounts for changes in flow through the ditches on the project site.

**KDWD-A-32**

The comment is not specific as to time. The Draft EIR included historic diversion and use of water for a reasonable period of time based on the best available records to the RRBWSD.

**KDWD-A-33**

The acreage for Smith Ranch included in the Draft EIR, Chapter 2, Project Description, on page 2-13, is correct. In response to the comment, the text of the Draft EIR, Section 3.12 Land Use and Planning, on page 3.12-2, has been modified as follows:

For the Smith Ranch portion of the project site, of the approximately 691 acres, approximately ~~308~~ 278 acres are riparian pasture, 171 acres are mountainous areas, and approximately 242 acres are used for irrigated pasture purposes.

**KDWD-A-34**

**Refer to Master Response A – Calculation of Project-Related Water, Master Response B – Coordination of Flows and Downstream Impacts, and Master Response H – Typical Irrigation Demand.**

**KDWD-A-35**

Economic factors were one of many factors considered for purposes of determining feasibility of alternatives, as required by and allowed for by CEQA. CEQA Guidelines Section 15126.6(c) requires that the factors that “may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.” “Feasible” means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors (CEQA California Public Resources Code Section 21061.1).

As required by Section 15126.6(e) of the CEQA Guidelines, the No Project Alternative was analyzed to allow decision-makers to compare the impacts of approving a proposed project with the impacts in the foreseeable future of not approving that project (see Draft EIR on page 5-9 through 5-15). CEQA requires the No Project Alternative to be evaluated based on “what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (CEQA Guidelines Section 15126.6(e)(2)). The No Project Alternative was determined to have lesser or similar impacts as the proposed project with the exception of greenhouse gas emissions (see Draft EIR Table 5-2); however, the No Project Alternative would not meet any of the project objectives (see Draft EIR pages 5-14 to 5-15). In addition, it was determined to not be economically feasible.

As summarized in the Draft EIR, Chapter 5, Alternatives Analysis, on page 5-24 and 5-25, the 50 Percent Diversion Alternative was determined to have similar impacts to the proposed project for all environmental topics except for biological resources (see Draft EIR Table 5-2). Depending on the portion of the project site that would remain irrigated, there is potential for the 50 Percent Diversion Alternative to result in fewer impacts to sensitive natural communities and riparian habitats, and the special-status species they support; although the same mitigation measures that apply to the proposed project would also apply to the 50 Percent Diversion Alternative. In terms of objectives, by modifying the amount of surface water diverted to the RRBWSD’s service area,

the 50 Percent Diversion Alternative would meet some, but not all of the project objectives. In addition, this alternative was determined to not be economically feasible.

The RRBWSD was not required to prepare an EIR prior to acquisition of the project site. As stated in the Draft EIR on page 1-3, the RRBWSD complied with CEQA when acquiring the Onyx Ranch property and when acquiring one-third interest in Smith Ranch. To comply with CEQA, the purchase of Onyx Ranch by the RRBWSD was addressed in a Notice of Exemption filed by the RRBWSD with the Kern County Clerk on February 15, 2013. To comply with CEQA, the acquisition of one-third interest in Smith Ranch by the RRBWSD was addressed in a Notice of Exemption filed by the RRBWSD with the Kern County Clerk on November 11, 2015 (Draft EIR page 1-3).

#### **KDWD-A-36**

Refer to **Master Response A – Calculation of Project-Related Water** and **Master Response H – Typical Irrigation Demand**.

#### **KDWD-A-37**

The comment is noted for the record. The numbers cited by the comment were numbers provided to the SWRCB by the prior owner of the proposed project site. See the Draft EIR, Chapter 2, Project Description, Footnote A of Table 2-3 on page 2-18 for more information.

#### **KDWD-A-38**

Refer to **Master Response A – Calculation of Project-Related Water**.

#### **KDWD-A-39**

For details about record keeping and measurements, see the Draft EIR, Chapter 2, Project Description, on page 2-20, for a description of “Project Element 1,” as well as Footnote A of Table 2-3 on page 2-18. See also Response to Comment KDWD-A-25 and **Master Response A – Calculation of Project-Related Water**.

#### **KDWD-A-40**

Refer to **Master Response A – Calculation of Project-Related Water**.

#### **KDWD-A-41**

Refer to **Master Response A – Calculation of Project-Related Water**. The fact that groundwater was used on the proposed project site when surface water was not available under the RRBWSD water rights does not impact the amount of water available under the project because the surface water rights were used when water was available. The amount of water proposed to move downstream as part of the project, as explained in **Master Response A – Calculation of Project-Related Water**, is within the range of the documented and measured diversions of surface water on the project site in the past.

**KDWD-A-42**

As stated in the Draft EIR, Chapter 1, Introduction, on page 1-3:

... the RRBWSD acquired the Onyx Ranch and one-third interest in Smith Ranch and the associated pre-1914 appropriative water rights on the South Fork of the Kern River. The purpose of the proposed project is to enable the RRBWSD to change the points of diversion and place of use of the surface water on the Onyx and Smith Ranches in order to move the water downstream for diversion and use in the RRBWSD's service area.

The RRBWSD water rights include one-third of the associated pre-1914 appropriative water rights for Smith Ranch. Therefore, the remaining two-thirds of the associated pre-1914 appropriative water rights for Smith Ranch are not included in the calculation of water available for diversion under the proposed project.

**KDWD-A-43**

Accretions are estimated as the difference between flow at the USGS Onyx Gage and the amount of water diverted downstream when all water available is being diverted. See also **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-44**

The comment is noted for the record. The numbers cited by the comment were numbers provided to the SWRCB by the prior owner of the proposed project site. See the Draft EIR, Chapter 2, Project Description, Footnote A of Table 2-3 on page 2-18, for more information. See also Response to Comment KDWD-A-25.

**KDWD-A-45**

Regarding the Onyx Gage flow data for 2017, the number in Table 2-3 of the Draft EIR is correct. In Table 3 of Revised Appendix E to this Final EIR, the USGS Onyx Gage flow of 292,062 AF for 2017 represents provisional flow data that was available from the USGS at the time of the model analysis. In Table 2-3 of the Draft EIR, the USGS Onyx Gage flow of 309,727 AF for 2017 is the final flow data provided by the USGS at the time of publication of the Draft EIR. The difference between the two flows is immaterial to the analysis of environmental impacts for purposes of the Draft EIR and does not materially change the results of the model analysis or the no-injury factor. All other Onyx Gage flows for the years 2009 to 2017 are the same in the Draft EIR Table 2-3 and the Revised Appendix E Table 3. Regarding annual data for diversions in 2010, 2011, and 2012, as stated in Footnote A of Table 2-3 on page 2-18 of the Draft EIR, the numbers cited by the comment were numbers provided to the SWRCB by the prior owner of the proposed project site.

**KDWD-A-46**

Refer to **Master Response H – Typical Irrigation Demand**.

**KDWD-A-47**

Demand by, and flows into, specific fields are not measured. Refer to **Master Response E – Water Rights** and **Master Response H – Typical Irrigation Demand**.

**KDWD-A-48**

Refer to **Master Response H – Typical Irrigation Demand**.

**KDWD-A-49**

Refer to **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-50**

Refer to **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-51**

As stated in the Draft EIR, Chapter 2, Project Description, on page 2-18, the “RRBWSD has further analyzed diversions, available flows, and crop water use during the 2009 to 2017 time period and identified the ‘typical monthly water demand’ for the project site, as indicated in Table 2-4.” Accordingly, lands fallowed during this time period would have been accounted for in the typical irrigation demand. Also refer to **Master Response H – Typical Irrigation Demand**.

**KDWD-A-52**

As part of the normal maintenance and repair operations associated with the Onyx Ranch, the RRBWSD has conducted replacement of various canal check structures, pipelines, and gates. These activities are exempt from CEQA review pursuant to CEQA Guidelines Section 15301 for existing facilities and Section 15302 for replacement or reconstruction of existing structures and facilities. As noted in the Draft EIR, Chapter 2, Project Description on page 2-20, as part of Project Element 1, the RRBWSD has installed flow metering devices at various diversion points. This activity was part of a Water Conservation, Energy Efficiency, and Solar Power Project for which the RRBWSD filed a CEQA Notice of Exemption on June 11, 2014.

**KDWD-A-53**

In response to the comment, the following edit is made to the Draft EIR, Chapter 2, Project Description, on page 2-22:

The model water budget includes inflow and outflow factors such as precipitation, stream inflow, groundwater, evapotranspiration, evaporation, infiltration, return flow, subsurface flows, and crop consumptive use. The calibrated model for the period is January 2005 to December 2017. For this 13-year period, the model shows that reducing 94,452 ~~acre-feet (AF) acre-feet per year~~ of previous net diversions to the project site results in 78,183 ~~AF acre-feet per year~~ more water in the Isabella Reservoir, without impacting other reservoir storage amounts.

**KDWD-A-54**

Refer to **Master Response A – Calculation of Project-Related Water**. The Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-25, includes the following discussion regarding the when, where, and how it would take delivery of water from the proposed project:

The proposed project does not include the construction of new diversion structures or changes to the existing diversion structures on the project site. The changes in the diversion of surface water to the project site would be accomplished by opening and closing the gates or boards of the existing on-site diversion structures. The additional surface water that would flow into the Lower Kern River as a result of the proposed project would be received at existing RRBWSD diversion points and groundwater storage facilities in the San Joaquin Valley (see Figure 1-1 in Chapter 2, Project Description of this Draft EIR) that have adequate existing capacity. No physical changes to these existing recharge facilities would occur as a result of the proposed project. Historically and currently, the RRBWSD receives delivery of surface water supplies from the Kern River at its existing recharge facilities in accordance with long-term contracts and agreements associated with its existing Groundwater Recharge Project (see Section 1.2 Project Background in Chapter 1 of this Draft EIR). Under the proposed project, deliveries of Kern River water would similarly occur in accordance with existing available capacity in conveyances such as the Cross Valley Canal and Goose Lake channel (see Figure 1-1).

**KDWD-A-55**

The acreage for Smith Ranch included in the Draft EIR, Chapter 2, Project Description, on page 2-13 is correct. In response to the comment, the text of the Draft EIR, Section 3.3 Aesthetics, on page 3.3-2 has been modified as follows:

For the Smith Ranch portion of the project site, of the approximately 691 acres, approximately ~~308~~ 278 acres are riparian pasture, 171 acres are mountainous areas, and approximately 242 acres are used for irrigated pasture purposes.

**KDWD-A-56**

As discussed in the Draft EIR, Subsection Cumulative Related Project Descriptions, on page 3-12, part of the purpose of the Upper Taylor Meadow Gully Repair Project is to reconnect the stream channel to its naturally evolved floodplain and provide ecosystem benefits such as reducing peak flows and increasing or extending summer base flows. The Gully Repair Project is included as Cumulative Project C, which is upstream of the Hydrological Study Area evaluated in Section 3.11 Hydrology and Water Quality (see Draft EIR Figure 3.11-1). The proposed project would leave more water in the South Fork of the Kern River than under existing conditions; therefore, the proposed project could not combine together with the Gully Repair Project to have any adverse cumulatively considerable impacts to flow in the Kern River.

**KDWD-A-57**

As discussed in Responses to Comments CDFW-27, CDFW-28, and CDFW-29, the estimate of annual redirected water reported in the Draft EIR, Chapter 2, Project Description, on page 2-22, 7,265 AFY was based on the total net redirected water of 94,442 over the 13-year analysis period as shown in Table 2 of Appendix E to the Draft EIR. The Smith Ranch diversion values in Table 2 of Appendix E of the Draft EIR are incorrect. The corrected values are provided in Table 2 of the Hydrogeological Evaluation with Clarification provided in Revised Appendix E to this Final EIR (Thomas Harder & Co., 2020; Revised Appendix E to this Final EIR). It is noted that the correction results in a higher volume of net redirected water (98,156 AF) than previously reported (94,452 AF). The net redirected water used for the groundwater flow model is correct, but was not transcribed to Table 2 of Appendix E correctly. This error does not change the estimated volume of water available as a result of the proposed project over the 13-year simulation period (78,183 AF). Refer to **Master Response H – Typical Irrigation Demand**.

**KDWD-A-58**

Refer to **Master Response A – Calculation of Project-Related Water**.

**KDWD-A-59**

Refer to **Master Response C – No-Injury**.

**KDWD-A-60**

Project Element 1 would be implemented by the RRBWSD as described in the Draft EIR, Chapter 2, Project Description on page 2-20. Refer to **Master Response A – Calculation of Project-Related Water**, **Master Response C – No-Injury**, and **Master Response E – Water Rights**.

**KDWD-A-61**

Project Element 2 would be implemented by the RRBWSD as described in the Draft EIR, Chapter 2, Project Description, on pages 2-20 and 2-21. Historical groundwater pumping records were used to develop the groundwater/surface water model for the proposed project and to determine the amount of water available for diversion under the proposed project. In this way, the development of pumping records would “preclude water rights disputes” for surface water. Regarding Boone Field, refer to **Master Response E – Water Rights**, and Responses to Comments KDWD-A-40, KDWD-A-89, and KDWD-A-95.

**KDWD-A-62**

Project Element 3 would be implemented by the RRBWSD. As described in the Draft EIR, Chapter 2, Project Description on page 2-21, Project Element 3 is triggered with the implementation of the proposed project. In the Draft EIR, Sections 3.6 Biological Resources, Section 3.11 Hydrology and Water Quality, and Appendix E to the Draft EIR all show that groundwater levels are expected to rise and drop with and without the proposed project. The groundwater model predicts the potential impacts to these changing groundwater levels, and it was determined the differences would not result in a significant impact; and therefore, no other actions are required.

**KDWD-A-63**

Refer to **Master Response C – No-Injury**.

**KDWD-A-64**

Refer to **Master Response C – No-Injury** and discussion in the Draft EIR, Chapter 2, Project Description, on pages 2-21 and 2-22, and Section 3.11 Hydrology and Water Quality, starting on page 3.11-27.

**KDWD-A-65**

The no-injury factor was calculated using over 13 years of hydrologic data to account for a wide range of conditions. The proposed project would apply the no-injury factor of 20 percent for all years. Also refer to **Master Response C – No-Injury**.

**KDWD-A-66**

Refer to **Master Response C – No-Injury**. See also discussion in the Draft EIR, Chapter 2, Project Description, on pages 2-21 and 2-22, and Section 3.11 Hydrology and Water Quality, starting on page 3.11-27, about calibration of the model.

**KDWD-A-67 and KDWD-A-68**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F – RRBWSD Place of Use**.

RRBWSD works closely with the other diverters on the South Fork of the Kern River to measure, monitor, and coordinate diversions. Data is shared on a weekly basis. RRBWSD would be able to see in this data if other diverters are diverting project-related water and take appropriate steps to stop these diversions. The Draft EIR assumes that all parties will divert in accordance with their rights and that others will not unlawfully divert RRBWSD water.

**KDWD-A-69**

Hydrology and lease terms could impact crop transition to non-irrigated status. RRBWSD has two tenants on the Onyx with separate, but very similar lease terms. The tenants are aware of the proposed project and its potential land management changes. They have been planning and preparing for the transition to non-irrigated operations. Project Elements would begin to be implemented with the adoption of the proposed project, most within a few months, some may take a few years to accomplish the complete crop transition.

**KDWD-A-70**

The proposed project would not require any new infrastructure downstream of Isabella Reservoir to implement the proposed project. Existing facilities that are part of the RRBWSD existing Groundwater Recharge Project would receive the water from the proposed project. The following is stated in the Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-2:

The proposed project does not include the construction of new diversion structures or changes to the existing diversion structures on the project site. The changes in the diversion of surface water to the project site would be accomplished by opening and closing the gates or boards of the existing on-site

diversion structures. The additional surface water that would flow into the Lower Kern River as a result of the proposed project would be received at existing RRBWSD diversion points and groundwater storage facilities in the San Joaquin Valley (see Figure 1-1 in Chapter 2, Project Description of this Draft EIR) that have adequate existing capacity. No physical changes to these existing recharge facilities would occur as a result of the proposed project. Historically and currently, the RRBWSD receives delivery of surface water supplies from the Kern River at its existing recharge facilities in accordance with long-term contracts and agreements associated with its existing Groundwater Recharge Project (see Section 1.2 Project Background in Chapter 1 of this Draft EIR). Under the proposed project, deliveries of Kern River water would similarly occur in accordance with existing available capacity in conveyances such as the Cross Valley Canal and Goose Lake channel (see Figure 1-1).

As to existing facilities, there are several agreements in place to allow for conveyance of water through the existing facilities. New agreements or approvals that are needed from public agencies downstream of Isabella Reservoir to convey water to the RRBWSD's existing Groundwater Recharge Project will be developed as required. Therefore, no modifications have been made to the text in the Draft EIR, Chapter 2, Project Description, Section 2.10 Discretionary Actions, Approvals, and Permits, on page 2-27.

#### **KDWD-A-71**

No new diversion structures have been created at the project site, and no modifications or improvements to the existing diversion structures have been implemented at the project site, except as necessary for the purposes of routine maintenance and operation of the Onyx Ranch and the Smith Ranch. Refer to Response to Comment KDWD-A-52.

#### **KDWD-A-72**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response D – Groundwater Impacts to Kern Sub-basin**, and **Master Response F – RRBWSD Place of Use**.

#### **KDWD-A-73**

See Response to Comments KDWD-A-70. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F – RRBWSD Place of Use**.

#### **KDWD-A-74**

Refer to Response to Comment KDWD-A-54 and Response to Comment KDWD-A-70. Also refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response F – RRBWSD Place of Use**.

#### **KDWD-A-75**

RRBWSD works closely with the other diverters on the South Fork of the Kern River to measure, monitor, and coordinate diversions. Data is shared on a weekly basis. RRBWSD would be able to see in this data if other diverters are diverting project-related water and take appropriate steps to

stop these diversions. The Draft EIR assumes that all parties will divert in accordance with their rights and that others will not unlawfully divert RRBWSD water.

**KDWD-A-76**

Refer to Response to Comment KDWD-A-58 and KDWD-A-75.

**KDWD-A-77**

The Miller-Haggin agreement is acknowledged in the Draft EIR, Chapter 2, Project Description, on page 2-9. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response C – No-Injury**, and **Master Response E- Water Rights**.

**KDWD-A-78**

The analysis of potential impacts to groundwater levels and groundwater storage is included in the Draft EIR, Section 3.11 Hydrology and Water Quality, Potential Impact HYDRO-2 on pages 3.11-35 to 3.11-37, and the supporting groundwater modeling results are summarized on pages 3.11-29 and 3.11-30.

**KDWD-A-79**

The Draft EIR, Chapter 2, Project Description, on page 2-25 includes an explanation of Groundwater Use on the Project Site. As stated in the Draft EIR, the proposed wells are “anticipated to have a 2 to 5 gpm capacity, but actual use would depend on herd size, which may fluctuate annually based on drought conditions” (Draft EIR page 2-25). As described in the Draft EIR, Section 3.4 Agriculture, on page 3.4-23, the potential reduction in herd size would result in a reduced demand for stock water. Based on the pump design flow rates, demand for stock water would be less than 20 AFY.

**KDWD-A-80**

The analysis of potential impacts to groundwater levels, groundwater storage, and groundwater sustainability is included in the Draft EIR, Section 3.11 Hydrology and Water Quality, Potential Impact HYDRO-2 on pages 3.11-35 to 3.11-37, and the supporting groundwater modeling results are summarized in Section 3.11 Hydrology and Water Quality, on pages 3.11-29 and 3.11-30, including the analysis of the potential impacts to community water systems. See also Draft EIR, Section 3.15 Utilities and Service Systems, pages 3.15-12 to 3.15-16 for a discussion of impacts to community water systems.

**KDWD-A-81**

The analysis of potential impacts to groundwater levels is included in the Draft EIR, Section 3.11 Hydrology and Water Quality, Potential Impact HYDRO-2, on pages 3.11-35 to 3.11-37, and the supporting groundwater modeling results are summarized on pages 3.11-29 and 3.11-30.

Instances when groundwater levels may decrease by up to 15.6 feet are only anticipated during high groundwater conditions, in the spring (i.e., rainy season) in periods of above normal precipitation when groundwater levels are highest throughout the South Fork Valley (Draft EIR, page 3.11-30). In addition, the hydrographs that are included in Appendix B to Revised Appendix E to this Final EIR demonstrate the results of the modeling analysis for the With-Project Scenario (purple lines), which show that groundwater levels would continue to fluctuate

seasonally with implementation of the proposed project and would not continue to decrease over time or in perpetuity as suggested by the comment. Regarding Upper Taylor Meadow Gully Repair Project and potential cumulative impacts, refer to Response to Comment KDWD-A-56.

**KDWD-A-82**

Refer to **Master Response D – Groundwater Impacts to Kern Sub-basin.**

**KDWD-A-83**

As stated on Draft EIR, Chapter 1, Introduction, page 1-3, the project-related water would be used within the RRBWSD service area. The comment speculates operations that are not described in the Draft EIR.

**KDWD-A-84**

The potential for the proposed project to induce growth is discussed in the Draft EIR, Chapter 4, Growth Inducement. The results of the analysis of growth inducement is stated in the Draft EIR, on page 4-4, as follows:

The RRBWSD does not have the authority to make land use decisions to halt or alter growth and development patterns or approvals, nor does it have the authority to address any of the potential significant, secondary effects of planned growth. Authority to implement those measures lies with the County of Kern, the City of Bakersfield, and other local and communities. The proposed project would reduce the reliance on Delta water and offset the use of imported water with a local water supply for RRBWSD's landowners and customers. Increased groundwater storage as part of the proposed project may support planned population growth by Kern County that has been identified within the RRBWSD service area. Although, as shown above in Table 4-1, in recent years only about 8 percent to 9 percent of total consumptive use of water supplies within the RRBWSD service area is for urban use. As stated in Chapter 2, Project Description, Section 2.4 Project Objectives of this Draft EIR, RRBWSD's mission is to "acquire surface water supplies for the preservation of water levels and quality throughout the district to ensure an affordable and sustainable water supply for all landowners." The landowners within the RRBWSD's service area are predominantly agricultural and require water for irrigation purposes. Therefore, the proposed project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, impacts to growth inducement would be less than significant.

**KDWD-A-85**

With implementation of the proposed project, there would be no land taken out of agricultural production. Grazing is considered an agricultural activity in Kern County and grazing would continue on the project site. The proposed project would support existing agricultural irrigation demands in the RRBWSD service area. Only hundreds of acres of agriculturally zoned lands remain undeveloped in the RRBWSD service area. It is not anticipated that the implementation of the proposed project would have any bearing on the private landowners' business decisions to

develop these lands in the future. Since all lands in the RRBWSD rely on groundwater, there are other factors, other than water supply, that determine the lack of development on these lands.

**KDWD-A-86**

As stated in the Draft EIR, Executive Summary, on page ES-2 and 2-7, “(t)he proposed project would result in the use of the surface water moved downstream in the RRBWSD’s service area as a beneficial use in Kern County.”

**KDWD-A-87**

Refer to Response to Comment KDWD-A-86.

**KDWD-A-88**

The Draft EIR, Section 3.11 Hydrology and Water Quality, includes an analysis of groundwater levels that concludes on page 3.11-37 that impacts to groundwater storage in the Kern River Valley Groundwater Basin would be beneficial and impacts to groundwater supplies and groundwater recharge would be less than significant. As a result, no mitigation measures are required. CEQA requires evaluation of reasonable foreseeable changes to the environment that have been analyzed in the Draft EIR and does not require speculative or unlikely “what if” scenarios as suggested by the comment.

**KDWD-A-89**

In Draft EIR, Chapter 2, Project Description, Project Element 6, on page 2-23, which involves field and pasture transitions, would be implemented sequentially over time. As explained in the Draft EIR, Chapter 2, Project Description, on pages 2-25 and 2-26, each field would be prepared sequentially over 1 to 3 months. Implementation of the proposed project would occur over approximately 3 years.

Regarding the Boone Field, it is not part of the proposed project but is included in the project description in regards to baseline and clarity of the proposed project. Refer to **Master Response E – Water Rights** for additional discussion.

**KDWD-A-90**

The Grazing Management Plan for the proposed project would be developed with the proposed project’s implementation to achieve soil conservation and agricultural productivity objectives on the Onyx Ranch and Smith Ranch. As stated in the Draft EIR, Chapter 2, Project Description on page 2-23, inter-annual variability of pasture productivity is anticipated due to “the total reliance on natural precipitation for pasture production.” The Grazing Management Plan would “include drought management strategies for grazing activities, utilizing replacement feed, use of off-site pastures, early calf weaning, and herd culling in dry years” (Draft EIR, page 2-23). As explained in the Draft EIR, Chapter 2, Project Description, on page 2-21, the proposed project would not include groundwater pumping to meet irrigation demand. Refer to **Master Response H – Typical Irrigation Demand**.

**KDWD-A-91**

Land management changes to the Smith Ranch are discussed in the Draft EIR, Section 3.4 Agriculture, on page 3.4-23 and 3.4-24. They include installation of low-volume wells to provide livestock wells that allow for improved livestock distribution on the project site and implementation of a Grazing Management Plan which could result in more effective use of existing available forage with modifications to grazing management activities, including yearly rotations of irrigated acres, seasonal livestock rotation, RDM targets, fence maintenance (including potential replacement of existing fences), and establishment of additional livestock watering locations.

The existing riparian pastures located onsite on the Onyx Ranch and the Smith Ranch are currently not irrigated and would not experience changes with implementation of the proposed project. As noted in the Draft EIR, Chapter 2, Project Description, Table 2-1, Footnote b on page 2-15, “Riparian Pasture fields are within the river bottom and are not irrigated.” The proposed project would only affect the irrigated fields and irrigated pastures on the Onyx Ranch and the Smith Ranch. As stated in the Draft EIR, Chapter 2, Project Description, on pages 2-1 and 2-25, the RRBWSD proposes to reduce the diversion and use of surface water on the project site by converting irrigated fields and pasture to non-irrigated fields and pasture or native vegetation. Therefore, the riparian pasture areas would remain as riparian pasture and were not included in the evaluation of the impacts associated with the transition of irrigated fields and pasture to non-irrigated fields and pasture or native vegetation.

**KDWD-A-92**

See Response to Comment KDWD-A-90.

**KDWD-A-93**

The comment states that details such as type of row crop and specific location on the project site need to be disclosed during the environmental review process; however, this is unwarranted. The Draft EIR, Chapter 2, Project Description, on page 2-25, describes the extent of activities that would result from field and pasture transition irrespective of the kind of row crop or location. The text on page 2-25 has been modified to provide clarification as follows:

The conversion from irrigated row crops as identified in Table 2-1 to non-irrigated row crops and pasture would involve working the fields with tractors. Each field would be prepared sequentially over 1 to 3 months, and approximately one to three tractors would be onsite at any given time. The fields may then be prepared for planting using chisel plows and disk plows and planted using approximately one to three tractors. This would be similar or less intensive than the existing agricultural practices for the planting of crops on the project site. Site preparation to convert existing irrigated pasture to non-irrigated pasture and grazing lands may include broadcast seeding followed by pasture harrow or direct drill seeding. Application of some irrigation water (one acre-foot per acre) as well as follow up seeding in subsequent years may be needed based on weather patterns and success of the initial seeding. If surface water or groundwater is applied for mitigation or irrigation, project-related water would

be reduced by a commensurate amount, reducing the project-related water redirected to the South Fork of the Kern River. Maintenance of vegetative cover on these pastures prior to seeding would help to reduce wind erosion to levels similar to the current conditions.

The Draft EIR, Sections 3.1 through 3.15, analyzes the potential environmental impacts of implementation of the proposed project on the Onyx Ranch and the Smith Ranch. See Response to Comment KDWD-A-90 regarding groundwater use.

#### **KDWD-A-94**

As stated in the Draft EIR, Chapter Project Description, Table 2-5 on page 2-24, the Mack Ditch currently runs intermittently during March to June with river water and July to October with well water. With the proposed project, as stated in Table 2-5, the Mack Ditch would continue to be used to transport well water from July to October to the Boone Field. Therefore, the Mack Ditch would not be used to convey river water with implementation of the proposed project.

#### **KDWD-A-95**

As stated above in Response to Comment KDWD-A-89, Boone Field is not part of the proposed project but is included in the project description in regards to baseline and clarity of the proposed project. Refer to **Master Response E – Water Rights** for additional discussion, including the riparian water rights associated with Boone Field. See also **Master Response A – Calculation of Project-Related Water** and **Master Response H – Typical Irrigation Demand**.

### **KDWD EXHIBIT B**

#### **KDWD-B-1**

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

#### **KDWD-B-2A**

The comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

#### **KDWD-B-2B**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **KDWD-B-2C**

The comment is noted for the record. In response to comments received, Appendix E to the Draft EIR has been revised with clarifications. The revised report, Hydrogeological Evaluation with Clarification (Thomas Harder & Company, 2020), is appended to this Final EIR as Revised Appendix E.

#### **KDWD-B-2D**

The comment states that the review considers a supplemental technical memorandum relevant to the Draft EIR that was prepared by Davids Engineering Inc., in April 2010; however, this supplemental technical memorandum is not attached as part of the comments submitted.

**KDWD-B-3**

The comment requests the original data to show the annual volumetric modification made at each diversion for each of the 3 diversion adjustments listed in the comment, per the notes in Table 2 on page 6 of Appendix E to the Draft EIR. A table showing the original reported diversions and the adjusted diversions is provided in Attachment A to the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR).

**KDWD-B-4**

The comment states that the adjusted total diversions in Appendix E do not match the diversion listed in Table 2-3 of the Draft EIR for the years 2009 to 2017. The sources for the diversions included in the Draft EIR, Chapter 2, Project Description, Table 2-3 on page 2-18, are described in the table footnotes.

The comment requests a table showing the amounts of “Project Water” corrected for losses. A summary of annual redirected diversions (“Project Water”) and water losses associated with the proposed project is provided in Attachment A of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR).

**KDWD-B-5**

In response to the comment, the following edit is made to the Draft EIR, Chapter 2, Project Description, on page 2-22:

The model water budget includes inflow and outflow factors such as precipitation, stream inflow, groundwater, evapotranspiration, evaporation, infiltration, return flow, subsurface flows, and crop consumptive use. The calibrated model for the period is January 2005 to December 2017. For this 13-year period, the model shows that reducing 94,452 ~~acre-feet (AF) acre-feet per year~~ of previous net diversions to the project site results in 78,183 ~~AF acre-feet per year~~ more water in the Isabella Reservoir, without impacting other reservoir storage amounts.

**KDWD-B-6A**

In response to the comment, the following Footnote 14 has been added to page 7 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>14</sup> Crop consumptive use relied on for the groundwater flow model analysis and water budgets was based on satellite analysis of evapotranspiration (METRIC) provided by the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo, California. Specifically, crop consumptive use for the Onyx Project site was based on the values summarized in Table 6 of the ITRC METRIC report, a copy of which is attached (Attachment A). For areas outside the Project boundaries, TH&Co relied on evapotranspiration data from Appendix C of the ITRC METRIC analysis report. For years when no METRIC data were available (i.e., 2005 through 2007 and

2012 through 2017), evapotranspiration was assigned based on a year of similar precipitation conditions within the METRIC dataset.

**KDWD-B-6B**

In response to the comment, the following Footnote 10 has been added to page 6 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>10</sup> The amount of deep percolation of applied water on irrigated lands (i.e., return flow) in the model is a function of the crop consumptive use and available surface water from reported stream diversions. The total irrigation demand of the crops consists of the sum of consumptive use plus return flow. During some periods of the transient calibration, the volume of surface water diversions, minus canal losses, exceeded the total irrigation demand of the receiving field. During times of surface water surplus (i.e., delivered water in excess of total irrigation demand), it was assumed that 50 percent of the surplus returned to the South Fork Kern River either as rising groundwater or runoff. The remaining 50 percent of the surplus became deep percolation and groundwater recharge. During above average flow conditions on the South Fork Kern River, this resulted in significantly more return flow than would have otherwise been assumed. While the percentage of return flow assumed for the model is significantly higher than other irrigated areas of California, the high percentage is applicable for irrigated lands in the South Fork Kern River Valley where surface and subsurface sediments consist of highly permeable sand and gravel.

**KDWD-B-6C**

In response to the comment, the following Footnote 12 has been added to page 7 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>12</sup> The types and areas of crops grown in the South Fork Kern River valley have not changed significantly over time. Annual changes in crop types and acreages were accounted for based on land use maps from 2005 through 2017 for the Project area from Kern County (<https://geodat-kernco.opendata.arcgis.com/>).

**KDWD-B-6D**

In response to the comment, the following Footnote 13 has been added to page 7 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>13</sup> Surface diversions from the South Fork Kern River to the canals are simulated using the Stream Flow Routing (SFR2) package of MODFLOW. The values for canal loss reported in Tables 3 through 6 are model-derived. In the calibrated model (No Project), the relatively shallow groundwater around the canals limits the infiltration of water from the canals to the groundwater. In the Project

scenario, lower groundwater levels in the vicinity of the canals results in increased canal losses, even though fewer canals are in service because of the Project.

The relatively shallow groundwater around the canals in the model limits the infiltration of water from the canals to the groundwater. While these losses are, in effect, accounted for in the high return flow in the irrigated lands, there is uncertainty in the historical diversions from the South Fork of the Kern River and volumes of water ultimately delivered, particularly prior to 2013. Whether canal losses or deep infiltration of applied water, the net recharge to the groundwater system from diverted water is the same. While the point at where the recharge occurs is uncertain, there is little impact to the overall groundwater budget.

#### **KDWD-B-7**

The comment is noted for the record; however, it is also noted that the model area is 19 miles by 9 miles, as indicated in Section 2 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR), not 9 miles by 9 miles as stated in the comment.

#### **KDWD-B-8**

In response to the comment, the following Footnote 15 has been added to page 8 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>15</sup> The setup of the South Fork Kern River groundwater flow model accounts for groundwater/surface water interaction using the stream flow routing package (SFR2). Groundwater rising above the land surface in the “Hyd” wells (Hyd-1, Hyd-2, Hyd-4, Hyd-9, Hyd-11, and Hyd-13) as well as in the Lieb Piezo becomes surface flow in SFR2, which is consistent with measured groundwater levels at these locations during the wet season of above-normal precipitation years. Corrected ground surface elevations for the Lieb Piezo is provided in Appendix B. Corrected ground surface elevations for the Mack Field and Nicoll field wells are also provide in Appendix B.

The simulated groundwater levels in Hyd-9 are five to ten feet higher than the measured data, which results in overestimation of surface water flow near this well in the first ten years of the simulation. Despite efforts to correct this residual through adjustments in aquifer parameters, stream bed conductance, and other measures, it was not possible to obtain a closer match without sacrificing calibration at upgradient monitoring wells.

Additional model runs for the same historical calibration period and pre-2013 diversion assumptions are not recommended and would not likely produce improved calibration. The South Fork of the Kern River diversions are now being measured with greater accuracy by the RRBWSD. Further, flow monitoring of the USGS Onyx stream gage is also being monitored more closely.

**KDWD-B-9**

In response to the comment, the following Footnote 7 has been added to page 5 of the Hydrogeological Evaluation with Clarification, as well as Attachment A (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>7</sup> All of the lateral boundaries of the model were set up as no-flow boundaries, except where the southern boundary crosses Kelso Valley, which is a constant head boundary. The constant head boundary across Kelso Valley was established based on a groundwater level in a nearby well.

**KDWD-B-10**

In response to the comment, the following Footnote 8 has been added to page 5 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR):

<sup>8</sup> Isabella Reservoir is simulated in the South Fork Kern River Valley groundwater model using the LAK package in MODFLOW. The LAK package accounts for the water budget of the reservoir. Inputs to the package include North Fork inflow from ACOE records, precipitation from ACOE, South Fork inflow (estimated from the model), and rising groundwater (estimated from the model). Lake outflows include releases at the dam (from ACOE) and evaporation (ACOE).

**KDWD-B-11**

The model output was incorporated into the spreadsheet water budgets shown in Tables 3 and 5 of Revised Appendix E to this Final EIR. Some elements of the surface water budget were model-derived (denoted by Subscript “H” in the column headings) and some were from other measured or estimated sources. For example, precipitation on the land surface (first inflow element) was estimated from an isohyetal map of the area developed based on California Irrigation Management Information System (CIMIS) data. Precipitation on the Isabella Reservoir (second inflow element) was provided by the ACOE. The superscripts next to each inflow and outflow element indicate the source of the data.

**KDWD-B-12**

See Response to Comment KDWD-B-11. As the Isabella Reservoir is the terminus for the drainage area of the surface water budget, the change in storage of the surface water budget is analogous to the change in storage of the Isabella Reservoir. This was validated with the change in storage estimated from ACOE records (compare the cumulative change in storage of Tables 1 and 3 of Revised Appendix E to this Final EIR).

**KDWD-B-13**

Surface water inflow into the Isabella Reservoir from the South Fork of the Kern River is not explicitly shown in Table 3 of Revised Appendix E to this Final EIR because it represents an internal exchange of water within the larger water budget area. The South Fork of the Kern River inflow to Isabella Reservoir as presented in Table 1 of Revised Appendix E is derived from the

reservoir water budget data provided by the ACOE (note that they do not explicitly measure this inflow). The Isabella Reservoir surface water inflow was also estimated from the calibrated groundwater flow model and is provided in Table 3 of Revised Appendix E for comparison to the inferred ACOE inflow. Although there are differences between the two Reservoir inflow estimates on an annual basis, over the model historical period of 2005 to 2017, the model-derived average compares favorably to the estimate from ACOE data. It is noted that the estimate of inflow from the South Fork of the Kern River to the Isabella Reservoir as derived from ACOE data is inferred after accounting for the North Fork of the Kern River inflow, precipitation, evaporation, and releases to the Kern River. The balance is assumed to come from the South Fork of the Kern River.

The relatively close agreement between estimated Isabella Reservoir inflow from the South Fork of the Kern River as derived from ACOE data and those estimated using the calibrated model provides validation of the model water budget and the associated results of the “With-Project” scenario.

#### **KDWD-B-14**

In response to the comment, Footnote 10 has been added to page 6 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR) and is included above in Response to Comment KDWD-B-6B.

The same assumptions for surplus delivered water applied to irrigated lands on the project site were applied to non-project irrigated areas. When the total deep infiltration of applied irrigation water for the project site in Revised Appendix E Table 3 is divided by the sum of project-related water diversions from Revised Appendix E Table 2 and total project-related groundwater pumping from Revised Appendix E Table 3, the resulting return flow is approximately 48 percent of applied water. When the total deep infiltration of applied irrigation water for other irrigated lands in Revised Appendix E Table 3 is divided by the sum of total Other (non-project related) water diversions from Revised Appendix E Table 2 and total Other (non-project related) groundwater pumping from Revised Appendix E Table 3, the resulting return flow is approximately 40 percent of applied water. The difference is likely due to differences in surplus water delivered to the non-project irrigated areas during the period of the analysis and the inclusion of municipal pumping in the “Other” pumping columns, return flow of which is limited to 25 percent of applied water.

#### **KDWD-B-15**

The South Fork groundwater budget applies to the entire alluvial aquifer system (active model cells) within the Model Domain. Refer to Footnote 9 on page 5 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR).

#### **KDWD-B-16**

Surface water evaporation from the South Fork of the Kern River has been incorporated into Tables 3 and 5 of the Hydrogeological Evaluation with Clarification (Thomas Harder & Co., 2020; see Revised Appendix E to this Final EIR) The inclusion of surface water evaporation does

not impact groundwater flow model results and does not change the validation of the estimated change in the Isabella Reservoir surface water storage between Table 1 and Table 3 in Revised Appendix E.

**KDWD-B-17**

Yes. Municipal pumping was included in the “Other” pumping columns of Tables 3, 4, 5 and 6 in Appendix E to this Final EIR. The column headings for these tables have been relabeled in the Hydrogeological Evaluation with Clarification to reflect this (see Thomas Harder & Co., 2020; Revised Appendix E, Tables 3 and 5).

**KDWD-B-18**

In response to comments received, the Hydrogeological Evaluation in the Draft EIR has been revised and is included in Revised Appendix E to this Final EIR. As described in **Master Response C – No-Injury** and Responses to Comments CDFW-27, CDFW-28, and CDFW-29, the no-injury factor has been adjusted from 17 percent to 20 percent. The revisions did not require the groundwater model to be re-run and did not result in substantial changes to the findings of the model analysis or the conclusions to the impact analysis in the Draft EIR, Section 3.11 Hydrology and Water Quality.

**KDWD-B-19**

The proposed project would have no impact to the Kern River water rights downstream of the project site, including water rights holders downstream of the Isabella Reservoir. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**KDWD-B-20**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**KDWD-B-21**

In the Draft EIR, Chapter 2, Project Description, Table 2-2 on page 2-17, lists the water rights that would be used to determine the amount of water available each day under the RRBWSD water rights associated with the project site based on the amount of flow in the South Fork of the Kern River. Refer to **Master Response A – Calculation of Project-Related Water** for more information.

## 9.2.15 North Kern Water Storage District (NKWSD)

**NKWSD-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response D – Groundwater Impacts to Kern Sub-basin**, and **Master Response E – Water Rights**.

**NKWSD-2**

The comment quotes text included in the Draft EIR, Section 2.4 Project Objectives, on pages 2-7 and 2-8, focusing on the project elements and project characteristics that avoid unreasonably affecting the South Fork Valley and Kern River Valley. The comment does not explicitly state a comment and merely restates text in the Draft EIR. Refer to **Master Response C – No-Injury**.

**NKWSD-3**

The comment quotes text included in the Draft EIR, Chapter 2, Project Description, Section 2.6 Project Site Water Rights and Proposed Diversion, on pages 2-17 and 2-18, about the no-injury factor. Refer to **Master Response C – No-Injury**.

**NKWSD-4**

The comment quotes text included in the Draft EIR, Chapter 2, Project Description, Section 2.7 Description of the Proposed Project, on pages 2-22 and 2-23, about Project Element 5 – Coordinated Release of Water from Isabella Reservoir. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

**NKWSD-5**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

Regarding the adequacy of the project description, the Draft EIR, Chapter 2, Project Description, includes a description of the proposed project, including all information required by CEQA to comprise an adequate project description without supplying extensive detail beyond that needed for evaluation and review of the environmental impacts (CEQA Guidelines Section 15124). The following indicates in *italics* what the project description should include consistent with the CEQA Guidelines Section 15124, followed by the location in the Draft EIR where this information is provided:

- *The precise location and boundaries of the proposed project on a detailed map and a regional map.* These maps are included in the Draft EIR, Chapter 2, Project Description, Section 2.2 Project Location, as Figures 2-1, 2-2, and 2-3, on pages 2-3, 2-4, and 2-5, respectively.
- *A statement of objectives sought by the proposed project.* The Draft EIR, Chapter 2, Project Description, Section 2.4 Project Objectives, on page 2-7, provides the objectives for the proposed project.
- *A general description of the project's technical, economic, and environmental characteristics.* This information is found in the Draft EIR, Chapter 2, Project Description, Section 2.6 Project Site Water Rights and Proposed Diversion, Section 2.7 Description of the Proposed Project, and Section 2.8 Project Implementation, on pages 2-16 through 2-26.
- *A statement briefly describing the intended uses of the EIR.* This information is found in the Draft EIR, Chapter 2, Project Description, in Section 2.10 Discretionary Actions, Approvals, and Permits, on page 2-27.

**NKWSD-6**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The proposed project would have no impact to North Kern Water Storage District's historical diversions and beneficial uses of Kern River water. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

**9.2.16 Ben Rudnick (RUD)****RUD-1**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

**RUD-2**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to Revised Appendix E to this Final EIR for an analysis of impacts to groundwater in the South Fork Kern River Valley. As described in the Draft EIR, Chapter 3.11 Hydrology and Water Quality, on page 3.11-28, approximately 78,183 acre-feet would reach Isabella Reservoir over the 13-year model period.

**RUD-3**

The reference to an adjudicated right is unclear but may refer to the author's rights as described in the February 22, 2001 Judgement After Trial by Court in the matter of Oscar Rudnick v. Ben Rudnick, Kern County Superior Court case No. 23888 JES (Judgment). The RRBWSD is aware of the Judgment. The RRBWSD can implement the proposed project consistent with the Judgment. Also refer to **Master Response E – Water Rights**.

**RUD-4**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to Response to Comment RUD-3 and **Master Response E – Water Rights**.

**RUD-5**

Refer to Response to Comment RUD-3. Also refer to **Master Response E – Water Rights**. The comment references action by the Kern County Board of Supervisors. The Board of Supervisors is not taking any action on this project.

**RUD-6**

This comment is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. Refer to **Master Response E – Water Rights**. The comment suggests the RRBWSD should measure South Fork of the Kern River flow into the Isabella Reservoir or at Sierra Highway. The RRBWSD considered and rejected this concept because the hydrologic analysis of the South Fork Valley showed that there are no locations to accurately measure the flow entering the Isabella Reservoir due to the braided nature of the channel immediately upstream of the reservoir. Thus, a measurement gage on the South Fork of the Kern

River channel would not accurately measure the amount of water reaching the Isabella Reservoir as a result of the proposed project.

## 9.2.17 Sierra Club Kern-Kaweah Chapter / Sequoia ForestKeeper (SCFK)

### SCFK-1

The comment is noted for the record.

### SCFK-2

The Draft EIR addresses potential environmental effects to visual aesthetics, air quality, cultural resources, and sensitive biological resources in Section 3.3 Aesthetics, Section 3.5 Air Quality, Section 3.7 Cultural Resources, and Section 3.6 Biological Resources, respectively.

### SCFK-3

The Draft EIR evaluates the effects of the proposed project on groundwater levels and groundwater wells in the Kern River Valley Groundwater Basin in Section 3.11 Hydrology and Water Quality. The Draft EIR, Section 3.11 Hydrology and Water Quality, Potential Impact HYDRO-2 on pages 3.11-35 to 3.11-37, evaluates the potential impact of the proposed project to pre-existing nearby wells. The Draft EIR concludes that largest localized decreases in groundwater levels would occur within and around the project site and, although there would be seasonal localized fluctuations of the groundwater table, there would be no adverse effects to the ability of nearby wells, including those of the 13 community water systems in the South Fork Valley, to pump groundwater.

### SCFK-4

The Draft EIR, Section 3.6 Biological Resources, Table 3.6-2 and Table 3.6-3 on pages 3.6-17 through 3.6-28, evaluates the effects of the implementation of the proposed project on native plant and animal species, which includes the list of the special-status wildlife and plant species with the potential to occur on the project site and in the study area defined on page 3.6-2. The Draft EIR, in Potential Impact BIO-1 on pages 3.6-46 to 3.6-56, evaluates the potential impact of the proposed project to special-status wildlife and plant species. The Draft EIR concludes that with the incorporation of Mitigation Measures BIO-1, BIO-2, and BIO-3, impacts to special-status wildlife and plant species would be less than significant.

### SCFK-5

As stated in the Draft EIR, on page 2-17, in the future “the amount of water to be moved as a part of the proposed project would vary from year to year and month to month” based on three factors. The first of the three factors is the actual “flow in the South Fork of the Kern River and the resulting amount of water available under the RRBWSD South Fork water rights.” Refer also to **Master Response A – Calculation of Project-Related Water**.

### SCFK-6

As described in the Draft EIR, Chapter 2, Project Description, the proposed project does not include restoration of the South Fork of the Kern River. As explained in the Draft EIR, Section

2.1 Introduction, on page 2-1, with the proposed project, the surface water that is diverted in the existing conditions would remain in the South Fork of the Kern River and flow downstream. The proposed project does not include any other physical modifications to the South Fork of the Kern River.

### **SCFK-7**

The Draft EIR, Section 3.9 Greenhouse Gas Emissions, evaluates the effects of implementation of the proposed project related to the generation of greenhouse gas emissions (GHGs). The Draft EIR, Section 3.9 Greenhouse Gas Emissions, in Potential Impact GHG-1, on pages 3.9-17 through 3.9-18, R concludes that GHG emissions as a result of the proposed project would be similar or reduced relative to the existing baseline conditions and the impacts would be less than significant.

In response to the comment, the discussion of methane emissions associated with the implementation of the proposed project in Potential Impact GHG-1 on page 3.9-18, has been revised as follows:

During installation of the proposed shallow, low-volume solar wells, GHG emissions would be generated from the construction equipment used to construct the wells. GHG emissions associated with construction of proposed shallow solar wells would result in approximately 30 MTCO<sub>2e</sub>, or 1 MTCO<sub>2e</sub> annually when amortized over a 30-year project (see Appendix B, Air Quality, Greenhouse Gases, and Energy to this Draft EIR, for calculations). Once the proposed shallow solar wells are installed, they would be operated entirely on solar energy and would not generate GHG emissions when operated.

As explained in Section 3.4 Agriculture on page 3.4-23, with implementation of the proposed project, agricultural productivity on the Onyx Ranch is anticipated to change from approximately 5,465 Animal Unit Months (AUMs) to a range of 284 to 644 AUMs. This is based on a reduction in irrigated acreage from 1,658 acres to 96 acres (Boone Field), reduction in alfalfa grown from 4,739 tons to 582 tons, and reduction in consumption of hay and grains from approximately 1,000 tons to 0 tons. The number of AUMs onsite on the Onyx Ranch could be greater than 644 AUMs if supplemental feed is used or if supplemental irrigation is provided in accordance with implementation of the Grazing Management Plan. In addition, on the Smith Ranch, with more efficient management of irrigation water relative to the current management, the vegetative productivity of irrigated pastures on the Smith Ranch could be maintained similar to the current management, resulting in no change to the carrying capacity of the Smith Ranch with implementation of the proposed project. Therefore, with implementation of the proposed project, the number of cattle present on the Onyx Ranch and the Smith Ranch would either be similar to the existing conditions or would be reduced, based on implementation of the Grazing Management Plan. With respect to GHG emissions, cattle are a biogenic source of methane. However, the proposed project would not result in an increase in biogenic sources of methane

relative to existing conditions. The proposed project would either maintain the carrying capacity of the Onyx Ranch and the Smith Ranch for cattle, or result in a decrease in the number of cattle onsite. Therefore, biogenic methane emissions would either be the same as the existing conditions, or biogenic methane emissions would decrease along with the number of cattle at the project site. There would be no impact from GHG emissions associated with biogenic methane as a result of cattle present on the project site with implementation of the proposed project.

### SCFK-8

As described in the Draft EIR, Chapter 2, Project Description, the proposed project would reduce surface water diversions to the project site and result in a net decrease in groundwater pumping. The proposed project would reduce groundwater pumping from existing onsite irrigation wells at the Onyx Ranch. With the proposed project, groundwater pumping for irrigation of the Boone Field at Onyx Ranch would continue, similar to the existing conditions. Groundwater would not be used for irrigation purposes at any other fields on the Onyx Ranch. The proposed project would include development of up to 12 shallow, low-volume wells powered by solar facilities to provide livestock water and improved livestock distribution for more effective use of the available forage on the Onyx Ranch and the Smith Ranch. Overall the proposed project would result in a net decrease in the amount of California water put to beneficial use for livestock on the project site.

The Draft EIR, Section 3.11 Hydrology and Water Quality, on page 3.11-18, mentions Section 10 Article 2 of the California Constitution as it relates to beneficial use of water. In relevant part, Article 10, Section 2 of the California Constitution declares:

“[B]ecause of the conditions prevailing in this State, the general welfare requires that the *water resources of the State be put to beneficial use to the fullest extent of which they are capable*, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare ...” (emphasis added)

As stated in the Draft EIR, on page 3.11-18, the Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) designates beneficial uses for surface waters and groundwater in the Kern River Valley, including the South Fork of the Kern River, Isabella Reservoir, and the Kern River Valley Groundwater Basin. The Basin Plan identifies Agricultural Supply as a beneficial use for groundwater in the Kern River Valley Groundwater Basin (see Draft EIR, page 3.11-19).

As stated in the Draft EIR, 3.4 Agriculture, in Potential Impact AGR-1, on pages 3.4-23 and 3.4-24, with implementation of the proposed project, other than the Boone Field, currently irrigated pastures on the Onyx Ranch would be converted to drought tolerant vegetation capable of surviving a natural precipitation regime while also providing grazing forage for cattle. As stated in the Draft EIR, Chapter 2, Project Description, Project Element 6 – Land Management, on page

2-23, with the proposed project a Grazing Management Plan would be developed to identify grazing practices, performance standards, and associated monitoring to achieve soil conservation and agricultural productivity objectives. Inter-annual variability of pasture productivity could occur due to the total reliance on natural precipitation for pasture production. The Grazing Management Plan would also include drought management strategies for grazing activities, utilizing replacement feed, use of off-site pastures, early calf weaning, and herd culling in dry years. As discussed in the Draft EIR, Section 3.4 Agriculture, on page 3.4-23, these practices may require time to recover (particularly from culling) as the breeding herd is rebuilt in subsequent wet years.

As stated in the Draft EIR, Chapter 2, Project Description, Project Element 6 – Land Management, on page 2-23, with implementation of the proposed project, no substantial changes to agricultural practices at the Smith Ranch are anticipated other than a 33 percent reduction in the irrigated acres. Implementation of the Grazing Management Plan could result in more effective use of existing available forage with modifications to grazing management activities, including yearly rotations of irrigated acres, seasonal livestock rotation, residual dry matter (RDM) targets, fence maintenance (including potential replacement of existing fences), and establishment of additional livestock watering locations. As discussed in the Draft EIR, on page 3.4-24, with more efficient management of irrigation water relative to current management, the vegetative productivity of irrigated pastures on the Smith Ranch could be maintained similar to current management, resulting in no change to the carrying capacity of the ranch with implementation of the proposed project.

Therefore, the proposed project would provide water for the beneficial use of Agricultural Supply as designated in the Basin Plan, would not result in the waste or unreasonable use of water, and would be consistent with Article 10, Section 2 of the California Constitution.

#### **SCFK-9**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The Groundwater Sustainability Plan (GSP) for RRBWSD and the Rosedale-Rio Bravo Management Area was submitted to the State Department of Water Resources in December 2019 and is available on the internet at: <https://www.rrbwsd.com/rosedale-groundwater-sustainability-planning>. The proposed project is included in the RRBWSD GSP, which provides the RRBWSD's path to groundwater sustainability by the year 2040 as required by the Sustainable Groundwater Management Act (SGMA). Included in Section 7.4 of the GSP is the implementation of demand reduction management actions.

In addition, the RRBWSD GSP evaluates undesirable results as required by SGMA, including groundwater levels, groundwater storage, and water quality as it pertains to drinking water supplies.

#### **SCFK-10**

Refer to Response to Comment SCFK-9.

**SCFK-11**

The Draft EIR, Chapter 2, Project Description, on page 2-1, provides public disclosure for the objective of the proposed project to deliver surface water via the Kern River to the RRBWSD service area on the San Joaquin Valley floor, where the water would be used for agricultural irrigation and groundwater recharge. The proposed project would not require new pipelines or conveyance infrastructure to be constructed in the RRBWSD service area to deliver surface water for beneficial use.

**SCFK-12 and SCFK-13**

As stated in the Draft EIR, Executive Summary and Chapter 2, Project Description, on page ES-2 and 2-7, respectively, “(t)he proposed project would result in the use of the surface water moved downstream in the RRBWSD’s service area as a beneficial use in Kern County.” Regarding the beneficial use of water for livestock, refer to Response to Comment SCFK-8. Regarding the methane emissions associated with the proposed project, refer to Response to Comment SCFK-7.

**SCFK-14**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The proposed project does not include or modify the existing conditions related to importing water through the State Water Project (SWP) to the RRBWSD service area.

**SCFK-15**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The proposed project does not include or modify the existing conditions related to importing water through the State Water Project (SWP) to the RRBWSD service area. Regarding groundwater sustainability in the RRBWSD service area, refer to Response to Comment SCFK-9.

**SCFK-16**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The Grazing Management Plan associated with the proposed project would apply to the Onyx Ranch and the Smith Ranch on the project site. As stated in the Draft EIR, Chapter 2, Project Description and Section 3.4 Agriculture, on pages 2-23 and 3.4-23, respectively, the proposed Grazing Management Plan would include drought management strategies for grazing activities, utilizing replacement feed, use of off-site pastures, early calf weaning, and herd culling in dry years. These practices may require time to recover (particularly from culling) as the breeding herd is rebuilt in subsequent wet years. The proposed Grazing Management Plan would not apply to agricultural activities or grazing management in the San Joaquin Valley.

**SCFK-17**

Refer to **Master Response H – Project Alternatives**. In the Draft EIR, Chapter 5, Alternatives Analysis, the Delta Conveyance Project Alternative is considered. As stated on page 5-6 of the Draft EIR, the Delta Conveyance Project could provide water for recharge into the Kern County Sub-basin beneath the RRBWSD service area as an alternative to the proposed project. However,

the RRBWSD cannot sufficiently rely on SWP or CVP water supplied by the Delta Conveyance Project to substitute the water generated by the proposed project. The RRBWSD needs approximately 11,500 AFY on-line by the year 2025 to meet its SGMA objectives (RRBWSD, 2019). Given the length of time expected to complete environmental review, permitting, and construction (up to 16 years in the year 2036), the Delta Conveyance Project is not a feasible alternative from a schedule implementation standpoint. As a result, the Delta Conveyance Project Alternative would not meet the project objective to reduce dependence upon the imported water from the Sacramento-San Joaquin Delta.

**SCFK-18**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The proposed project does not include changes to agricultural land uses in the San Joaquin Valley that could impact groundwater or air quality/greenhouse gas emissions within the San Joaquin Valley air basin. The proposed project would not affect existing emissions of GHGs in the San Joaquin Valley air basin.

**SCFK-19**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The proposed project does not include changes to agricultural land uses in the San Joaquin Valley groundwater basin. Regarding groundwater sustainability in the RRBWSD service area and the RRBWSD GSP, refer to Response to Comment SCFK-9.

**SCFK-20**

The comment is noted for the record. The proposed project does not include changes to agricultural land uses in the San Joaquin Valley that could impact groundwater or air quality/greenhouse gas emissions within the San Joaquin Valley air basin. The proposed project would not affect existing emissions of GHGs in the San Joaquin Valley air basin.

**SCFK-21**

Refer to Response to Comment SCFK-7. The comment is noted for the record.

**SCFK-22**

Refer to Response to Comment SCFK-8.

**SCFK-23**

Refer to Response to Comment SCFK-8.

**SCFK-24**

The analysis in the Draft EIR, Section 3.9 Greenhouse Gas Emissions, follows the same protocols for quantifying GHGs as the State of California uses to determine the official State GHG emissions inventory. As stated in the Draft EIR, on page 3.9-1, “(t)he State of California uses the GWPs from the IPCC Fourth Assessment Report (AR4) in the official State GHG emissions inventory (IPCC, 2007).” Additionally, as stated in CARB’s 2019 GHG inventory, the *California Greenhouse Gas Emissions for 2000 to 2017, Trends of Emissions and Other Indicators*, “(a)ll

emissions in this report are expressed in 100-year GWP from the Intragovernmental Panel on Climate Change (IPCC) 4th Assessment Report (AR4), consistent with current international GHG inventory practices” (CARB, 2019).<sup>5</sup> Therefore, the use of 25 for methane’s GWP in the analysis is consistent with current methodology and practices.

#### **SCFK-25**

Refer to **Master Response E – Water Rights** and **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **SCFK-26**

The proposed project is described in the Draft EIR, Chapter 2, Project Description, and does not include construction of an aqueduct.

#### **SCFK-27**

This comment expressing opinion is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration. The proposed project does not include or modify the existing conditions related to importing water through the State Water Project (SWP) to the RRBWSD service area. Regarding groundwater sustainability in the RRBWSD service area, refer to Response to Comment SCFK-9. As documented in the Draft EIR, Section 3.11 Hydrology and Water Quality and 3.6 Biological Resources, respectively, the proposed project would not result in significant and unavoidable environmental impacts to the sustainability of the Kern River Valley Groundwater Basin or to the ecosystems of the South Fork Valley.

### **9.2.18 Kern River Watermaster (KRWM)**

#### **KRWM-1**

The proposed project was designed to avoid injury to the Kern River Interests. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response D – Groundwater Impacts to Kern Sub-basin**, **Master Response E – Water Rights**, and **Master Response F – RRBWSD Place of Use**.

#### **KRWM-2**

Regarding the adequacy of the project description, the Draft EIR, Chapter 2, Project Description, refer to Response to Comment KDWD-2.

Also refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **KRWM-3**

As explained in the Draft EIR, Chapter 2, Project Description, Section 2.7 Description of the Proposed Project, Project Element 1 – Surface Flow Diversion Records and Notification Process, on page 2-20 the RRBWSD would collect surface flow diversion data for the South Fork of the Kern River and prepare data records for use by the downstream water right holders. With the implementation of the proposed project, the RRBWSD would continue their current practice of

<sup>5</sup> California Air Resources Board (CARB), 2019. *California Greenhouse Gas Emissions for 2000 to 2017: Trends of Emissions and Other Indicators*. 2019 Editions. Available at: <https://ww2.arb.ca.gov/ghg-inventory-data>.

monthly postings of daily flow and diversion records. As you know, coordination of surface flow diversions among water right holders is a necessity to ensure good water management and preclude water rights disputes based on erroneous or no information. Also refer to **Master Response A – Calculation of Project-Related Water** and **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **KRWM-4**

The method by which a “natural precipitation regime” would be achieved by the proposed project is through rainfall, such that the non-irrigated pasture or native vegetation would not require a water source other than rainfall. As further explained in the Draft EIR, Section 3.4 Agriculture, on page 3.4-23, “Inter-annual variability of pasture productivity could occur due to the total reliance on natural precipitation for pasture production.”

#### **KRWM-5**

Refer to *Hydrogeological Evaluation of the Onyx Ranch Project with Clarification* (Hydrogeological Evaluation with Clarification) (Thomas Harder & Co., 2020), which is provided as Revised Appendix E to this Final EIR. Specifically, see Table 3 and 5 for the consumptive use calculations with and without the proposed project.

#### **KRWM-6**

Refer to Response to Comment KRWM-3. Also refer to **Master Response A – Calculation of Project-Related Water**, and **Master Response B – Coordination of Flows and Downstream Impacts**.

#### **KRWM-7**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** regarding water storage at Isabella Reservoir. Regarding the adequacy of the project description, refer to Response to Comment KDWD-2.

#### **KRWM-8**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** regarding water storage at the Isabella Reservoir.

#### **KRWM-9**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

#### **KRWM-10**

While the project site is defined in the Draft EIR, Chapter 2, Project Description, on page 2-1, as the Onyx Ranch and Smith Ranch, the Draft EIR does not state that the project area for analysis is restricted to the project site. The Draft EIR evaluates both direct and indirect impacts as required by CEQA (CEQA Guidelines Section 15126.2). The Draft EIR, Chapter 2, Project Description,

includes discussion of the Isabella Reservoir and areas below Isabella Reservoir, as stated on page 2-1:

The increased flows resulting from the proposed project would be released through the Isabella Dam and flow downstream in the Lower Kern River until the water is diverted at the RRBWSD diversion points. From there, the RRBWSD would deliver the water to recharge basins and channels within and near its service area west of the City of Bakersfield (see Figure 2-1). The RRBWSD existing groundwater banking and conjunctive-use projects, operations, and CEQA documentation are detailed in the RRBWSD's annual Operations Report which is found online at: <https://www.rrbwsd.com/newsletter-notices>.

The proposed project would not result in significant or adverse environmental impacts to areas downstream of the Isabella Reservoir. Regarding potential impacts downstream of the proposed project and in the project area, refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response D – Groundwater Impacts to Kern Sub-basin**.

#### **KRWM-11**

Refer to **Master Response E – Water Rights**, **Master Response F – RRBWSD Place of Use**, and **Master Response H – Typical Irrigation Demand**.

#### **KRWM-12**

Refer to **Master Response A – Calculation of Project-Related Water**, **Master Response C – No-Injury**, **Master Response E – Water Rights**, and **Master Response F – RRBWSD Place of Use**.

#### **KRWM-13**

Refer to **Master Response E – Water Rights**.

#### **KRWM-14**

Refer to **Master Response B – Coordination of Flows and Downstream Impacts**, **Master Response D – Groundwater Impacts to Kern Sub-basin**, and **Master Response F – RRBWSD Place of Use**.

#### **KRWM-15**

The Draft EIR, Section 3.11 Hydrology and Water Quality, starting on page 3.11-33, concludes that the proposed project would not have any adverse impacts on the Kern River or San Joaquin Valley including the downstream Kern River Interests and their water rights. As a result, no mitigation measures are required. Refer to **Master Response B – Coordination of Flows and Downstream Impacts** and **Master Response C – No-Injury**.

The CEQA requirements for the analysis of alternatives are clearly explained in the Draft EIR, Chapter 5, Alternatives Analysis. The CEQA Guidelines Section 15126.6 requires that the analysis of alternatives be limited to ones that would avoid or substantially lessen any of the significant impacts of a project. Because the Draft EIR did not find any significant impacts to the San Joaquin Valley or the water rights of the Kern River Interests, alternatives are not required to

be considered. Nonetheless, the Draft EIR includes the Delta Conveyance Project Alternative (Draft EIR page 5-5) and describes why the RRBWSD considered but rejected this alternative as infeasible, as allowed by CEQA (CEQA Guidelines Section 15126.6(c)). Refer also to **Master Response H – Project Alternatives**.

#### **KRWM-16**

Per CEQA Guidelines Section 15088.5, “[n]ew information added to an EIR is not ‘significant’ unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project’s proponents have declined to implement.” Furthermore, “Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.” In response to comments, some changes have been made to the EIR. However, neither the methodologies employed nor the conclusions reached have changed in any way that implicates a significant environmental impact not identified in the Draft EIR, a substantially more severe significant environmental effect than indicated, or a new feasible alternative or mitigation measure. The Draft EIR is comprehensive and robust, compiled by scientists and experts in their respective environmental fields, and is supported with substantial evidence. For these reasons, recirculation of the Draft EIR is not required.

### **Kern River Watermaster Appendix A**

#### **KRWM-A-1**

The RRBWSD thanks the Watermaster for providing a summary of operations and procedures for administration and use of Kern River water by the Kern River Interests. Refer to **Master Response B – Coordination of Flows and Downstream Impacts**.

## **9.2.19 Kern Valley Indian Community (KVIC)**

#### **KVIC-1**

RRBWSD acknowledges the comments received by the Kern Valley Indian Community in 2018.

#### **KVIC-2**

The Draft EIR, Section 3.7 Cultural Resources, describes the archaeological and prehistoric setting for the project site and states that the ground-disturbing activities associated with the proposed project due to installation of shallow, low-volume wells would have the potential to cause a substantial adverse change in the significance of unknown archaeological or prehistoric resources. Mitigation Measure CUL-2, which requires archaeological monitoring, is required for installation of the wells. These measures include conferring with Native American representatives if any inadvertent archaeological find is of Native American origin. Due to the fact that no Native American input was received in response to the outreach conducted for the proposed project, as detailed in Section 3.14 Tribal Cultural Resources, no Native American monitoring is required.

#### **KVIC-3**

The comment is noted for the record. As stated in Response to Comment KVIC-2, Mitigation Measure CUL-2 is required for ground-disturbing activities associated with implementation of the

proposed shallow, low-volume wells and has protocols for unanticipated discovery of archaeological or prehistoric materials. Provisions include: immediate ceasing of all work activities at the well site and within 100 feet of the discovery until it is evaluated by the Qualified Archaeologist designated by the RRBWSD. Construction shall not resume until the Qualified Archaeologist has conferred with the RRBWSD and the appropriate Native American representatives (if the find is of Native American origin) on the significance of the resource as an historical resource or as a unique archaeological resource. Based on the determination of the significance of the discovery, the RRBWSD shall implement a strategy for avoidance and preservation in place.

### 9.2.20 Kern Delta Water District 2 (KDWD2)

The comment letter submitted by Kern Delta Water District, dated October 15, 2020, was not received within the public review period; therefore, no response is required. Pursuant to CEQA, a lead agency is required to consider comments on the Draft EIR and to prepare written responses if a comment is received within the public comment period (Pub. Res. Code §21091(d); CEQA Guidelines §15088). When a comment letter is received after the close of the public comment period (as was the letter from KDWD listed above), however, a lead agency does not have an obligation to respond (Pub. Res. Code §21091(d)(1); Pub. Res. Code §21092.5(c)). Nonetheless, the RRBWSD has elected to respond to KDWD's letter for informational purposes, but without waiving its position that written responses to late comment letters are not required by law.

#### **KDWD2-1**

The letter and attached trial court decision do not involve the proposed project that is the subject of this CEQA document. The letter and attached decision is noted for the record and shall be forwarded to the RRBWSD Board of Directors for their review and consideration.

RRBWSD has specifically responded to all of the KDWD comments raised in comment letters regarding this project. See Section 9.2.14 above.

## 9.3 References

California Air Resources Board (CARB), 2019. *California Greenhouse Gas Emissions for 2000 to 2017: Trends of Emissions and Other Indicators*. 2019 Editions. Available at: <https://ww2.arb.ca.gov/ghg-inventory-data>.

Rosedale-Rio Bravo Water Storage District (RRBWSD), 2020. *Rosedale-Rio Bravo Water Storage District, 2019 Operations Report*. Prepared by AECOM, August 2020. Available at: <https://www.rrbwsd.com/wp-content/uploads/2020/11/Final-RRBWSD-2019-Operations-Report-August-2020.pdf>.

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# CHAPTER 10

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## Revisions to the Draft EIR

This chapter presents revisions and clarifications to the Draft EIR based on responses to the written comments received during the public review period. The following revisions and clarifications are made to the Draft EIR, and are incorporated herein as part of the Final EIR. Revised language or new language is underlined. Deleted language is indicated by ~~striketrough~~ text. The revisions and clarifications are provided in the order of the chapters and sections in the Draft EIR.

The revisions and clarifications presented in this Chapter 10 do not significantly alter the description of the proposed project or change the conclusions of the analyses of the potential impacts of the proposed project that were provided in the Draft EIR distributed for public review. No significant information was added as a result of the revisions and clarifications, including: the clarifications to the description of the proposed project provided in the Draft EIR; the provision of details and clarifications on the analyses provided in the Draft EIR; and the revisions to mitigation measures in the Draft EIR that improve their effectiveness.

CEQA Guidelines Section 15088.5 requires that a lead agency recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the Draft EIR for public review. New information added to an EIR is not significant unless the EIR has changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse, environmental effect of the project or a feasible way to mitigate or avoid such an effect that the project's proponents have declined to implement (CEQA Guidelines Section 15088.5). In summary, significant new information consists of: (1) disclosure of a new significant impact; (2) disclosure of a substantial increase in the severity of an environmental impact; (3) disclosure of a feasible project alternative or mitigation measure considerably different from the others previously analyzed that would clearly lessen environmental impacts of the project, but the project proponent declines to adopt it; and/or (4) the Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded (CEQA Guidelines Section 15088.5). Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications to an adequate EIR (CEQA Guidelines Section 15088.5).

Based on the criteria for recirculation in CEQA Guidelines Section 15088.5 presented above, the recirculation of the Draft EIR is not required.

## Executive Summary

The Draft EIR text on page ES-13 is modified as follows:

- Potential impacts to storage ~~and~~ at Isabella Reservoir due to the reduction in surface water diverted to the project site
- Documentation of water rights to be utilized for the proposed project.

## Chapter 2 Project Description

The Draft EIR text on page 2-16 is revised as follows:

The Boone Field has riparian rights with an 1882 priority date. The riparian rights for the Boone Field cannot be transferred. ~~However, the RRBWSD could reduce water diversions under the Boone riparian right to make more water available for appropriate rights junior to 1882, such as the 33<sup>rd</sup> water right under the 1902 Decree.~~

The Draft EIR text on page 2-17 to 2-19 is revised as follows:

Step 1: ~~First, the~~ The RRBWSD would determine the amount of water available under each water right listed in Table 2-2 based on flows in the South Fork of the Kern River. The flow in the South Fork of the Kern River is measured at the USGS Onyx Gage located upstream of the Onyx Ranch. There is one diversion, the Smith Ranch diversion, between the gage and the Onyx Ranch. The amount of water available under the water rights described above is generally determined by the flow measured at the USGS gage, minus two-thirds of the Smith Ranch diversion, plus accretions (additional water) that occur below the gage, for example due to runoff or groundwater upwelling.

Step 2a: ~~Second, the~~ The RRBWSD would compare the amount of water available under its water rights to the typical irrigation water demand of the project site (the existing condition without the proposed project), by month, relative to water year type (see Table 2-4). Table 2-3 displays the amount of water diverted under the Onyx Ranch water rights from 2009 to 2017 based on recorded diversions for the years 2013 through 2017 and based on annual water right reports to the State Water Resources Control Board for years 2009 to 2012.

The RRBWSD has further analyzed diversions, available flows, and crop water use during the 2009 to ~~2017~~ 2019 time period and identified the “typical monthly water demand” for the project site, as indicated in Table 2-4, below. The lesser of the amount determined in Step 1 and Step 2a would be applied to Step 2b.

**TABLE 2-4**  
**ONYX RANCH AND ONE-THIRD INTEREST IN SMITH RANCH**  
**TYPICAL IRRIGATION DEMAND BY MONTH (2009–2017 2019)<sup>a</sup>**

Month	Typical Monthly Demand (cfs)
January	<u>21-19</u>
February	<u>26-23</u>
March	<u>44-35</u>
April	<u>49-37</u>
May	<u>49-43</u>
June	<u>49-43</u>
July	<u>46-43</u>
August	<u>20-31</u>
September	<u>26-26</u>
October	<u>46-26</u>
November	<u>29-21</u>
December	<u>25-21</u>

<sup>a</sup> The year 2011 is excluded because it was an unusually high flow and diversion year.

SOURCE: Rosedale-Rio Bravo Water Storage District, April 2019a, December 2020.

Step 2b: The RRBWSD would further reduce the amount of water involved in the proposed project during those time periods in December to March that the RRBWSD’s project site would not have been irrigated (and thus would not have diverted the typical irrigation demand) because of precipitation events. This precipitation adjustment would be made in the form of a percentage reduction on the amount of water computed under Steps 1 and 2a and would be based on whether or not the other diverters in the South Fork Valley have ceased or reduced diversions due to precipitation events.

After performing Steps 1, 2a, and 2b, the RRBWSD would have an amount of “Redirected Water” that can be moved downstream for the proposed project.

Step 3: ~~Third, the~~ The RRBWSD would reduce the amount of water that it would claim at the Isabella Reservoir by a no-injury factor of ~~17~~ 20 percent. The no-injury factor is explained further in Section 2.7 below. Using this method, the RRBWSD would estimate the total amount of water that would be moved from the project site to the RRBWSD service area on the San Joaquin Valley floor. The total amount of surface water would range from about 2,000 acre-feet per year to 12,000 acre-feet per year, depending on year type.

The Draft EIR text on page 2-22 is revised as follows:

The model water budget includes inflow and outflow factors such as precipitation, stream inflow, groundwater, evapotranspiration, evaporation, infiltration, return flow, subsurface flows, and crop consumptive use. The calibrated model for the period is January 2005 to

December 2017. For this 13-year period, the model shows that reducing ~~94,452~~ 98,156 acre-feet (AF) ~~acre-feet per year~~ of previous net diversions to the project site results in 78,183 AF ~~acre-feet per year~~ more water in the Isabella Reservoir, without impacting other reservoir storage amounts.

The Draft EIR text on page 2-23 is revised as follows:

With the proposed project, the fields and pastures currently irrigated with surface water on the Onyx Ranch would be converted to non-irrigated pasture or native vegetation, with one exception. The Boone Field, which has non-transferrable riparian rights, would continue to be irrigated similar to existing conditions, ~~or fallowed to make more surface water available for the pre-1914 appropriative rights.~~ The transition to non-irrigated pasture would be achieved by planting vegetation capable of surviving a natural precipitation regime while also providing grazing forage for cattle.

With the proposed project, a Grazing Management Plan would be developed to identify grazing practices, performance standards, and associated monitoring to achieve soil conservation, weed management, and agricultural productivity objectives. Inter-annual variability of pasture productivity could occur due to the total reliance on natural precipitation for pasture production. The Grazing Management Plan would also include drought management strategies for grazing activities, utilizing replacement feed, use of off-site pastures, early calf weaning, and herd culling in dry years. In areas of Onyx Ranch where fields would be converted to native vegetation or if Boone Field is fallowed, a restoration and management plan for fallowed crop and pasture lands would be prepared and implemented as part of the Grazing Management Plan to address: (1) actions to facilitate early identification of non-native invasive species; (2) methods to remove and immobilize the spread of non-native invasive species such as purple loosestrife (*Lythrum salicaria*), tamarisk, dodder (*Cuscuta* sp.), Russian thistle (*Salsola tragus*); and (3) seeding or planting of appropriate native plants.

The Draft EIR text on page 2-25 is revised as follows:

The conversion from irrigated row crops as identified in Table 2-1 to non-irrigated row crops and pasture would involve working the fields with tractors. Each field would be prepared sequentially over 1 to 3 months, and approximately one to three tractors would be onsite at any given time. The fields may then be prepared for planting using chisel plows and disk plows and planted using approximately one to three tractors. This would be similar or less intensive than the existing agricultural practices for the planting of crops on the project site. Site preparation to convert existing irrigated pasture to non-irrigated pasture and grazing lands may include broadcast seeding followed by pasture harrow or direct drill seeding. Application of some irrigation water (one acre-foot per acre) as well as follow up seeding in subsequent years may be needed based on weather patterns and success of the initial seeding. If surface water or groundwater is applied for mitigation or irrigation, project-related water would

be reduced by a commensurate amount, reducing the project-related water redirected to the South Fork of the Kern River. Maintenance of vegetative cover on these pastures prior to seeding would help to reduce wind erosion to levels similar to the current conditions.

## Section 3.2 Cumulative Impacts Methodology

The Draft EIR text in Table 3-2 on page 3-8 is revised as follows:

City of Bakersfield (Buena Vista Water Storage District is project sponsor)	<del>James Groundwater Storage and Recovery Project</del> <u>McAllister Ranch Groundwater Storage and Recovery Project</u>	Bakersfield, CA	Groundwater Banking and Recovery	Construction and operation of shallow recharge ponds totaling <del>~1,400</del> <u>2,072</u> acres, water conveyance facilities, and up to 14 groundwater wells and well pumping plants to store water and pump it in times of surplus.	Notice of Preparation (NOP) was released on <del>June 12, 2020</del> <u>May 4, 2012</u> <sup>G</sup>
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The Draft EIR text in Table 3-2 on page 3-9 is revised as follows:

<sup>G</sup> [https://ceqanet.opr.ca.gov/2012051023-https://files.ceqanet.opr.ca.gov/262512-2/attachment/smKXqHLQk-OlbwPRfBSc0RqrqQ1ZP3JNVsAE2Vh-abQ7iEq9hzKypxY6\\_8DHku2s1R1Fb505YXPvSSmx0](https://ceqanet.opr.ca.gov/2012051023-https://files.ceqanet.opr.ca.gov/262512-2/attachment/smKXqHLQk-OlbwPRfBSc0RqrqQ1ZP3JNVsAE2Vh-abQ7iEq9hzKypxY6_8DHku2s1R1Fb505YXPvSSmx0)

The Draft EIR text on page 3-14 is revised as follows:

### **James Groundwater Storage and Recovery Project McAllister Ranch Groundwater Storage and Recovery Project**

The ~~James Groundwater Storage and Recovery Project~~ McAllister Ranch Groundwater Storage and Recovery Project is a proposed ~~2,070~~ 2,072-acre project in southwest Bakersfield designed to recharge, store, and recover water to provide a reliable, affordable, economically viable, and usable water supply to provide a cost effective and reliable water supply for landowners within the RRBWSD and BVWSD. The project would help provide an affordable and reliable water supply to approximately 25,000 acres of irrigated agriculture and over 10,000 residents within the RRBWSD service area, and to the lands and landowners within the BVWSD (BVWSD and RRBWSD, 2012). Approximately 150,000 AF of water could be stored annually and up to 56,000 AF water could be extracted annually (City of Bakersfield, 2020).

The project property, known as McAllister Ranch, was formerly a planned residential development that was in the early stages of construction. Due to the downturn in the real estate market and project financing issues, development was discontinued and the property sat idle for several years until it was sold in a bankruptcy proceeding. ~~Rosedale and BVSD jointly purchase the property in 2011. The CEQA process is anticipated to begin in 2019 or later~~ was issued in June 2020 with issuance of the NOP (City of Bakersfield, 2020) (BVWSD and RRBWSD, 2012).

## Section 3.3 Aesthetics

The Draft EIR text on page 3.3-2 has been modified as follows:

For the Smith Ranch portion of the project site, of the approximately 691 acres, approximately ~~308~~ 278 acres are riparian pasture, 171 acres are mountainous areas, and approximately 242 acres are used for irrigated pasture purposes.

## Section 3.6 Biological Resources

The Draft EIR text on page 3.6-46 is revised as follows:

All well installations would be scheduled outside of the ~~September 1—February 14~~ February 1–September 15 avian nesting ~~bird~~ season. Therefore, installation and operation of the solar wells would result in no impacts to special-status plants or wildlife (including southwestern willow flycatcher and western yellow-billed cuckoo) or their habitats, and no mitigation is required.

The Draft EIR text on page 3.6-57 is revised as follows:

As cited in the *Hydrogeological Evaluation of the Onyx Ranch Project* prepared by Thomas Harder & Co, which is provided in Appendix E Hydrogeological Technical Report to this Draft EIR, the proposed project may result in a decrease of groundwater levels of up to approximately 15.6 feet beneath the project site; however, this would occur during wet/rainy periods (e.g., May 2011) when precipitation and groundwater levels typically are at their highest. Specifically, decreases in groundwater levels between approximately 10 and up to 15.6 feet during the wet/rainy periods would be limited to areas that include segments of Hillside, Nicoll, and Mack agricultural ditches within portions of Landers II and Nicoll Tracts. In the areas of Nicoll and Mack agricultural ditches, Fremont cottonwood forest is not present. In the area of Hillside agricultural ditch, Fremont cottonwood forest is present; however, but since surface water flows in Hillside ditch only occur during March through May, the Fremont cottonwood forest along this ditch is primarily supported by groundwater and precipitation for the remainder of the year and thus would not be affected by temporary fluctuations in groundwater levels during wet/rainy periods.

Surface vegetation and natural communities are most affected and constrained by periods of low groundwater levels, which typically occur in late autumn or early winter, just before the beginning of the rainy season. During dry periods, the proposed project may result in groundwater level decreases estimated to be approximately 0 to 4 feet along the South Fork of the Kern River, including areas occupied by Fremont cottonwood forest. However, this temporary fluctuation in the groundwater level would be well within the rooting depths of Fremont cottonwood trees. Further, due to the availability of a perennial water source of the South Fork of the Kern River, potential impacts would be less than significant.

While some literature suggests Fremont cottonwood trees are known to have taproots up to approximately seven feet deep (Stromberg, 2013), one source suggests rooting depths in mature Fremont cottonwood stands are 9.8 to 16.4 feet (USDA, 2019). ~~This suggests that~~ Therefore, while groundwater levels may fall below the ~~accepted~~ more conservative seven-foot root growth limit for cottonwood trees ~~on a periodic basis during the wet/rainy season,~~ and sensitive individuals (e.g., young saplings, declining trees) may decline as a result, it is not expected that the community ~~as a whole~~ would be significantly affected due to the availability of precipitation in the winter months. In addition, any decrease in surface flow within the agricultural ditches and the decrease in irrigation in the agricultural tracts as a result of the proposed project would result in the conveyance of more water into the South Fork of the Kern River, which supports the majority of Fremont cottonwood forest in the potential impact area as shown in Figure 3.6-2. As such, the additional flow in the South Fork of the Kern River would likely benefit this community and improve the overall condition of the Fremont cottonwood forest within the potential impact area and the South Fork Valley. Therefore, with implementation of the proposed project, the potential impacts to Fremont cottonwood forest would be less than significant.

The Draft EIR text starting on page 3.6-52 is revised as follows:

**BIO-1: Assessment and Monitoring Program:** A qualified biologist shall prepare and implement a pre-project and post-project Assessment and Monitoring Program. The pre-project phase of the program shall confirm and update the existing baseline conditions and extents of the creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, and sandbar willow thickets within the potential impact area. The post-project phase of the program shall be developed to systematically monitor the condition of each of the aforementioned sensitive natural communities and riparian habitats located within the potential impact area to determine whether each sensitive natural community and/or riparian habitat is experiencing a level of disturbance as a result of the project implementation and operational activities.

For the Assessment and Monitoring Program, the physical condition of each sensitive natural community and riparian habitat shall be documented during both the pre-project and post-project monitoring activities. Documentation shall include, but is not limited to: GPS mapping to monitor community extents, qualitative and quantitative vegetation analysis (including native and non-native cover), relevant groundwater data, and annual reporting. Vegetation analysis methods, including determination of the level of site disturbance, shall be conducted in accordance with accepted industry standards, such as the CDFW-CNPS Protocol for the Combined Vegetation Rapid Assessment (Rapid Assessment) and Relevé methods (CDFW, 2019b). Post-project monitoring activities shall continue for a period of 5 years, to be initiated one year following implementation of the project. Pre-project surveys and post-project monitoring documentation shall be submitted to and retained at the RRBWSD administrative office.

The CDFW-CNPS Rapid Assessment/Relevé method of vegetation sampling includes the following standards for classifying disturbances from the reduction or elimination of surface water diversion (Disturbance Code 14) and other disturbances within the potential impact area:

- Light: less than 33% of the stand is impacted.
- Moderate: between 33% and 66% of the stand is impacted.
- Heavy: more than 66% of the stand is impacted.

If the assessment and monitoring program determines a Light, Moderate, or Heavy Disturbance (as defined in the CDFW-CNPS Rapid Assessment/Relevé methods) in the potentially impacted sensitive natural communities and/or riparian habitats identified, the area of impact shall be quantified through comparison with the established pre-project baseline conditions. For purposes of comparing post-project implementation conditions after the 5-year monitoring period with the pre-project baseline conditions, the impacts characterized as Light, Moderate, or Heavy Disturbance shall include:

- Light: less than 33% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Moderate: between 33% and 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat
- Heavy: more than 66% of sample plots averaged over the 5-year monitoring period show a 20% or greater reduction in absolute native cover of the sensitive natural community and/or riparian habitat

If the monitoring biologist determines that extraneous factors (i.e., drought, non-project-related anthropogenic influences, other uncontrollable factors) could have adversely influenced absolute native cover of the sensitive natural community and/or riparian habitat during the 5-year monitoring period, or additional groundwater level data is needed to draw conclusions regarding observations of adverse habitat impacts related to groundwater levels, the monitoring period may be extended at the monitoring biologist's discretion to account for these factors.

At the conclusion of the monitoring period, impacts evaluated in terms of Light, Moderate, or Heavy Disturbance shall be mitigated as described below.

**Mitigation Options at Conclusion of 5-Year Monitoring Period:** For impacts to creeping rye grass turfs, red willow thickets, cattail marsh, mulefat thickets, or sandbar willow thickets, the RRBWSD shall provide one or a combination of the following mitigation options unless the habitat is occupied by tri-colored blackbird (which would be mitigated in accordance with BIO-2): The timing of implementation shall depend on if and when adverse impacts to these habitats are observed to be attributable to changes in surface water or groundwater conditions, and may be implemented prior to or at the end of the monitoring period.

1. No mitigation required for Light Disturbance.
2. On- and/or off-site preservation, creation, restoration, and/or enhancement of sensitive natural communities or riparian habitat at a ratio no less than 1:1 for

Moderate Disturbance impacts, and no less than 2:1 for Heavy Disturbance impacts. A habitat mitigation plan (HMP) shall be developed to include information on site selection, grading and site preparation, seeding and planting plans, irrigation, maintenance and monitoring activities, success criteria, adaptive management/contingency measures, and provisions for site preservation and long-term management. The HMP shall focus on the preservation, creation, restoration, and/or enhancement of equivalent habitats within suitable habitat areas of the project site and/or off-site.

3. The purchase of mitigation credits from an approved mitigation bank at a ratio of no less than 1:1 for Moderate Disturbance and no less than 2:1 for Heavy Disturbance.
4. Returning flows to the agricultural ditches and fields in areas where Moderate or Heavy Disturbance impacts to any of the natural communities identified above supported by those ditches or fields are observed during monitoring.

The Draft EIR Text on page 3.6-60 is revised as follows:

- Implementation of the proposed project would result in modifications to the timing and amount of surface water diverted from the South Fork of the Kern River and flow through the ditches on the project site. This would reduce or eliminate the irrigation of the fields within the potential impact area with the exception of Boone Field. Therefore, the proposed project would have potential significant impacts to the following sensitive natural communities and riparian habitats associated with the ditches and fields within the potential impact area: 399.4 acres of creeping rye grass turfs; 4.7 acres of red willow thicket; 19.0 acres of cattail marsh; 8.0 acres of mulefat thicket; and 5.0 acres of sandbar willow thickets. Incorporation of Mitigation Measure BIO-1 would reduce the potential significant impacts to these sensitive natural communities and riparian habitats to a less than significant level through implementation of an Assessment and Monitoring Program and requiring appropriate mitigation for habitat impacts.

## Section 3.9 Greenhouse Gas Emissions

The Draft EIR text on page 3.9-18 is revised as follows:

During installation of the proposed shallow, low-volume solar wells, GHG emissions would be generated from the construction equipment used to construct the wells. GHG emissions associated with construction of proposed shallow solar wells would result in approximately 30 MTCO<sub>2e</sub>, or 1 MTCO<sub>2e</sub> annually when amortized over a 30-year project (see Appendix B, Air Quality, Greenhouse Gases, and Energy to this Draft EIR, for calculations). Once the proposed shallow solar wells are installed, they would be operated entirely on solar energy and would not generate GHG emissions when operated.

As explained in Section 3.4 Agriculture on page 3.4-23, with implementation of the proposed project, agricultural productivity on the Onyx Ranch is anticipated to change from approximately 5,465 Animal Unit Months (AUMs) to a range of 284 to 644 AUMs.

This is based on a reduction in irrigated acreage from 1,658 acres to 96 acres (Boone Field), reduction in alfalfa grown from 4,739 tons to 582 tons, and reduction in consumption of hay and grains from approximately 1,000 tons to 0 tons. The number of AUMs onsite on the Onyx Ranch could be greater than 644 AUMs if supplemental feed is used or if supplemental irrigation is provided in accordance with implementation of the Grazing Management Plan. In addition, on the Smith Ranch, with more efficient management of irrigation water relative to the current management, the vegetative productivity of irrigated pastures on the Smith Ranch could be maintained similar to the current management, resulting in no change to the carrying capacity of the Smith Ranch with implementation of the proposed project. Therefore, with implementation of the proposed project, the number of cattle present on the Onyx Ranch and the Smith Ranch would either be similar to the existing conditions or would be reduced, based on implementation of the Grazing Management Plan. With respect to GHG emissions, cattle are a biogenic source of methane. However, the proposed project would not result in an increase in biogenic sources of methane relative to existing conditions. The proposed project would either maintain the carrying capacity of the Onyx Ranch and the Smith Ranch for cattle, or result in a decrease in the number of cattle onsite. Therefore, biogenic methane emissions would either be the same as the existing conditions, or biogenic methane emissions would decrease along with the number of cattle at the project site. There would be no impact from GHG emissions associated with biogenic methane as a result of cattle present on the project site with implementation of the proposed project.

## Section 3.11 Hydrology and Water Quality

The following edits to Section 3.11 Hydrology and Water Quality are made for consistency with the Revised Appendix E (see below).

The Draft EIR text on page 3.11-2 is revised as follows:

The RRBWSD contracted with Thomas Harder & Co. to describe the hydrogeological setting and conduct hydrogeological modeling for the proposed project. Unless otherwise specifically cited, the setting information provided below in Section 3.11.1 Environmental Setting comes from the *Hydrogeological Evaluation of the Onyx Ranch Project – with Clarification*, prepared by Thomas Harder & Co, and dated ~~October 2020~~<sup>July 2019</sup>, which is provided in Revised Appendix E Hydrogeological Technical Report to this ~~Final Draft~~ EIR.

The Draft EIR text on pages 3.11-29 to 3.11-30 is revised as follows:

The total water diversions redirected to the South Fork of the Kern River over the 13-year period modeled scenario for the proposed project consisted of ~~98,156~~<sup>94,442</sup> AF or an average of about 7,265 AF per year. All other pumping for non-project properties within the Hydrological Study Area and recharge stresses in the model remained unchanged from the calibrated model (i.e., no other inputs to existing conditions were changed). The groundwater model

assumed that water redirected to the Isabella Reservoir would not be stored on a long-term basis, but released to the Lower Kern River below the Isabella Dam. The groundwater model further assumed that the release of water would not result in a net change in reservoir storage relative to the calibrated existing conditions (no project conditions) over the model period. In order to determine the volume of surface water available for release downstream without changing the Reservoir storage on a long-term basis, multiple model runs were conducted in which the release volume was adjusted until the change in Reservoir storage for the proposed project was close to the change in Reservoir storage in the calibrated model. This was done because the Kern River Watermaster controls the volume of water in the Reservoir to maintain water volumes within the range of acceptable Reservoir storage volumes. Therefore, water levels in the Reservoir would not change with implementation of the proposed project, and the USACE and the Kern River Watermaster would not deviate from the Isabella Reservoir Water Control Manual, unless it is done in coordination and agreement with the Kern River Interests and other legal users.

### Model Results

The model report is provided in Revised Appendix E Hydrogeological Technical Report of this Final Draft EIR. The model conclusions are summarized below.

#### Redirected Surface Water Flow and No-Injury Factor

Of the 98,15694,442 acre-feet of net diversions to the project site in the existing conditions that would be redirected with the implementation of the proposed project over the 13-year model period, the estimated volume of surface water that could be released downstream of the Isabella Dam without creating a change in the volume of water in the Isabella Reservoir is approximately 78,183 acre-feet over the 13-year model period. The difference between the net redirected water with the proposed project (98.15694,442 acre-feet) and the volume of surface water released from Isabella Dam without a change in the volume of water stored in the Isabella Reservoir (78,183 acre-feet) would be due to stream channel infiltration, evapotranspiration (ET), and subsurface outflow from the Kern River Valley Groundwater Basin that is assumed to be surface water inflow to the Reservoir. On an average annual basis over the 13-year model period, approximately 7,265 net AF per year of redirected flows from the project site results in an average of 6,014 net AF per year of new water released from the Isabella Reservoir through the Isabella Dam. Thus, 8083 percent of the redirected water with the proposed project would flow into and then be released from the Isabella Reservoir. This results in a 2047 percent no-injury factor applied to redirected flows resulting from the proposed project, to determine the amount of water that would be released from the Isabella Reservoir through the Isabella Dam without injury to the Kern River Interests and other legal users.

The Draft EIR text on page 3.11-37 is revised as follows:

As discussed above in Section 3.11.3 Impact Analysis and Mitigation Measures, Methodology, Groundwater Modeling, ~~98,15694,442~~ AF of net diversions to the project site in the existing conditions would be redirected to the South Fork of the Kern River, then to the Isabella Reservoir with the proposed project. This would be about 7,265 AF per year. The model estimated that over the 13-year time period that was modeled, 78,183 AF of water could be released downstream of Isabella Dam without creating a change in Isabella Reservoir storage. The difference between the net redirected water (~~98,15694,442~~ AF) and the volume of water released from the Isabella Dam without a change in the Isabella Reservoir storage (78,183 AF) would be due to stream channel infiltration, evapotranspiration, and subsurface outflow from the Kern River Valley Groundwater Basin assumed to be surface water inflow to the Isabella Reservoir. In other words, some portion of this water would infiltrate down through the riverbed and recharge the aquifer and thus increase the volume of water in storage in the Kern River Valley Groundwater Basin. Historically, the Basin lost about 39,706 AF of groundwater between 2005 and 2017. With the proposed project, the losses over the 13-year time period with the same climate (i.e., the same amounts of precipitation over the 13-year time period) would be reduced to losses of about 21,482 AF. Therefore, the proposed project would increase the volume of groundwater in storage by about 18,224 AF, resulting in a beneficial effect.

The Draft EIR text on page 3.11-49 is revised as follows:

Thomas Harder & Co., ~~2020~~2019. Hydrogeological Evaluation of the Onyx Ranch Project – with Clarification. Prepared for Rosedale-Rio Bravo Water Storage District, ~~October 2020~~July 2019.

## Section 3.12 Land Use and Planning

The Draft EIR text on page 3.12-2 is revised as follows:

For the Smith Ranch portion of the project site, of the approximately 691 acres, approximately ~~308~~ 278 acres are riparian pasture, 171 acres are mountainous areas, and approximately 242 acres are used for irrigated pasture purposes.

## Chapter 4 Growth Inducement

The Draft EIR text on page 4-5 is revised as follows:

...the proposed project would not remove any obstacles to growth and would not indirectly have a significant impact on growth inducement. As a result, the potential for impacts related to growth inducement would be less than significant.

## Revised Appendix E

The *Hydrogeological Evaluation of the Onyx Ranch Project* was included in the Draft EIR as Appendix E (Thomas Harder & Co., 2019). In response to comments, minor revisions to the model analysis have been made and are described in the *Hydrogeological Evaluation of the Onyx Ranch Project – with Clarification* (Thomas Harder & Co., 2020), provided as Revised Appendix E to this Final EIR.

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**Revised Appendix E**  
**Hydrogeological Evaluation of**  
**the Onyx Ranch Project – with**  
**Clarification; October 2020**





# Technical Memorandum

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**To:** Mr. Dan Bartel  
Rosedale-Rio Bravo Water Storage District

**From:** Thomas Harder, P.G., CH.G.  
Thomas Harder & Co.

**Date:** October 2020

**Re:** Hydrogeological Evaluation of the Onyx Ranch Project – with Clarification

---

## 1.0 Introduction

This Technical Memorandum (TM) presents an evaluation of the surface water and groundwater budget of the South Fork Valley within the Kern River Valley in eastern Kern County, California (see Figure 1). The evaluation was conducted to estimate how planned changes to surface water diversions along the South Fork of the Kern River associated with Rosedale-Rio Bravo Water Storage District's ("the District's") Onyx Ranch South Fork Valley Water Project ("the proposed Project") are anticipated to change the surface water and groundwater budget of the Project Study Area.

In concept, the proposed Project consists of discontinuing irrigated crop production in most areas of the Onyx Ranch Property and one-third of the Smith Ranch Property (which together comprise the Project site) and directing surface water, otherwise diverted to the Project site from the South Fork of the Kern River, downstream to Isabella Reservoir.

## Purpose and Scope

The purpose of this analysis is to estimate changes in the water budget anticipated from discontinuing some or all of the existing diversions of surface water from the South Fork of the Kern River to the Project site and, instead, allowing the water to flow in the river channel downstream into Isabella Reservoir.

The scope of work to conduct the analysis consisted of:

- Obtaining and reviewing background data and reports.

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- Developing a hydrogeological conceptual model of the Project Study Area.
- Developing a detailed surface water budget for the Project Study Area.
- Developing a detailed groundwater budget for the Project Study Area.
- Preparing a calibrated numerical groundwater flow model for analysis of the proposed Project implementation.
- Analyzing the potential impacts of the proposed Project's implementation using the groundwater flow model.
- Preparing this TM summarizing the findings.

## 2.0 Study Area

The Study Area identified to evaluate the Project is shown on Figure 2. The Study Area is a 173-square-mile (111,013-acre) rectangular area that is approximately 19 miles long and 9 miles wide. The Study Area is located within the Sierra Nevada Mountains approximately 40 miles northeast of Bakersfield, California (see Figure 1). The southern and western boundaries of the Study Area were selected to fully include Isabella Reservoir and the Isabella Dam. The northern boundary was selected based on the location of the Kernville gaging station on the North Fork of the Kern River. The eastern boundary was selected based on the location of the United States Geological Survey (USGS) stream gaging station on the South Fork Kern River at Onyx.

The Project site is located within the South Fork Valley in the southeast portion of the Study Area (see Figure 2). The Project site consists of approximately 4,109 acres of undeveloped land, irrigated pastures and agricultural fields. The property is surrounded by open space, farms and ranches, some urban development, the Audubon Kern River Preserve, and property under the jurisdiction of the State of California (see Figure 3).

Since its settlement in 1860, the primary land use in the South Fork Valley has been irrigated agriculture and ranching.<sup>1</sup> Historical water supply for the irrigation of crops on the Project site has been accomplished through a system of unlined canals that divert surface water from the South Fork of the Kern River (see Figure 2). Crop irrigation is also supplemented with groundwater pumped from production wells (see Figure 3).

### 2.1 Hydrological Setting

The Study Area is located over portions of three watersheds within the Sierra Nevada Mountains: the North Fork Kern Watershed, the South Fork Kern Watershed, and the Kern Watershed (see Figure 4). Precipitation runoff falling within the North Fork Kern Watershed drains into the North

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<sup>1</sup> Crooker, H.M., 1930. *South Fork Kern River Investigation*. California Division of Water Resources.



Fork of the Kern River and then ultimately into Isabella Reservoir. Surface runoff within the South Fork Kern Watershed collects in the South Fork of the Kern River and then drains into Isabella Reservoir. Isabella Reservoir is a water conservation reservoir and outflow from it occurs via controlled releases to the Kern River at the Isabella Dam.<sup>2</sup> The Kern River and Kern Watershed occur in the southwestern corner of the Study Area but are not included in this analysis.

Historical annual precipitation measured at the Kernville Precipitation Station (elevation 2,703 ft above mean sea level [amsl]) has ranged from 3 inches per year to 28 inches per year with an average of 12.5 inches per year for the period of record from 1949 to 2007 (see Figure 5). Average annual precipitation measured at the Isabella Dam station (elevation 2,635 ft amsl) for the period of record from 1988 to 2017 was 11.5 inches per year. Reference evapotranspiration ( $ET_0$ ) for the South Fork Valley area has been estimated to be approximately 60 inches per year.<sup>3</sup>

Streamflow in the North Fork of the Kern River within the Study Area is based on the United States Army Corps of Engineers (ACOE) stream gage at Kernville (Station 11187000; see Figure 4 for location). Annual stream flow at this station for the period between 2005 and 2017 has ranged from approximately 124,549 acre-ft in 2015 to 1,567,925 acre-ft in 2017 (see Figure 6).

Streamflow in the South Fork of the Kern River is based on the USGS stream gage at Onyx (11189500; see Figure 4 for location). Annual stream flow at this station for the period between 2005 and 2017 has ranged from approximately 6,385 acre-ft in 2015 to 292,062 acre-ft in 2017 (see Figure 7). It is noted that the 2005 to 2017 time frame is relatively dry in the context of the long-term record (1912 to 2017); average stream flow at the South Fork gage for 2005 to 2017 was 97 percent of the long-term average.

The water balance of Isabella Reservoir is monitored and recorded daily by the ACOE and reported on their website.<sup>2</sup> A summary of the annual water budget for the Isabella Reservoir for the years 2005 through 2017 is shown in Table 1. The inflow to the reservoir from the South Fork of the Kern River is not gaged. As such, the inflow to the reservoir from South Fork of the Kern River is inferred as the balance of inflow necessary to account for the reported change in reservoir storage, after accounting for the other sources of inflow and outflow.

## 2.2 Geology

The Study Area is located within the southern portion of the Sierra Nevada Mountains. Exposed bedrock in this area consists primarily of granitic and metasedimentary rock (see Figure 8). Alluvial sediments weathering from the surrounding bedrock have accumulated within the South

<sup>2</sup> Army Corps of Engineers, 2005 - 2017. [www.spk-wc.usace.army.mil](http://www.spk-wc.usace.army.mil)

<sup>3</sup> Irrigation Training and Research Center, 2013. Evapotranspiration from Crops in Onyx Ranch near Weldon, California.



Fork Valley and localized tributary valleys. The alluvium consists primarily of sand and gravel with localized lenses and layers of silt and clay. Where saturated in the subsurface, the alluvial sediments form the aquifer for the area. The permeability of the bedrock underlying the alluvium is assumed to be very low and, as such, the top of bedrock is assumed to be the effective base of the aquifer system in the area.

## 2.3 Hydrogeology

The Project site is located within the Kern River Valley Groundwater Basin as described in California Department of Water Resources (CDWR) Bulletin 118.<sup>4</sup> In general, the groundwater basin includes the alluvial valley areas of the North Fork of the Kern River, South Fork of the Kern River, Canebrake Creek, and other tributary creeks (see Figure 8).

The alluvial aquifer system in the South Fork Kern River Valley is relatively shallow and permeable. A review of CDWR driller's logs shows that the alluvium is generally less than 300 ft thick. East of Isabella Reservoir, the alluvial aquifer sediments consist primarily of sand and gravel with very high permeability. Pumping tests for the Onyx Ranch Property wells constructed in 2015 show aquifer hydraulic conductivities in the range of approximately 145 ft/day to 220 ft/day. In the immediate vicinity of the Isabella Reservoir, alluvial sediments contain more silt and clay than the areas east of the reservoir and the permeability is assumed to be correspondingly lower. The groundwater storage capacity of the alluvial aquifer system in the Study Area is estimated to be approximately 465,000 acre-ft.

Groundwater within the Kern River Valley Basin flows in a westerly direction in approximately the same direction as surface water drainage (see Figure 9). Available data indicate that groundwater levels in the South Fork Kern River Valley portion of the Study Area have been relatively stable since 1929.<sup>1</sup> Hydrographs for five wells within the Study Area are shown on Figure 10. Groundwater levels measured in monitoring wells located near the river (HYD-1 and HYD-11) typically fluctuate between levels above land surface to 15 ft below land surface, depending on their location and time of measurement. Groundwater levels in wells located away from the South Fork of the Kern River (SP-2 and 26S/34E-13J01; see Figure 10) typically fluctuate within a range of 10 to 20 ft and have been relatively stable over the period of record (from 2006 to 2017 and from 1976 to 2017, respectively; see Figure 10).

## 3.0 Project Analysis Methodology

In order to analyze changes in the water budget associated with the proposed Project, TH&Co developed a numerical groundwater flow model of the Study Area. The model code selected for

<sup>4</sup> California Department of Water Resources, 2003. *California's Groundwater*. Bulletin 118 – Update 2003.



use in this evaluation was MODFLOW. MODFLOW is a block-centered, finite difference groundwater flow modeling code that was developed for groundwater flow modeling by the United States Geological Survey (USGS).<sup>5</sup> MODFLOW is one of the most widely used and critically accepted model codes available.<sup>6</sup>

### 3.1 Conceptual Model

Conceptualization of the groundwater flow model was based on analysis of the geology and hydrogeology of the model area (also Project Study Area), as summarized in this TM. One unconfined model layer was identified for the alluvial aquifer system based on a review of driller’s logs ([see Attachment A](#)). Groundwater flow is assumed to flow horizontally within the model layer. Both recharge and discharge were applied to the model in monthly stress periods between January 2005 and December 2017. This time period was selected because it contains both dry and a wet time periods, with an average precipitation similar to historical precipitation.

### 3.2 Model Construction

The Model Domain is approximately 19 miles long and 9 miles wide and matches the Study Area. The groundwater flow model grid consists of a single layer finite-difference grid discretized into 474 rows in the west to east direction and 1,020 columns in the north to south direction, resulting in a total of 483,480 cells (see Figure 11). The model grid consists of 100-foot by 100-foot cells oriented in a north-south direction. Model cells in the bedrock areas are inactive (i.e. “No Flow”) such that the model only calculates groundwater flow within the alluvial aquifer system.<sup>7 8 9</sup>

### 3.3 Assumptions Regarding South Fork Kern River Diversions

In order to simulate the water balance of the South Fork Kern River, it was necessary to account for historical diversions from the river between the USGS stream gage at Onyx and Isabella Reservoir for the model calibration period between 2005 and 2017. Sources of data for diversion

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<sup>5</sup> McDonald, M.G., and Harbaugh, A.W., 1988. *A Modular Three-dimensional Finite-different Ground-water Flow Model*. U.S. Geological Survey Techniques of Water-Resources Investigations Book 6, Chapter A1, 586 p., 1988

<sup>6</sup> Anderson, M.P., and Woessner, W.W., 2002. *Applied Groundwater Modeling, Simulation of Flow and Advective Transport*. Academic Press.

<sup>7</sup> All of the lateral boundaries of the model were set up as no-flow boundaries, except where the southern boundary crosses Kelso Valley, which is a constant head boundary. The constant head boundary across Kelso Valley was established based on a groundwater level in a nearby well.

<sup>8</sup> Isabella Reservoir is simulated in the South Fork Kern River Valley groundwater model using the LAK package in MODFLOW. The LAK package accounts for the water budget of the reservoir. Inputs to the package include North Fork inflow from ACOE records, precipitation from ACOE, South Fork inflow (estimated from the model), and rising groundwater (estimated from the model). Lake outflows include releases at the dam (from ACOE) and evaporation (ACOE).

<sup>9</sup> The South Fork groundwater budget applies to the entire alluvial aquifer system (active model cells) within the Model Domain.



records included the California State Water Resources Control Board (SWRQB) and diversions reported by the District from 2009 to 2016. Initial diversion estimates assigned to the model were based on the following:

- 1 For years when historical diversion records were not available for any given point of diversion, diversions were estimated to generally match values at that location for other years with similar hydrological conditions;
- 2 SWRQB reported diversions for months/years when these data were reported;
- 3 RRBWSD diversion records.

Initial analysis of the surface water budget for the South Fork Kern River, based on these diversion records/assumptions, suggested that the diversion amounts were generally overestimated prior to 2013. This was based on the observation that the balance of flow to Isabella Reservoir estimated from the South Fork Kern River budget was underestimated relative to the inflow to the reservoir inferred from ACOE records (see Table 1). Accordingly, the diversion values used in the model were adjusted using the following criteria:

- 1 In cases where the monthly reported/estimated diversion exceeded the diversion capacity of the structure, the monthly diversion was adjusted to the maximum diversion capacity of the diversion structure. The maximum diversion capacity was based on the maximum diversion measured at that structure in 2017 (an historical wet period for the area).
- 2 If after limiting diversion capacities at individual diversion structures the reported flow at the South Fork River gage minus the total diversions was less than the inferred ACOE flow into Lake Isabella in any given month, the diverted water was adjusted proportionally among other diversion points.
- 3 In some months, the diverted water exceeded the water demand of the crops it was irrigating. In those cases, it was assumed that 50 percent of the diverted water returned to the South Fork Kern River.<sup>10</sup>

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<sup>10</sup> The amount of deep percolation of applied water on irrigated lands (i.e. return flow) in the model is a function of the crop consumptive use and available surface water from reported stream diversions. The total irrigation demand of the crops consists of the sum of consumptive use plus return flow. During some periods of the transient calibration, the volume of surface water diversions, minus canal losses, exceeded the total irrigation demand of the receiving field. During times of surface water surplus (i.e. delivered water in excess of total irrigation demand), it was assumed that 50 percent of the surplus returned to the South Fork Kern River either as rising groundwater or runoff. The remaining 50 percent of the surplus became deep percolation and groundwater recharge. During above average flow conditions on the South Fork Kern River, this resulted in significantly more return flow than would have otherwise been assumed. While the percentage of return flow assumed for the model is significantly higher than other irrigated areas of California, the high percentage is applicable for irrigated lands in the South Fork Kern River Valley where surface and subsurface sediments consist of highly permeable sand and gravel.



The annual diversion volumes used in the calibrated model are shown in Table 2.

### 3.4 Model Calibration

The transient groundwater flow model was calibrated to groundwater levels measured in selected monitoring wells between 2005 and 2017 by matching model-generated groundwater levels with measured groundwater levels. Target monitoring wells for the model calibration are shown on Figure 12. Wells were selected for calibration to provide the best distribution possible across the alluvial groundwater basin given the available wells with historical groundwater levels. Calibration was achieved through a trial-and-error process by adjusting various model parameters, within accepted ranges, until an acceptable groundwater level match was achieved.

The solution for the final calibrated groundwater flow model successfully converged at a head-change criterion of 0.01 ft. Cumulative water budget error for the groundwater flow model was 0.01 percent. Both of these values are within industry standards for groundwater model calibration.<sup>6,11</sup> Groundwater levels in the model were calibrated with a normalized root mean square (nRMS) error of 3.6 percent, which is below the industry standard calibration target of 10 percent (see Figure 13). Calibration hydrographs are provided in Appendix A.

## 4.0 Historical Surface Water Budget

A detailed surface water budget of the Study Area was developed for the historical time period from 2005 through 2017 (see Table 3). Inflow terms for the surface water budget include precipitation, stream inflow, groundwater discharging at the land surface as surface water, and discharge to the land surface from wells. Outflow terms include infiltration of precipitation, evapotranspiration of precipitation from areas of native vegetation and crops,<sup>12</sup> surface water evaporation from Isabella Reservoir, reservoir infiltration to the surrounding aquifer, stream infiltration, canal loss,<sup>13</sup> return flow of applied water, and crop consumptive use.<sup>14</sup>

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<sup>11</sup> Hill, Mary C., and Tiedeman, Claire R., 2007. Effective Groundwater Model Calibration with Analysis of Data, Sensitivities, Predictions, and Uncertainty. Wiley-Interscience, New Jersey.

<sup>12</sup> The types and areas of crops grown in the South Fork Kern River valley have not changed significantly over time. Annual changes in crop types and acreages were accounted for based on land use maps from 2005 through 2017 for the Project area from Kern County (<https://geodat-kernco.opendata.arcgis.com/>).

<sup>13</sup> Surface diversions from the South Fork Kern River to the canals are simulated using the Stream Flow Routing (SFR2) package of MODFLOW. The values for canal loss reported in Tables 3 through 6 are model-derived. In the calibrated model (No Project), the relatively shallow groundwater around the canals limits the infiltration of water from the canals to the groundwater. In the Project scenario, lower groundwater levels in the vicinity of the canals results in increased canal losses, even though fewer canals are in service because of the Project.

<sup>14</sup> Crop consumptive use relied on for the groundwater flow model analysis and water budgets was based on satellite analysis of evapotranspiration (METRIC) provided by the Irrigation Training and Research Center (ITRC), California Polytechnic State University, San Luis Obispo, California. Specifically, crop consumptive use for the Onyx Project site was based on the values summarized in Table 6 of the ITRC METRIC report, a copy of which is attached (Attachment A). For areas outside the Project boundaries, TH&Co relied on evapotranspiration data from Appendix C of the ITRC METRIC analysis report. For years when no



The representativeness of the Study Area surface water budget was evaluated based, in part, on the water budget of Isabella Reservoir, as reported by the ACOE. The annual water balance of the reservoir is summarized in Table 1. Comparison of the change in storage from the Study Area surface water budget over the 13-yr period from 2005 through 2017 (Table 3; 74,683,70,794 acre-ft) with the change in reservoir storage from the ACOE for the same period (Table 1; 72,308 acre-ft) shows a cumulative difference of 2,3751,514 acre-ft, which represents a relative percent difference of approximately 3.2 percent.

## 5.0 Historical Groundwater Budget

The groundwater budget describes the sources and estimates the volumes of groundwater inflow and outflow within the Kern River Valley Groundwater Basin. A fundamental premise of the groundwater budget is the following relationship:

$$\text{Inflow} - \text{Outflow} = +/- \Delta S$$

Inflow terms include groundwater recharge to the subbasin including areal recharge from precipitation, recharge in stream/river channels,<sup>15</sup> canal losses, return flow, and subsurface inflow (see Table 4). It is noted that many of the groundwater inflow terms are surface water outflow terms from Table 3. Outflow terms include groundwater pumping, river channel evapotranspiration, and subsurface outflow to Isabella Reservoir. The difference between the sum of inflow terms and the sum of outflow terms is the change in groundwater storage ( $\Delta S$ ) (see Table 4).

Results of the groundwater budget for the no project condition show a cumulative change in groundwater storage of approximately -39,706 acre-ft over the model transient period of 2005 through 2017. When evaluated from 2008 through 2017, the storage change is approximately -7,373 acre-ft. Hydrographs in wells located near the South Fork of the Kern River channel show that groundwater levels generally recover to historical high conditions during wet years (see

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METRIC data were available (i.e. 2005 through 2007 and 2012 through 2017), evapotranspiration was assigned based on a year of similar precipitation conditions within the METRIC dataset.

<sup>15</sup> The setup of the South Fork Kern River groundwater flow model accounts for groundwater/surface water interaction using the stream flow routing package (SFR2). Groundwater rising above the land surface in the “Hyd” wells (Hyd-1, Hyd-2, Hyd-4, Hyd-9, Hyd-11, and Hyd-13) as well as in the Lieb Piezo becomes surface flow in SFR2, which is consistent with measured groundwater levels at these locations during the wet season of above-normal precipitation years. Corrected ground surface elevations for the Lieb Piezo is provided in Appendix B. Corrected ground surface elevations for the Mack Field and Nicoll field wells are also provide in Appendix B.

The simulated groundwater levels in Hyd-9 are five to ten feet higher than the measured data, which results in overestimation of surface water flow near this well in the first ten years of the simulation. Despite efforts to correct this residual through adjustments in aquifer parameters, stream bed conductance, and other measures, it was not possible to obtain a closer match without sacrificing calibration at upgradient monitoring wells.



Appendix A). Net negative change in groundwater storage is mostly observed in wells in the adjoining Kelso Valley to the south of the Project (see Figure 12 and Appendix A; 13J01, 18M01, and 19K01).

## 6.0 Analysis of the Project Using the Model

The proposed Project consists of discontinuing irrigated crop production in most areas of the Onyx Ranch Property and one-third of the Smith Ranch Property within the Project site and directing surface water, otherwise diverted to the Project site from the South Fork of the Kern River, downstream to Isabella Reservoir. To simulate the effects of the proposed Project change on the water budget of the Study Area, TH&Co developed a model scenario that included the following Project-related changes:

- a. Surface water deliveries via the Mack/Scodie, Landers, Nicoll/Pruitt, and Lieb diversions (see Figure 11) were discontinued. The Stream Flow Routing Package was modified to allow this water to flow down the main South Fork of the Kern River channel to Isabella Reservoir.
- b. Groundwater pumping for all of the Onyx Ranch Property except Boone was discontinued, as per the Project description.
- c. Return flow associated with applied water on the Onyx Ranch Property was discontinued.
- d. One-third of the Smith Ranch Property surface water diversions were discontinued.

The total adjusted water diversions redirected to the South Fork of the Kern River over the 13-yr period in the with project model scenario was ~~94,442~~98,156 acre-ft (Table 2). All other pumping for non-Project properties and recharge stresses in the model remained unchanged from the calibrated model.

The proposed Project analyzed with the model assumes that water redirected to Isabella Reservoir would not be stored but released to the Kern River below the Isabella Dam. The proposed Project further assumes that the release of water would not result in a net change in reservoir storage relative to the calibrated “no Project” model over the model period. In order to estimate the volume of water that could be released downstream without changing the reservoir storage on a long-term basis, TH&Co conducted multiple model runs in which the release volume was adjusted until the change in reservoir storage for the proposed Project was close to the change in reservoir storage in the calibrated model (see Table 5).

The analysis showed that a total of approximately 78,183 acre-ft of water resulting from the proposed Project could be released from Isabella Reservoir over the 13-yr period with virtually no change in reservoir storage, relative to the "no Project" condition. The difference between the net redirected water volume (~~94,452~~98,156 acre-ft) and the water available for release from Isabella



Reservoir without causing a change in reservoir storage (approximately 78,183 acre-ft) is attributed to changes associated with the interaction between surface water and groundwater in the South Fork Valley resulting from the proposed Project. Elements of the water budget predicted to change the most as a result of the proposed Project are subsurface outflow from the groundwater basin (assumed to be surface water inflow to the reservoir), stream channel infiltration, and evapotranspiration (ET).

Comparison of the change in groundwater storage between the calibrated model ("no Project") and the proposed Project simulation over the 13-yr model period shows a net increase in groundwater storage from -39,706 acre-ft to -21,482 acre-ft, which equals a positive Project impact (or benefit) of approximately 18,200 acre-ft (see Tables 4 and 6). The increase in cumulative groundwater storage between the calibrated "no Project" model and proposed Project simulation represents an approximate 4 percent increase in groundwater storage in the basin over this time period.

Groundwater levels under "with Project" conditions are predicted to be less variable and periodically lower in some places than they would have otherwise been without the Project but generally fall within the range of groundwater levels historically measured in the area. Simulated changes in groundwater levels between the calibrated "no Project" model and the proposed Project are shown for selected wells on Figure 14 and all calibration target wells in Appendix B. In general, the proposed Project results in lower groundwater levels during wet periods and virtually no change to groundwater levels during dry periods, particularly in the vicinity of the Onyx Ranch Property (see Figure 14; HYD-13). The lower proposed Project groundwater levels near the Onyx Ranch Property are attributed to a reduction or elimination of return flow of applied water on the Onyx Ranch Property.

A comparison of model-generated historical groundwater levels ("no Project" condition) and simulated groundwater levels under the proposed Project condition are summarized in Table 7. Over the 13-yr period analyzed with the model, the greatest negative change in groundwater level is predicted for the Landers area (Gibboney 2 Piezo) and Mack Field (18M01 and Mack Field West) where average water levels are projected to be 11 to 13 feet lower. Average change in groundwater levels in the immediate vicinity of the South Fork of the Kern River range from approximately four to seven feet lower.

A comparison of calibrated "no Project" and proposed Project groundwater levels during historical low and historical high groundwater conditions is shown in Tables 8 and 9, respectively. On average, groundwater levels during historical low groundwater conditions (December 2016) are predicted to be approximately two feet lower as a result of the Project than they would have otherwise been without the Project. During historical high groundwater conditions (May 2011), groundwater levels are predicted to be approximately six feet lower, on average, as a result of the Project than they would have otherwise been without the Project.



There are 13 community water systems within the Study Area. The maximum predicted Project-related change in groundwater level in the vicinity of these systems occurs in the water systems closest to the Project. Based on predicted groundwater level changes at Wells 14J02 and 18M01, which are the wells closest to community water systems, the maximum difference is approximately 12 feet deeper relative to the no project condition. The maximum change occurs during the spring (i.e. rainy season) in periods of above normal precipitation when groundwater levels are highest.



## 7.0 Summary of Findings

The following summarizes the findings from the hydrogeological analysis of the Project:

- Of the [94,452,98,156](#) acre-ft of previous net diversions to the Project site that were redirected to the South Fork of the Kern River and ultimately Isabella Reservoir as part of the modeled proposed Project, the estimated volume of water that could be released downstream of Isabella Reservoir without creating a change in reservoir storage is approximately 78,183 acre-ft.
- The difference between the net redirected water ([94,452,98,156](#) acre-ft) and the volume of water released from Isabella Reservoir without a change in reservoir storage (78,183 acre-ft) reflects changes in the interaction between surface water and groundwater as a result of the Project. Elements of the water budget predicted to change as a result of the Project are subsurface outflow from the Kern River Valley Groundwater Basin (assumed to be surface water inflow to the reservoir), stream channel infiltration, and evapotranspiration (ET). Thus, approximately [83-80](#) percent of the redirected water flows into and is released from Isabella Reservoir.
- The Project is predicted to result in a net increase of groundwater in storage across the Study Area, as compared to the no Project historical condition (compare Tables 3 and 6).
- Groundwater levels under “with Project” conditions are predicted to be less variable and periodically lower by 0 to 16 feet in some places than they would have otherwise been without the Project but generally fall within the range of groundwater levels historically measured in the area.
- Groundwater levels in the vicinity of the Project site are predicted to be, on average, 2 to 13 ft lower as a result of the proposed Project (see Appendix B; Table 7). Groundwater level depths in the vicinity of the Project are predicted to be, on average, approximately 4 to 43 ft below land surface with the Project as compared to approximately 8 to 42 ft below land surface without the Project. The greatest differences are observed during the wet season (generally April to July) of each year and is localized in the vicinity of the Onyx Ranch Property, where groundwater return flow would be reduced.
- At the end of the 13-yr model period, groundwater levels under Project conditions are predicted to be within a few feet of No Project groundwater levels throughout most of the Study Area, particularly areas away from the Project site. Groundwater levels in areas away from the Project site, such as the area immediately upgradient of Isabella Reservoir and immediately downgradient of Smith Ranch, are predicted to be 0 to four feet higher as a result of the Project. Thus, the Project is not predicted to result in a long-term negative change in groundwater storage.
- Under below normal precipitation conditions when groundwater levels are already low due to reduced streamflow, Project-related groundwater levels in the vicinity of the South Fork



of the Kern River near the Project site are predicted to be a maximum of approximately two feet lower than they otherwise would be without the proposed Project (see Table 8). Proposed Project-related groundwater levels in the vicinity of Isabella Reservoir are predicted to be approximately two to four feet higher than they otherwise would be without the proposed Project.

- Pumping from Project wells is planned to be reduced from an annual average of approximately 6,500 acre-ft/yr to approximately 875 acre-ft/yr.



Isabella Reservoir Surface Water Budget

Date	Inflows (acre-ft)				Outflows (acre-ft)			Change in Storage
	South Fork Inflow <sup>1</sup>	North Fork Inflow <sup>2</sup>	Precipitation <sup>2</sup>	Total	Mean Reservoir Outflow <sup>2</sup>	Evaporation <sup>2</sup>	Total	
2005	147,502	964,653	7,145	1,119,300	915,562	51,283	966,845	152,467
2006	111,963	906,916	5,966	1,024,846	999,386	45,263	1,044,649	-19,817
2007	16,272	232,348	2,073	250,693	332,368	37,624	369,992	-119,290
2008	35,033	474,266	4,761	514,060	468,813	35,815	504,628	10,346
2009	20,610	447,029	2,715	470,354	442,469	34,199	476,668	-6,327
2010	108,917	764,079	9,561	882,557	723,994	34,387	758,381	124,171
2011	132,340	1,195,074	2,446	1,329,860	1,360,276	37,640	1,397,916	-67,529
2012	28,033	310,114	761	338,908	398,077	27,320	425,397	-83,091
2013	9,912	196,029	1,182	207,124	215,205	18,497	233,702	-24,336
2014	7,310	167,406	1,670	176,386	174,923	16,210	191,133	-14,750
2015	8,426	124,549	1,776	134,751	135,465	10,735	146,200	-11,450
2016	2,287	348,012	4,218	354,516	266,750	27,327	294,077	60,401
2017	318,980	1,567,925	13,966	1,900,871	1,782,544	46,975	1,829,519	71,513
							Average	5,562
							Cumulative Change in Storage	72,308

Notes:

- <sup>1</sup> Inferred Based on Mean Reservoir Inflow - North Fork Inflow - Precipitation
- <sup>2</sup> Data from US Army Corps of Engineers

**With and Without Adjusted Net Surface Water Diversion Comparison (Acre-ft)**

Without Project										
Year	Branson/ Smith Ranch (S001456)	Scodie/ Mack <sup>1</sup>	Landers (S021076)	Nicoll/Pruitt (S021077)	Lieb (S021078)	J Nicoll <sup>2</sup>	Audubon	D. Prince (S015309, S015310, S015311)	Hafenfeld (S015312)	Annual Total Diverted (acre-ft)
2005	2,650	3,556	4,525	201	1,196	3,962	0	4,286	1,079	21,456
2006	1,713	2,076	4,023	392	566	3,251	0	3,458	849	16,328
2007	923	917	2,030	197	66	542	0	1,045	128	5,848
2008	1,245	1,814	3,220	1,086	1,013	1,866	0	4,412	1,105	15,759
2009	1,689	2,469	3,676	824	908	1,927	30	4,295	1,040	16,858
2010	2,092	2,587	2,595	446	848	3,249	24	4,414	1,112	17,366
2011	3,039	4,700	5,176	0	1,748	4,719	20	5,095	1,276	25,775
2012	281	1,098	3,012	1,722	261	0	0	1,487	517	8,379
2013	23	1,133	4,726	2,039	0	909	111	541	928	10,410
2014	557	1,091	4,028	795	0	893	142	1,107	1,005	9,618
2015	1,233	234	3,009	164	0	235	52	638	390	5,954
2016	3,433	1,133	5,333	865	0	977	735	2,757	128	15,361
2017	6,039	4,732	8,423	2,836	0	2,358	2,678	5,499	1,480	34,046
Total	24,918	27,540	53,777	11,567	6,605	24,887	3,792	39,034	11,038	203,158
With Project										
Year	Branson/ Smith Ranch (S001456)	Scodie/ Mack <sup>1</sup>	Landers (S021076)	Nicoll/Pruitt (S021077)	Lieb (S021078)	J Nicoll <sup>2</sup>	Audubon	D. Prince (S015309, S015310, S015311)	Hafenfeld (S015312)	Annual Total Diverted (acre-ft)
2005	1,767	0	0	697	0	3,962	0	4,286	1,079	11,791
2006	1,142	0	0	785	0	3,251	0	3,458	849	9,485
2007	615	0	0	786	0	542	0	1,045	128	3,117
2008	830	0	0	721	0	1,866	0	4,412	1,105	8,934
2009	1,135	0	0	785	0	1,927	30	4,295	1,040	9,212
2010	1,395	0	0	785	0	3,249	24	4,414	1,112	10,978
2011	2,026	0	0	697	0	4,719	20	5,095	1,276	13,834
2012	188	0	0	697	0	0	0	1,487	517	2,889
2013	0	0	0	697	0	909	111	541	928	3,186
2014	353	0	0	785	0	893	142	1,107	1,005	4,286
2015	814	0	0	785	0	235	52	638	390	2,914
2016	2,289	0	0	785	0	977	735	2,757	128	7,671
2017	4,026	0	0	665	0	2,358	2,678	5,499	1,480	16,706
Total	16,580	0	0	9,671	0	24,887	3,792	39,034	11,038	105,002
<b>Difference =</b>										<b>98,156 acre-ft</b>

**Notes:**

<sup>1</sup> The Scodie/Mack Diversion occurred upstream of the Landers Diversion through 2010. After the diversion structure was washed out in 2010, the physical diversion occurred at the Nicoll/Pruitt location.

<sup>2</sup> Physical diversion occurred at the Nicoll/Pruitt location.

Originally reported or estimated values were adjusted based on the following criteria:

a. In cases where the monthly reported/estimated diversion exceeded the diversion capacity of the structure, the monthly diversion was adjusted to the maximum diversion capacity of the diversion structure. The maximum diversion capacity was based on the maximum diversion measured at that structure in 2017.

b. If after limiting diversion capacities at individual diversion structures the reported flow at the South Fork River gage minus the total diversions was less than the inferred USACE flow into Lake Isabella in any given month, the diverted water was adjusted proportionally among other diversion points.

c. In some months, the diverted water exceeded the water demand of the crops. In those cases, it was assumed that 50 percent of the diverted water returned to the South Fork Kern River.

Reported (SWRCB or RRBWSD report).

Red highlighted font indicates corrected values from Table 2 of Appendix E to the DEIR.

South Fork of the Kern River Valley/Isabella Reservoir Surface Water Budget

Date	Inflows (acre-ft)									Outflows (acre-ft)											Change in Reservoir Storage		
	Precipitation on Land Surface <sup>A</sup>	Precipitation on Reservoir <sup>B</sup>	South Fork near Onyx <sup>C</sup>	North Fork at Kernville <sup>D</sup>	Tributary Channel Inflow <sup>E</sup>	Groundwater Discharge to Surface Water <sup>H</sup>	Groundwater Pumping for Crop Field Irrigation <sup>F</sup>		Total	Recharge from Precipitation <sup>A</sup>	ET from the Land Surface <sup>G</sup>	Evaporation from Isabella Reservoir <sup>B</sup>	South Fork Channel Infiltration <sup>H</sup>	Canal Losses <sup>H</sup>	Tributary Channel Infiltration <sup>E</sup>	South Fork Surface Water Evaporation	Deep Percolation of Applied Irrigation Water <sup>I</sup>		Crop Consumptive Use <sup>J</sup>			Releases to Kern River at Isabella Dam <sup>B</sup>	Total
							Onyx Project Site	Other (including Municipal)									Onyx Project Site	Other	Onyx Project Site	Other			
2005	34,325	7,145	207,627	964,653	2,517	1,307	4,717	7,177	1,229,468	359	33,966	51,283	1,052	-3,443	2,517	307	11,448	5,722	7,150	6,440	915,562	1,032,364	197,103
2006	25,074	5,966	143,162	906,916	1,838	1,079	6,786	6,719	1,097,540	262	24,811	45,263	2,773	-940	1,838	291	9,994	5,224	7,260	5,442	999,386	1,101,604	-4,064
2007	10,214	2,073	17,960	232,348	749	1,986	8,401	6,403	280,133	107	10,107	37,624	1,545	592	749	347	5,718	2,588	7,276	4,724	332,368	403,746	-123,612
2008	31,624	4,761	59,717	474,266	2,318	1,876	5,885	4,626	585,072	331	31,293	35,815	4,094	1,009	2,318	321	8,282	4,807	6,645	4,956	468,813	568,683	16,389
2009	20,018	2,715	41,239	447,029	1,468	1,842	6,203	8,528	529,041	209	19,809	34,199	2,150	629	1,468	330	9,070	6,142	7,276	7,343	442,469	531,093	-2,051
2010	46,115	9,561	111,381	764,079	3,381	1,463	6,853	8,591	951,423	483	45,633	34,387	5,862	295	3,381	274	9,898	6,152	7,260	7,584	723,994	845,203	106,220
2011	17,193	2,446	204,039	1,195,074	1,261	1,180	4,336	7,158	1,432,687	180	17,014	37,640	6,722	-479	1,261	261	12,936	5,394	7,150	7,756	1,360,276	1,456,110	-23,423
2012	15,556	761	27,224	310,114	1,140	1,998	8,230	11,174	376,197	163	15,393	27,320	1,638	148	1,140	281	7,050	4,732	6,948	8,160	398,077	471,049	-94,852
2013	15,658	1,182	12,774	196,029	1,148	2,340	7,468	11,167	247,767	164	15,494	18,497	1,973	1,248	1,148	291	6,663	4,577	6,948	7,782	215,205	279,991	-32,224
2014	20,714	1,670	9,603	167,406	1,519	2,215	7,629	10,179	220,935	217	20,497	16,210	2,252	1,597	1,519	297	5,955	4,326	6,697	7,402	174,923	241,892	-20,957
2015	24,705	1,776	6,385	124,549	1,811	2,209	8,179	5,339	174,953	258	24,447	10,735	3,010	1,587	1,811	289	5,352	2,294	6,697	3,365	135,465	195,310	-20,357
2016	33,384	4,218	16,554	348,012	2,447	1,629	6,649	12,843	425,736	349	33,035	27,327	3,614	1,789	2,447	341	7,552	5,228	6,697	9,005	266,750	364,135	61,601
2017	51,928	13,966	292,062	1,567,925	3,807	1,686	2,607	5,724	1,939,705	543	51,385	46,975	10,767	530	3,807	261	12,003	5,356	7,402	7,109	1,782,544	1,928,685	11,021
Average	26,654	4,480	88,440	592,185	1,954	1,755	6,457	8,125	730,051	279	26,376	32,560	3,650	351	1,954	299	8,609	4,811	7,031	6,698	631,987	724,605	5,446
Total	346,508	58,241	1,149,725	7,698,400	25,404	22,809	83,943	105,628	9,490,658	3,626	342,883	423,275	47,453	4,563	25,404	3,890	111,921	62,542	91,406	87,069	8,215,834	9,419,864	

Cumulative Change in Storage: 70,794

Notes:

- <sup>A</sup> Estimated based on annual precipitation rate and recharge efficiency, developed by Maxey and Eakin, 1949.
- <sup>B</sup> From United States Army Corps of Engineers.
- <sup>C</sup> Measured flow at USGS stream gage.
- <sup>D</sup> Measured flow at USGS Kernville station stream gage.
- <sup>E</sup> Estimated based on rational runoff method.
- <sup>F</sup> Estimated based on agricultural pumping requirement from 2005 to 2013. Based on reported production from 2013 to 2016.
- <sup>G</sup> Precipitation on Land Surface - Recharge from Precipitation.
- <sup>H</sup> Model calculated.
- <sup>I</sup> Difference between applied water and consumptive use. For periods when canal deliveries exceeded applied water demands, 50% of excess diverted water was added to return flow.
- <sup>J</sup> Estimated from ITRC Evapotranspiration from Crops in Onyx Ranch near Weldon, CA Draft report, June 2013.

South Fork of the Kern River Valley Groundwater Budget

Date	Inflows (acre-ft)								Outflows (acre-ft)					Change in Storage	
	Recharge from Precipitation <sup>A</sup>	South Fork Channel Infiltration <sup>B</sup>	Canal Losses <sup>B</sup>	Deep Percolation of Applied Irrigation Water <sup>C</sup>		Tributary Channel Infiltration <sup>D</sup>	Subsurface Inflow <sup>B</sup>	Total	Groundwater Pumping for Crop Field Irrigation <sup>E</sup>		South Fork River ET <sup>B</sup>	Off River ET <sup>B</sup>	Subsurface Outflow <sup>B</sup>		Total
				Onyx Project Site	Other				Onyx Project Site	Other (including Municipal)					
2005	359	1,052	-3,443	11,448	5,722	2,517	78	17,733	4,717	7,177	15,189	1,950	1,307	30,339	-12,606
2006	262	2,773	-940	9,994	5,224	1,838	494	19,645	6,786	6,719	11,959	1,388	1,079	27,932	-8,286
2007	107	1,545	592	5,718	2,588	749	468	11,767	8,401	6,403	5,827	589	1,986	23,206	-11,439
2008	331	4,094	1,009	8,282	4,807	2,318	806	21,647	5,885	4,626	6,547	689	1,876	19,623	2,024
2009	209	2,150	629	9,070	6,142	1,468	568	20,235	6,203	8,528	7,080	873	1,842	24,526	-4,291
2010	483	5,862	295	9,898	6,152	3,381	1,007	27,078	6,853	8,591	7,720	1,022	1,463	25,649	1,429
2011	180	6,722	-479	12,936	5,394	1,261	1,124	27,137	4,336	7,158	10,134	1,576	1,180	24,384	2,753
2012	163	1,638	148	7,050	4,732	1,140	996	15,867	8,230	11,174	6,125	892	1,998	28,419	-12,553
2013	164	1,973	1,248	6,663	4,577	1,148	1,059	16,833	7,468	11,167	4,019	577	2,340	25,571	-8,738
2014	217	2,252	1,597	5,955	4,326	1,519	211	16,077	7,629	10,179	2,919	399	2,215	23,342	-7,265
2015	258	3,010	1,587	5,352	2,294	1,811	183	14,495	8,179	5,339	1,930	278	2,209	17,934	-3,439
2016	349	3,614	1,789	7,552	5,228	2,447	957	21,938	6,649	12,843	2,306	307	1,629	23,734	-1,797
2017	543	10,767	530	12,003	5,356	3,807	3,033	36,041	2,607	5,724	1,000	521	1,686	11,538	24,503
Average	279	3,650	351	8,609	4,811	1,954	845	20,499	6,457	8,125	6,366	851	1,755	23,554	-3,054
Totals	3,626	47,453	4,563	111,921	62,542	25,404	10,983	266,492	83,943	105,628	82,755	11,063	22,809	306,198	

Cumulative Change in Storage: -39,706  
2008 - 2017 Change in Storage: -7,373

Notes:

- <sup>A</sup> Estimated based on annual precipitation rate and recharge efficiency, developed by Maxey and Eakin, 1949.
- <sup>B</sup> Model calculated.
- <sup>C</sup> Difference between applied water and consumptive use. For periods when canal deliveries exceeded applied water demands, 50% of excess diverted water was added to return flow.
- <sup>D</sup> Estimated based on rational runoff method.
- <sup>E</sup> Estimated based on agricultural pumping requirement prior to 2013. Reported production was used 2013 on.

South Fork of the Kern River Valley/Isabella Reservoir Surface Water Budget - With Project Scenario

Date	Inflows (acre-ft)									Outflows (acre-ft)											Change in Reservoir Storage		
	Precipitation on Land Surface <sup>A</sup>	Precipitation on Reservoir <sup>B</sup>	South Fork near Onyx <sup>C</sup>	North Fork at Kernville <sup>D</sup>	Tributary Channel Inflow <sup>E</sup>	Groundwater Discharge to Surface Water <sup>H</sup>	Groundwater Pumping for Crop Field Irrigation <sup>F</sup>		Total	Recharge from Precipitation <sup>A</sup>	ET from the Land Surface <sup>G</sup>	Evaporation from Isabella Reservoir <sup>B</sup>	South Fork Channel Infiltration <sup>H</sup>	Canal Losses <sup>H</sup>	Tributary Channel Infiltration <sup>E</sup>	South Fork Surface Water Evaporation	Deep Percolation of Applied Irrigation Water <sup>I</sup>		Crop Consumptive Use <sup>J</sup>			Releases to Kern River at Isabella Reservoir Dam <sup>K</sup>	Total
							Onyx Project Site	Other (including Municipal)									Onyx Project Site	Other	Onyx Project Site	Other			
2005	34,325	7,145	207,627	964,653	2,517	1,603	535	7,177	1,225,581	359	33,966	51,283	839	-420	2,517	307	1,494	5,722	839	6,440	927,918	1,031,263	194,319
2006	25,074	5,966	143,162	906,916	1,838	1,380	877	6,719	1,091,932	262	24,811	45,263	4,434	580	1,838	291	1,101	5,224	1,109	5,442	1,007,582	1,097,937	-6,005
2007	10,214	2,073	17,960	232,348	749	2,376	1,281	6,403	273,404	107	10,107	37,624	3,239	708	749	347	767	2,588	1,019	4,724	334,152	396,131	-122,727
2008	31,624	4,761	59,717	474,266	2,318	2,441	858	4,626	580,610	331	31,293	35,815	6,514	675	2,318	321	870	4,807	938	4,956	475,697	564,533	16,077
2009	20,018	2,715	41,239	447,029	1,468	2,419	966	8,528	524,381	209	19,809	34,199	5,267	658	1,468	330	1,133	6,142	1,019	7,343	448,917	526,493	-2,111
2010	46,115	9,561	111,381	764,079	3,381	1,996	902	8,591	946,007	483	45,633	34,387	9,123	614	3,381	274	1,310	6,152	1,109	7,584	732,111	842,159	103,848
2011	17,193	2,446	204,039	1,195,074	1,261	1,503	550	7,158	1,429,225	180	17,014	37,640	9,383	684	1,261	261	1,706	5,394	839	7,756	1,371,888	1,454,005	-24,781
2012	15,556	761	27,224	310,114	1,140	2,356	1,152	11,174	369,476	163	15,393	27,320	4,823	548	1,140	281	542	4,732	824	8,160	398,238	462,164	-92,688
2013	15,658	1,182	12,774	196,029	1,148	2,868	1,200	11,167	242,026	164	15,494	18,497	4,561	707	1,148	291	465	4,577	824	7,782	216,215	270,725	-28,699
2014	20,714	1,670	9,603	167,406	1,519	2,756	1,318	10,179	215,165	217	20,497	16,210	4,826	883	1,519	297	703	4,326	1,019	7,402	176,709	234,607	-19,442
2015	24,705	1,776	6,385	124,549	1,811	2,759	338	5,339	167,663	258	24,447	10,735	4,930	874	1,811	289	820	2,294	1,019	3,365	136,359	187,200	-19,537
2016	33,384	4,223	16,554	348,012	2,447	2,258	1,036	12,808	420,722	349	33,035	27,736	5,938	873	2,447	341	1,644	5,228	1,019	8,981	271,038	358,629	62,093
2017	51,928	13,966	292,062	1,567,925	3,807	2,134	367	7,295	1,939,485	543	51,385	46,975	10,138	1,067	3,807	261	3,029	5,356	1,143	8,146	1,797,194	1,929,047	10,439
Average	26,654	4,480	88,440	592,185	1,954	2,219	875	8,243	725,052	279	26,376	32,591	5,693	650	1,954	299	1,199	4,811	978	6,776	638,001	719,607	5,445
Total	346,508	58,246	1,149,725	7,698,400	25,404	28,850	11,381	107,164	9,425,679	3,626	342,883	423,684	74,015	8,450	25,404	3,890	15,584	62,542	12,718	88,083	8,294,017	9,354,894	70,785
Cumulative Change in Storage																						70,785	

Notes:

- <sup>A</sup> Estimated based on annual precipitation rate and recharge efficiency, developed by Maxey and Eakin, 1949.
- <sup>B</sup> From United States Army Corps of Engineers.
- <sup>C</sup> Measured flow at USGS stream gage.
- <sup>D</sup> Measured flow at USGS Kernville station stream gage.
- <sup>E</sup> Estimated based on rational runoff method.
- <sup>F</sup> Estimated based on agricultural pumping requirement from 2005 to 2013. Based on reported production from 2013 to 2016.
- <sup>G</sup> Precipitation on Land Surface - Recharge from Precipitation.
- <sup>H</sup> Model calculated.
- <sup>I</sup> Difference between applied water and consumptive use. For periods when canal deliveries exceeded applied water demands, 50% of excess diverted water was added to return flow.
- <sup>J</sup> Estimated from ITRC Evapotranspiration from Crops in Onyx Ranch near Weldon, CA Draft report, June 2013.
- <sup>K</sup> United State Army Corps of Engineers data plus redirected diversion amount.

South Fork of the Kern River Valley Groundwater Budget - With Project Scenario

Date	Inflows (acre-ft)							Outflows (acre-ft)					Change in Storage		
	Recharge from Precipitation <sup>A</sup>	South Fork Channel Infiltration <sup>B</sup>	Canal Losses <sup>B</sup>	Deep Percolation of Applied Irrigation Water <sup>C</sup>		Tributary Channel Infiltration <sup>D</sup>	Subsurface Inflow <sup>B</sup>	Total	Groundwater Pumping for Crop Field Irrigation <sup>E</sup>		South Fork River ET <sup>B</sup>	Off River ET <sup>B</sup>		Subsurface Outflow <sup>B</sup>	Total
				Onyx Project Site	Other				Onyx Project Site	Other (including Municipal)					
2005	359	839	-420	1,494	5,722	2,517	295	10,804	535	7,177	13,499	952	1,603	23,765	-12,961
2006	262	4,434	580	1,101	5,224	1,838	1,064	14,504	877	6,719	10,270	598	1,380	19,845	-5,341
2007	107	3,239	708	767	2,588	749	864	9,022	1,281	6,403	5,672	354	2,376	16,087	-7,065
2008	331	6,514	675	870	4,807	2,318	1,174	16,689	858	4,626	6,146	426	2,441	14,497	2,192
2009	209	5,267	658	1,133	6,142	1,468	1,073	15,950	966	8,528	5,869	439	2,419	18,221	-2,271
2010	483	9,123	614	1,310	6,152	3,381	1,644	22,706	902	8,591	6,475	497	1,996	18,463	4,243
2011	180	9,383	684	1,706	5,394	1,261	1,864	20,472	550	7,158	7,968	646	1,503	17,826	2,646
2012	163	4,823	548	542	4,732	1,140	1,646	13,594	1,152	11,174	5,161	425	2,356	20,267	-6,673
2013	164	4,561	707	465	4,577	1,148	1,390	13,011	1,200	11,167	3,806	350	2,868	19,391	-6,379
2014	217	4,826	883	703	4,326	1,519	427	12,900	1,318	10,179	2,904	273	2,756	17,430	-4,530
2015	258	4,930	874	820	2,294	1,811	319	11,306	338	5,339	2,428	227	2,759	11,091	215
2016	349	5,938	873	1,644	5,228	2,447	1,115	17,596	1,036	12,808	2,960	263	2,258	19,325	-1,729
2017	543	10,138	1,067	3,029	5,356	3,807	3,506	27,447	367	7,295	1,069	411	2,134	11,276	16,171
Average	279	5,693	650	1,199	4,811	1,954	1,260	15,846	875	8,243	5,710	451	2,219	17,499	-1,652
Totals	3,626	74,015	8,450	15,584	62,542	25,404	16,382	206,002	11,381	107,164	74,225	5,863	28,850	227,484	
														Cumulative Change in Storage	-21,482

**Notes:**

- <sup>A</sup> Estimated based on annual precipitation rate and recharge efficiency, developed by Maxey and Eakin, 1949.
- <sup>B</sup> Model calculated.
- <sup>C</sup> Difference between applied water and consumptive use. For periods when canal deliveries exceeded applied water demands, 50% of excess diverted water was added to return flow.
- <sup>D</sup> Estimated based on rational runoff method.
- <sup>E</sup> Estimated based on agricultural pumping requirement prior to 2013. Reported production was used 2013 on.

Summary of Historical and Projected Groundwater Levels in Observation Wells in the South Fork Kern River Area

Well Name	Reference Point Elevation (ft amsl) <sup>1</sup>	Screened Interval (ft bgs) <sup>2</sup>	Well Depth	Period of Record	Historical Minimum Groundwater Level (ft amsl)	Historical Maximum Groundwater Level (ft amsl)	Average Observed Groundwater Level (ft amsl)	Average Model Calibrated Groundwater Level (ft amsl)	Minimum Projected With Project Groundwater Level (ft amsl)	Maximum Projected With Project Groundwater Level (ft amsl)	Average Projected With Project Groundwater Level (ft amsl)	Difference between Historical Calibrated Average and With Project Average* (ft)
04Q02	2771.49 <sup>3</sup>	Unknown	Unknown	Mar 2005 - Oct 2009	2,702.8	2,709.6	2,706.5	2,707.6	2,704.9	2,717.9	2,709.0	1.4
13J01	2684.24 <sup>3</sup>	Unknown	Unknown	Mar 2005 - Oct 2017	2,622.0	2,667.1	2,657.8	2,659.2	2,648.5	2,664.3	2,656.4	-2.8
14J01	2658.05 <sup>3</sup>	Unknown	Unknown	Mar 2005 - Apr 2012	2,648.9	2,653.1	2,651.4	2,661.8	2,652.1	2,658.9	2,654.1	-7.7
15N	2626.63 <sup>3</sup>	Unknown	Unknown	Mar 2005 - Dec 2010	2,617.7	2,620.3	2,618.6	2,612.7	2,596.5	2,628.7	2,609.6	-3.1
18M01	2691.34 <sup>3</sup>	Unknown	Unknown	Nov 2014 - Dec 2017	2,639.8	2,659.4	2,652.5	2,662.6	2,644.4	2,652.0	2,649.2	-13.4
19K01	2763.28 <sup>3</sup>	Unknown	Unknown	Mar 2005 - Mar 2016	2,634.2	2,653.6	2,646.8	2,651.0	2,633.0	2,651.8	2,643.8	-7.1
20N01	2623.87 <sup>3</sup>	Unknown	Unknown	Mar 2005 - Apr 2017	2,539.8	2,568.3	2,555.5	2,578.5	2,567.3	2,584.9	2,579.6	1.1
Hyd-1	2621.66 <sup>3</sup>	Unknown	20	Jan 2005 - Dec 2017	2,606.9	2,621.7	2,615.5	2,615.3	2,606.9	2,620.5	2,610.9	-4.4
Hyd-11	2661.96 <sup>3</sup>	Unknown	20	Jan 2005 - Jan 2018	2,646.5	2,656.2	2,652.1	2,658.2	2,647.9	2,658.3	2,653.2	-5.0
Hyd-13	2674.22 <sup>3</sup>	Unknown	20	Jan 2005 - Jan 2018	2,659.5	2,674.2	2,667.7	2,668.7	2,655.4	2,669.4	2,662.2	-6.5
Hyd-2	2632.17 <sup>3</sup>	Unknown	20	Jan 2005 - Feb 2018	2,617.2	2,632.2	2,625.8	2,627.6	2,619.8	2,630.2	2,622.5	-5.2
Hyd-4	2631.21 <sup>3</sup>	Unknown	20	Jan 2005 - Jan 2018	2,617.8	2,631.2	2,625.6	2,626.2	2,615.8	2,634.3	2,621.1	-5.1
Hyd-9	2645.39 <sup>3</sup>	Unknown	20	Jan 2005 - Dec 2017	2,632.1	2,645.4	2,640.2	2,648.3	2,640.6	2,649.3	2,644.0	-4.3
Mill S.	2647.74 <sup>3</sup>	Unknown	100	Jan 2005 - Dec 2017	2,633.9	2,644.8	2,640.9	2,648.3	2,638.7	2,649.7	2,642.9	-5.3
Prince	2618.45 <sup>3</sup>	Unknown	100	Jan 2005 - Dec 2017	2,597.0	2,618.4	2,609.0	2,605.4	2,595.9	2,614.9	2,603.0	-2.5
SP-2	2668.23 <sup>3</sup>	Unknown	100	Jan 2006 - Dec 2017	2,645.3	2,668.2	2,656.4	2,658.2	2,648.6	2,657.7	2,653.9	-4.2
SP-4	2681.29 <sup>3</sup>	Unknown	100	Jan 2006 - Feb 2018	2,659.3	2,675.3	2,666.7	2,670.7	2,658.0	2,668.6	2,664.2	-6.5
Boone Piezo	2,687.00	30 - 50	Unknown	Jan 2015 - Dec 2017	2,672.2	2,684.0	2,677.5	2,678.8	2,665.2	2,670.7	2,668.0	-10.8
Gibboney 2 Piezo	2,692.00	30 - 50	Unknown	Jan 2015 - Dec 2017	2,676.0	2,688.5	2,683.7	2,683.6	2,669.1	2,674.3	2,671.6	-12.0
Gibboney 3 Piezo	2,687.00	30 - 50	Unknown	Jan 2015 - Dec 2017	2,673.5	2,683.0	2,679.0	2,679.5	2,665.6	2,670.8	2,668.1	-11.4
Landers Sand Old	2,705.00	108 - 196	Unknown	Jan 2015 - Dec 2017	2,675.0	2,693.5	2,683.7	2,688.6	2,682.9	2,690.1	2,686.4	-2.2
Lieb Piezo	2,657.00	30 - 50	Unknown	Jan 2015 - Dec 2017	2,640.8	2,653.0	2,646.0	2,662.7	2,650.0	2,655.4	2,652.8	-9.9
Mack Field W Domestic	2,665.00	Unknown	Unknown	Jan 2015 - Dec 2017	2,641.3	2,665.0	2,646.9	2,663.9	2,648.7	2,653.8	2,651.5	-12.4
Nicoll Field Old Ag	2,674.00	Unknown	Unknown	Jan 2015 - Dec 2017	2,637.0	2,660.1	2,651.5	2,666.1	2,651.8	2,657.2	2,654.6	-11.4
Onyx Store Domestic	2,747.00	40 - 72	Unknown	Jan 2015 - Dec 2017	2,702.0	2,709.3	2,704.7	2,709.3	2,701.2	2,708.6	2,703.8	-5.6
Onyx Store Old Ag	2,717.00	Unknown	Unknown	Jan 2015 - Dec 2017	2,691.3	2,701.2	2,695.6	2,697.5	2,689.0	2,696.0	2,692.0	-5.5
Pruitt Piezo	2,700.00	30 - 50	Unknown	Jan 2015 - Dec 2017	2,676.6	2,691.3	2,684.1	2,690.1	2,675.1	2,686.2	2,682.1	-8.1
Ranch HQ Domestic	2,717.00	Unknown	100	Jan 2015 - Dec 2017	2,684.4	2,707.8	2,695.8	2,694.5	2,680.1	2,686.7	2,683.3	-11.2

**Notes:**

<sup>1</sup> ft amsl = Groundwater level elevation in feet above mean sea level.

<sup>2</sup> ft bgs = Feet below ground surface.

<sup>3</sup> Surveyed elevations.

\* Negative values indicate groundwater levels would be lower than historical groundwater levels. Positive values indicate groundwater levels would be higher than historical groundwater levels.

**Model-Predicted Change in Groundwater Levels  
 During Low Groundwater Level Conditions - December 2016**

Observation Well	Description	Land Surface Elevation (ft amsl) <sup>1</sup>	Without Project Depth to Groundwater (ft bgs) <sup>2</sup>	With Project Depth to Groundwater (ft bgs)	Change in Groundwater Level (ft)
Hyd-1	Audubon Society	2,622	12.7	14.1	-1.5
Hyd-2	Audubon Society	2,632	10.3	12.2	-1.9
Hyd-4	Audubon Society	2,631	13.7	15.2	-1.5
Hyd-9	Audubon Society	2,645	3.8	4.3	-0.5
Hyd-11	Audubon Society	2,662	12.6	13.8	-1.1
Hyd-13	Audubon Society	2,674	16.6	18.6	-2.0
Mill_S	Audubon Society	2,648	7.6	9.0	-1.4
Prince	Audubon Society	2,618	21.3	20.8	0.5
Boone Piezo	Onyx Ranch Project	2,687	18.6	21.8	-3.3
Gibboney2 Piezo	Onyx Ranch Project	2,692	17.6	22.9	-5.3
Gibboney3 Piezo	Onyx Ranch Project	2,687	17.1	21.4	-4.3
Landers Sand - Old Ag Well	Onyx Ranch Project	2,705	18.8	21.4	-2.6
Lieb Piezo	Onyx Ranch Project	2,657	5.1	6.5	-1.4
Mack Field West - Domestic	Onyx Ranch Project	2,665	14.4	15.9	-1.5
Nicoll Field - Old Ag Well	Onyx Ranch Project	2,674	20.4	21.8	-1.4
Onyx Store - Domestic	Onyx Ranch Project	2,747	45.4	45.3	0.1
Onyx Store - Old Ag Well	Onyx Ranch Project	2,717	27.8	27.7	0.1
Pruitt Piezo	Onyx Ranch Project	2,700	18.3	20.3	-2.1
Ranch HQ - Domestic	Onyx Ranch Project	2,717	30.7	36.6	-5.9
04Q01	Other	2,771	72.8	72.5	0.3
13J01	Other	2,684	33.7	34.9	-1.2
14J02	Other	2,658	9.2	11.3	-2.0
15N	Other	2,627	24.4	25.2	-0.8
18M01	Other	2,691	43.1	44.4	-1.3
19K01	Other	2,763	130.4	131.4	-1.0



**Model-Predicted Change in Groundwater Levels  
 During Low Groundwater Level Conditions - December 2016**

Observation Well	Description	Land Surface Elevation (ft amsl) <sup>1</sup>	Without Project Depth to Groundwater (ft bgs) <sup>2</sup>	With Project Depth to Groundwater (ft bgs)	Change in Groundwater Level (ft)
20N01	Other	2,624	52.6	48.5	4.1
SP-2	Other	2,668	18.7	19.6	-0.9
SP-4	Other	2,681	20.8	23.3	-2.5
Average:					-1.5

**Notes:**

<sup>1</sup> ft amsl = Feet above mean sea level.

<sup>2</sup> ft bgs = Feet below ground surface.



**Model-Predicted Change in Groundwater Levels  
 During High Groundwater Level Conditions - May 2011**

Observation Well	Description	Land Surface Elevation (ft amsl) <sup>1</sup>	Without Project Depth to Groundwater (ft bgs) <sup>2</sup>	With Project Depth to Groundwater (ft bgs)	Change in Groundwater Level (ft)
Hyd-1	Audubon Society	2,622	3.0	7.0	-4.0
Hyd-2	Audubon Society	2,632	1.9	6.1	-4.2
Hyd-4	Audubon Society	2,631	2.1	6.1	-4.0
Hyd-9	Audubon Society	2,645	-5.8	-1.9	-3.8
Hyd-11	Audubon Society	2,662	-0.2	6.1	-6.3
Hyd-13	Audubon Society	2,674	-0.2	9.5	-9.8
Mill_S	Audubon Society	2,648	-3.0	2.2	-5.1
Prince	Audubon Society	2,618	9.4	11.2	-1.8
Boone Piezo	Onyx Ranch Project	2,687	5.6	12.2	-6.6
Gibboney2 Piezo	Onyx Ranch Project	2,692	6.3	13.7	-7.4
Gibboney3 Piezo	Onyx Ranch Project	2,687	5.5	12.3	-6.9
Landers Sand - Old Ag Well	Onyx Ranch Project	2,705	5.4	10.9	-5.5
Lieb Piezo	Onyx Ranch Project	2,657	-12.7	-1.7	-11.0
Mack Field West - Domestic	Onyx Ranch Project	2,665	-6.6	7.6	-14.2
Nicoll Field - Old Ag Well	Onyx Ranch Project	2,674	-2.6	13.0	-15.6
Onyx Store - Domestic	Onyx Ranch Project	2,747	36.9	36.2	0.6
Onyx Store - Old Ag Well	Onyx Ranch Project	2,717	15.4	17.7	-2.3
Pruitt Piezo	Onyx Ranch Project	2,700	4.7	9.5	-4.9
Ranch HQ - Domestic	Onyx Ranch Project	2,717	15.6	26.5	-10.8
04Q01	Other	2,771	64.2	63.7	0.5
13J01	Other	2,684	11.1	26.0	-14.8
14J02	Other	2,658	-8.1	4.0	-12.1
15N	Other	2,627	7.8	11.5	-3.7
18M01	Other	2,691	22.9	35.1	-12.2
19K01	Other	2,763	114.3	119.2	-4.9



**Model-Predicted Change in Groundwater Levels  
 During High Groundwater Level Conditions - May 2011**

Observation Well	Description	Land Surface Elevation (ft amsl) <sup>1</sup>	Without Project Depth to Groundwater (ft bgs) <sup>2</sup>	With Project Depth to Groundwater (ft bgs)	Change in Groundwater Level (ft)
20N01	Other	2,624	43.2	40.3	2.9
SP-2	Other	2,668	6.8	10.6	-3.8
SP-4	Other	2,681	8.1	14.4	-6.2
Average:					-6.4

**Notes:**

<sup>1</sup> ft amsl = Feet above mean sea level.

<sup>2</sup> ft bgs = Feet below ground surface.

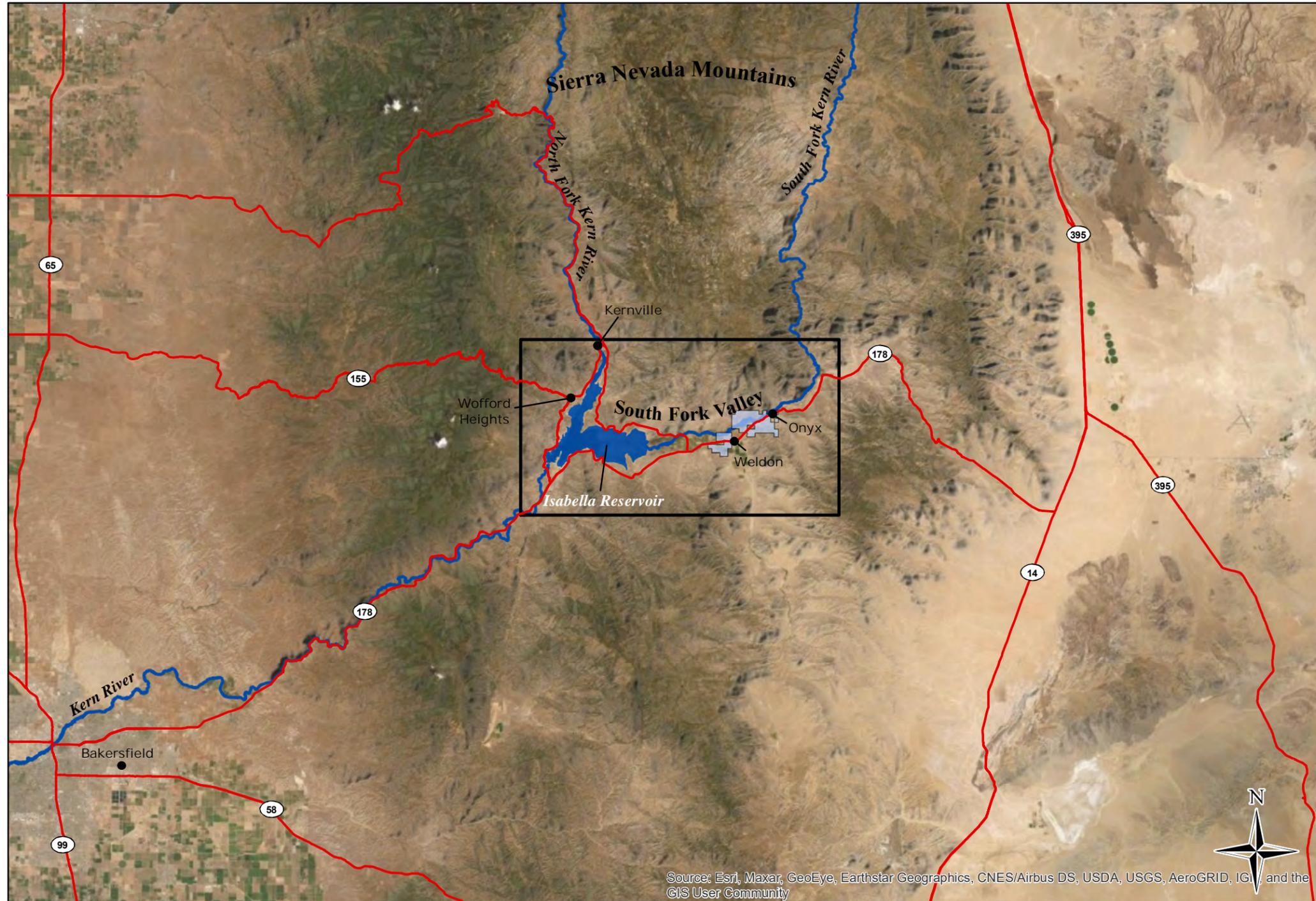
Negative depth values indicate groundwater is above land surface.





October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



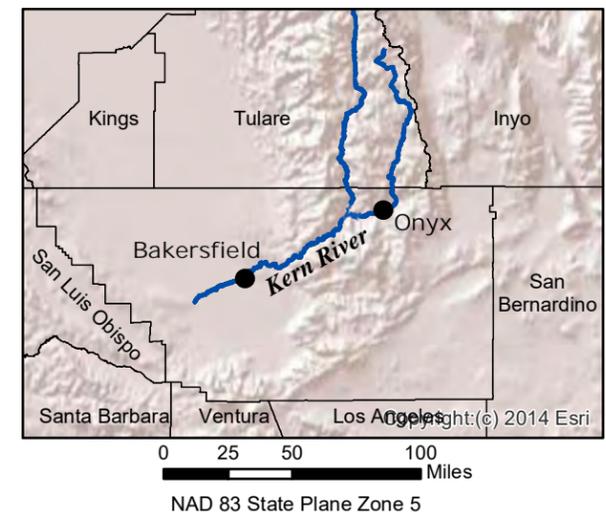
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 5 10 20 Miles  
NAD 83 State Plane Zone 5

**Map Features**

- Study Area
- Onyx Ranch Project Area
- Hydrologic Feature
- Highway/Major Road

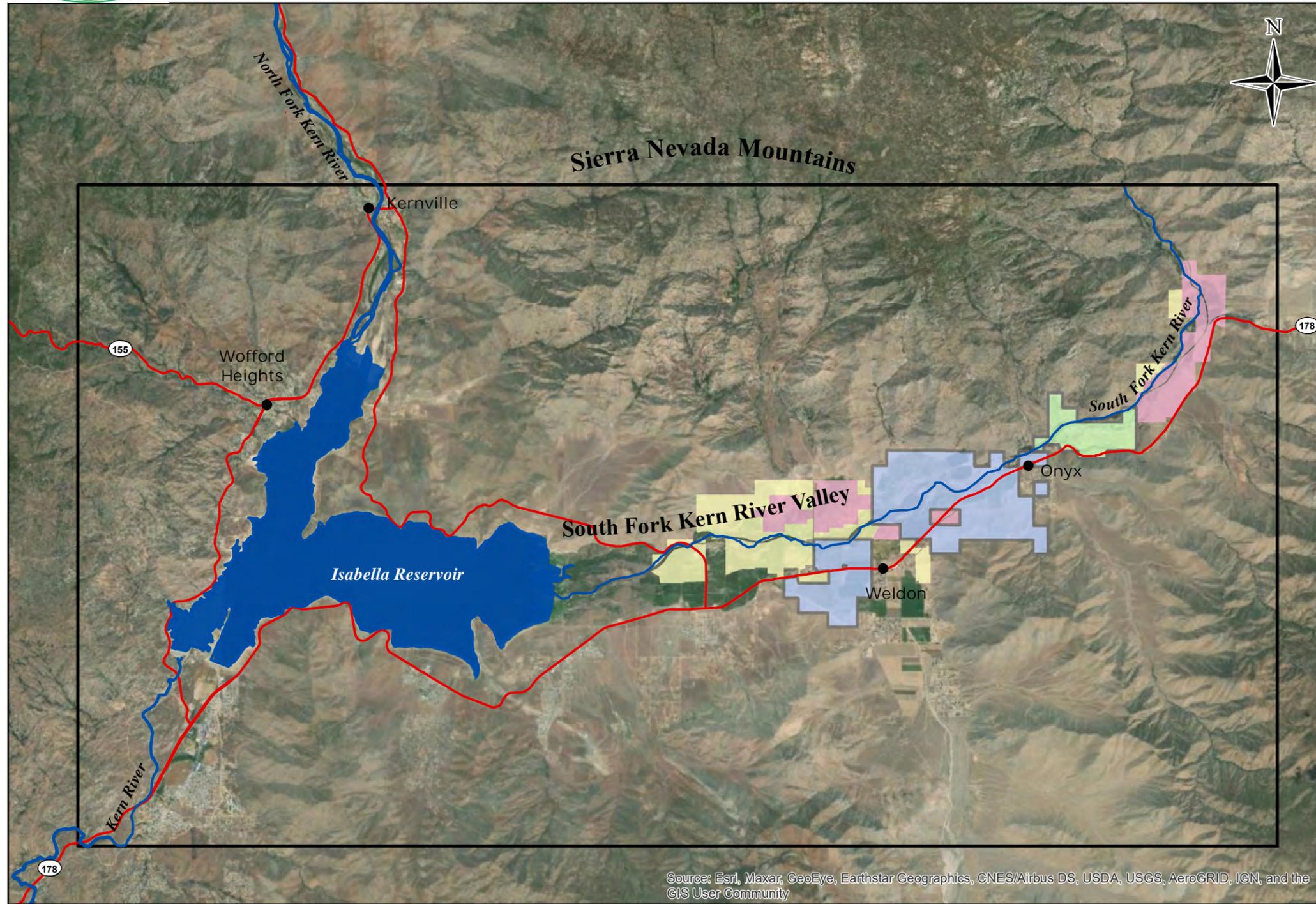
## Regional Location





October 2020

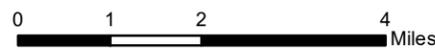
# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

- Onyx Ranch Property
- Smith Ranch Property
- Audubon Kern River Preserve
- State of California
- Study Area
- Hydrologic Feature
- Highway/Major Road

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

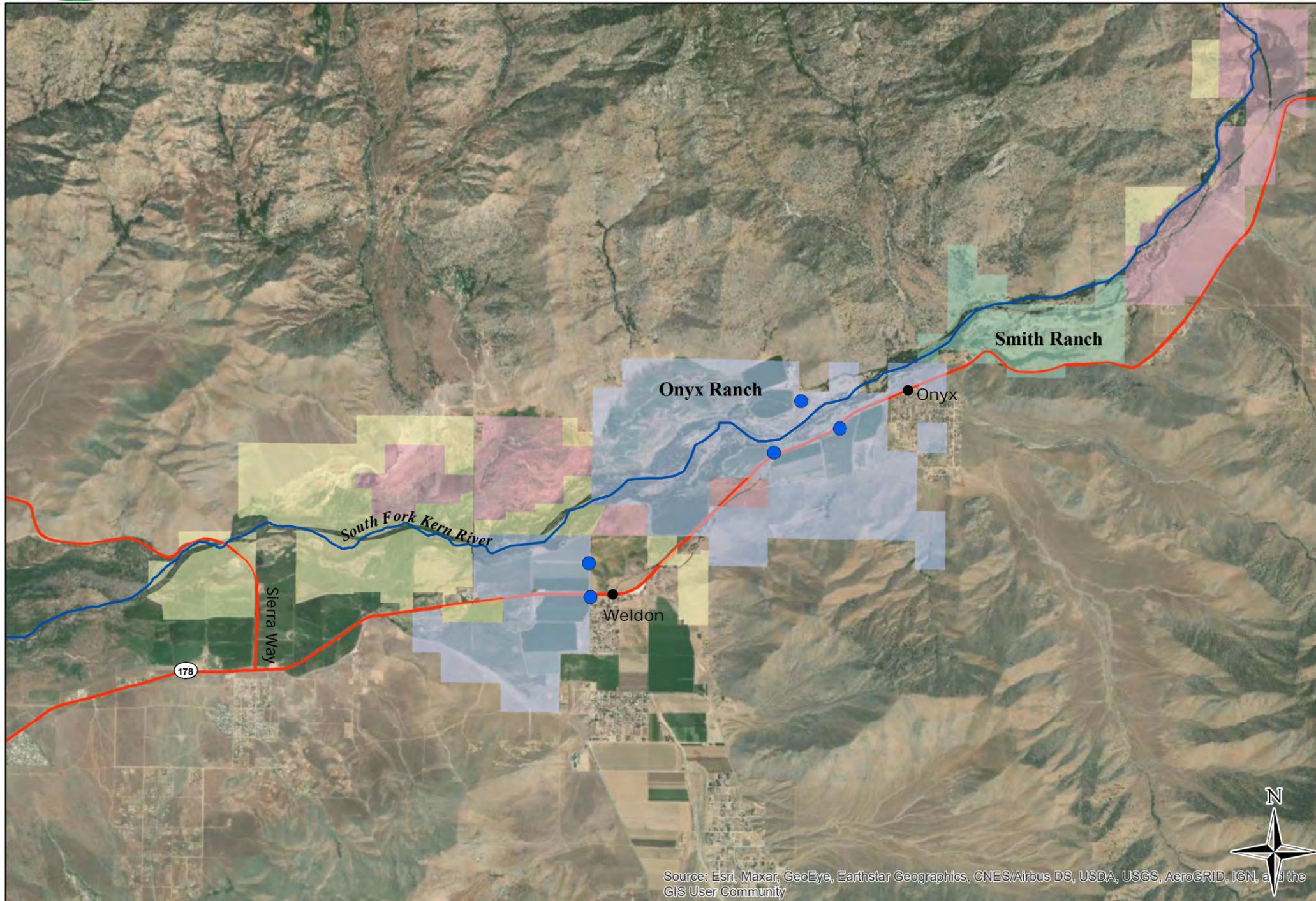


NAD 83 State Plane Zone 5



# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project

October 2020



**Map Features**

- Onyx Production Well
- Onyx Ranch Property
- Smith Ranch Property
- Audubon Kern River Preserve
- State of California Property
- River
- Highway/Major Road

Note: Surface Water Data from Irrigation Training & Research Center California Polytechnic State University

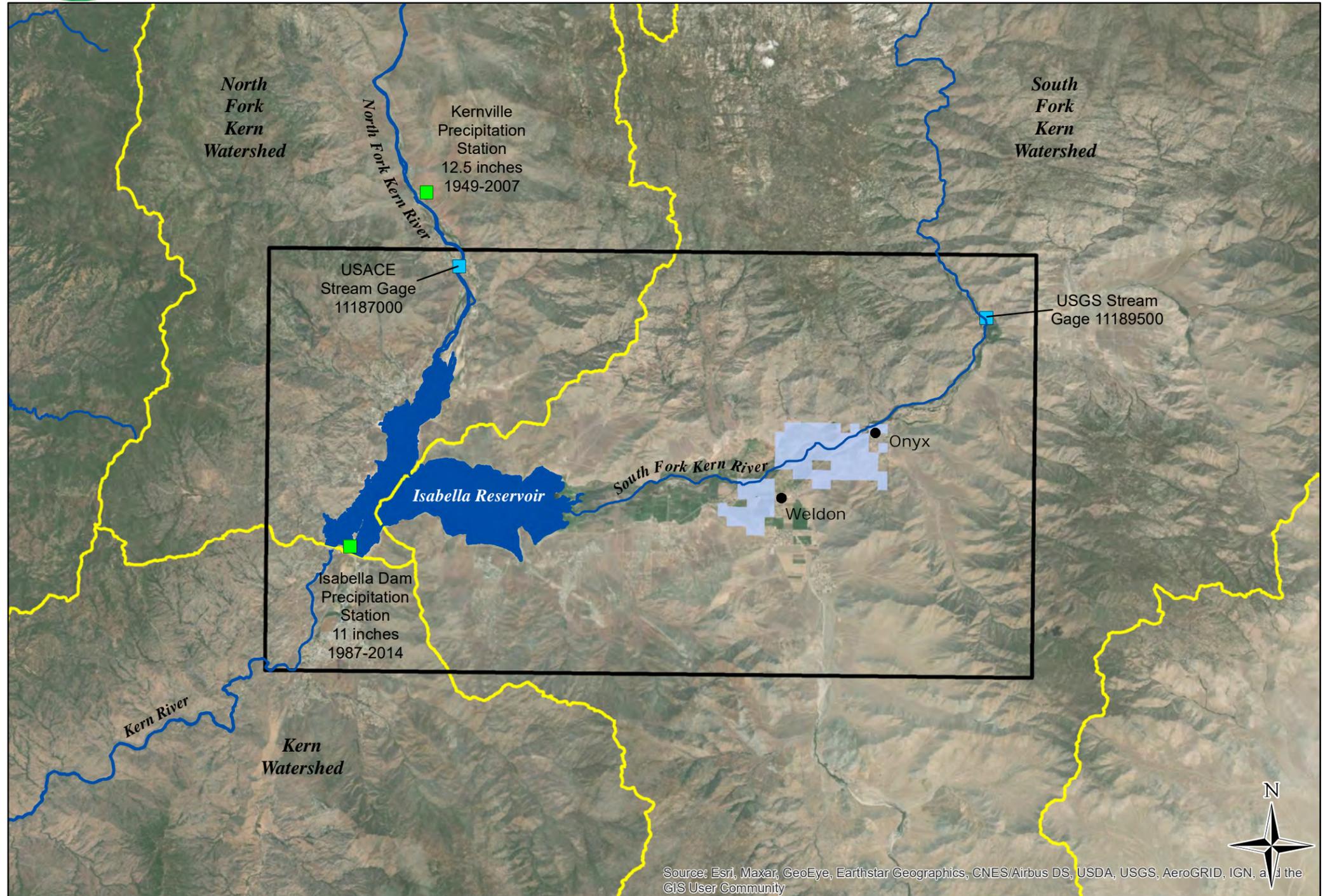
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 0.5 1 2 Miles

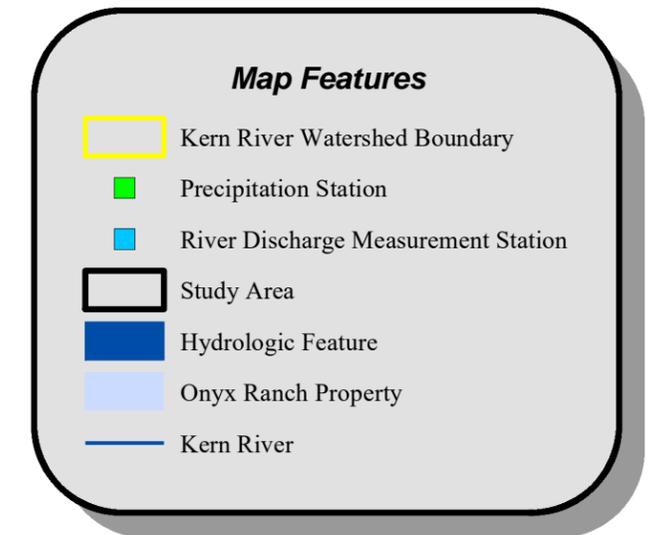
NAD 83 UTM Zone 11N



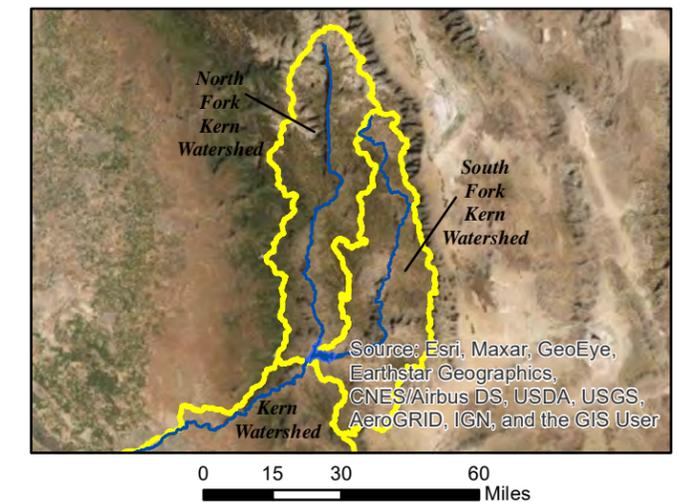
October 2020



# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project

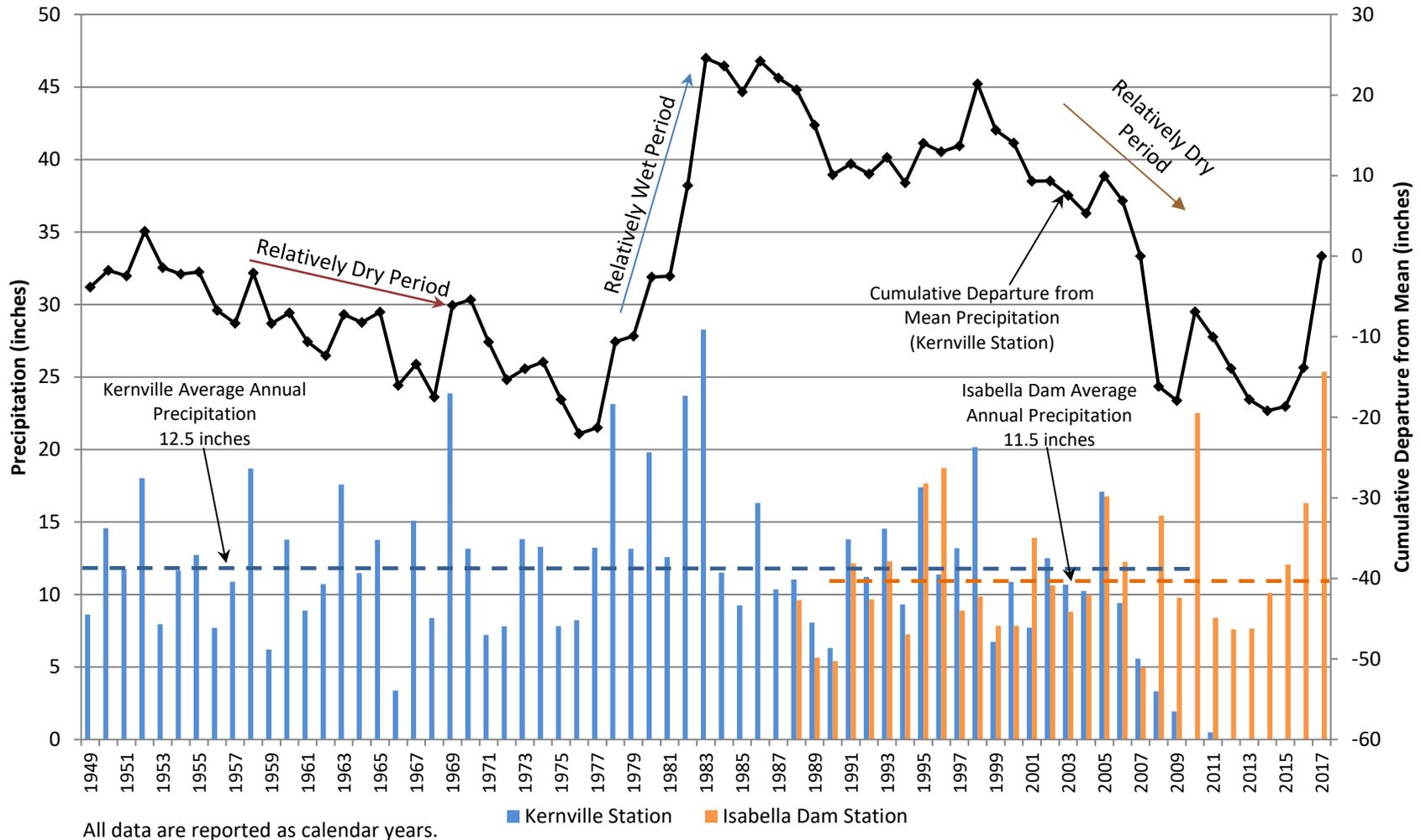


Regional Watershed Map

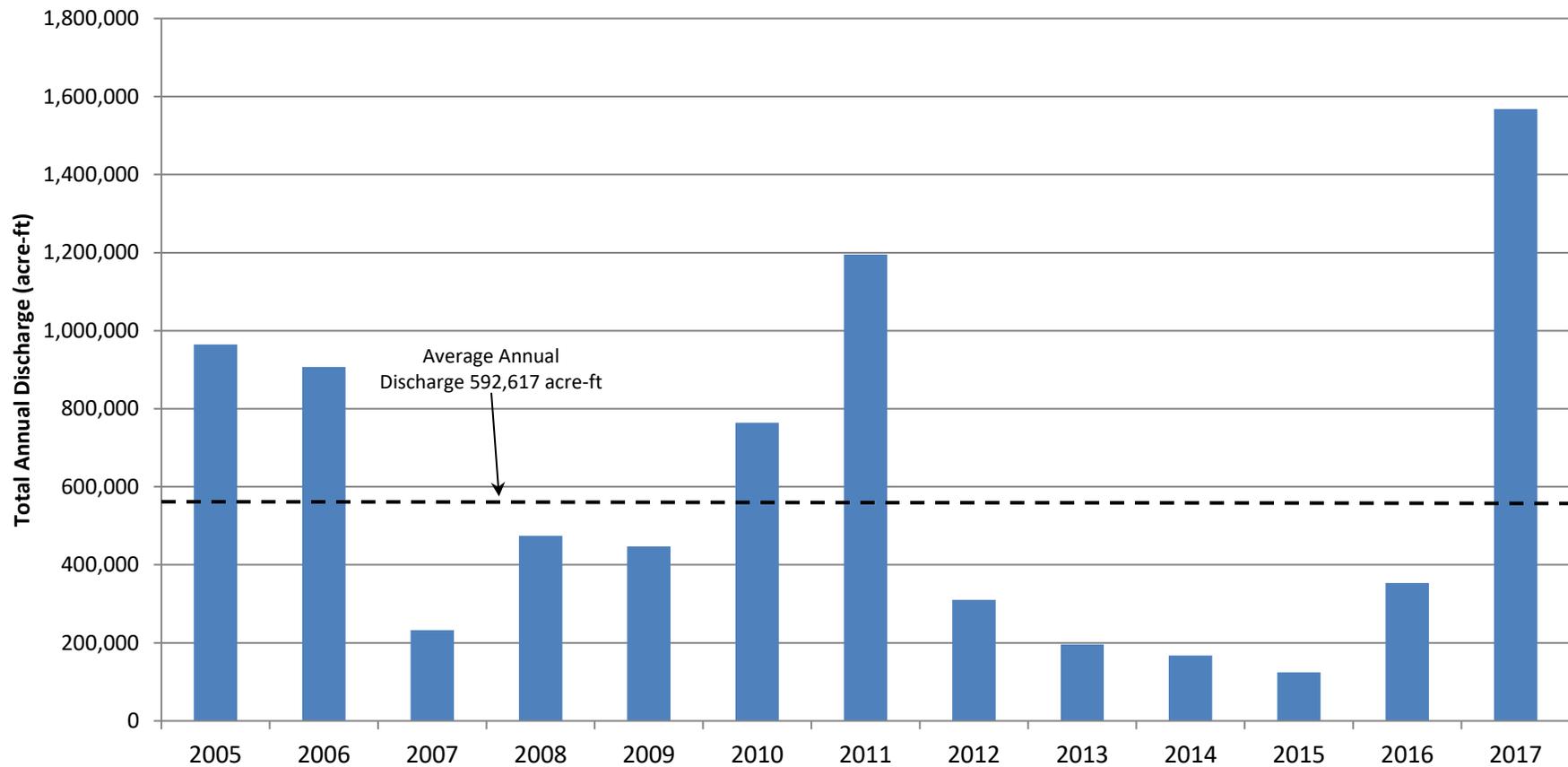


## Surface Water Features

Kern River Valley Annual Precipitation 1949 to 2017



**Total Annual Streamflow 2005 to 2017  
North Fork of the Kern River at Station 11187000**

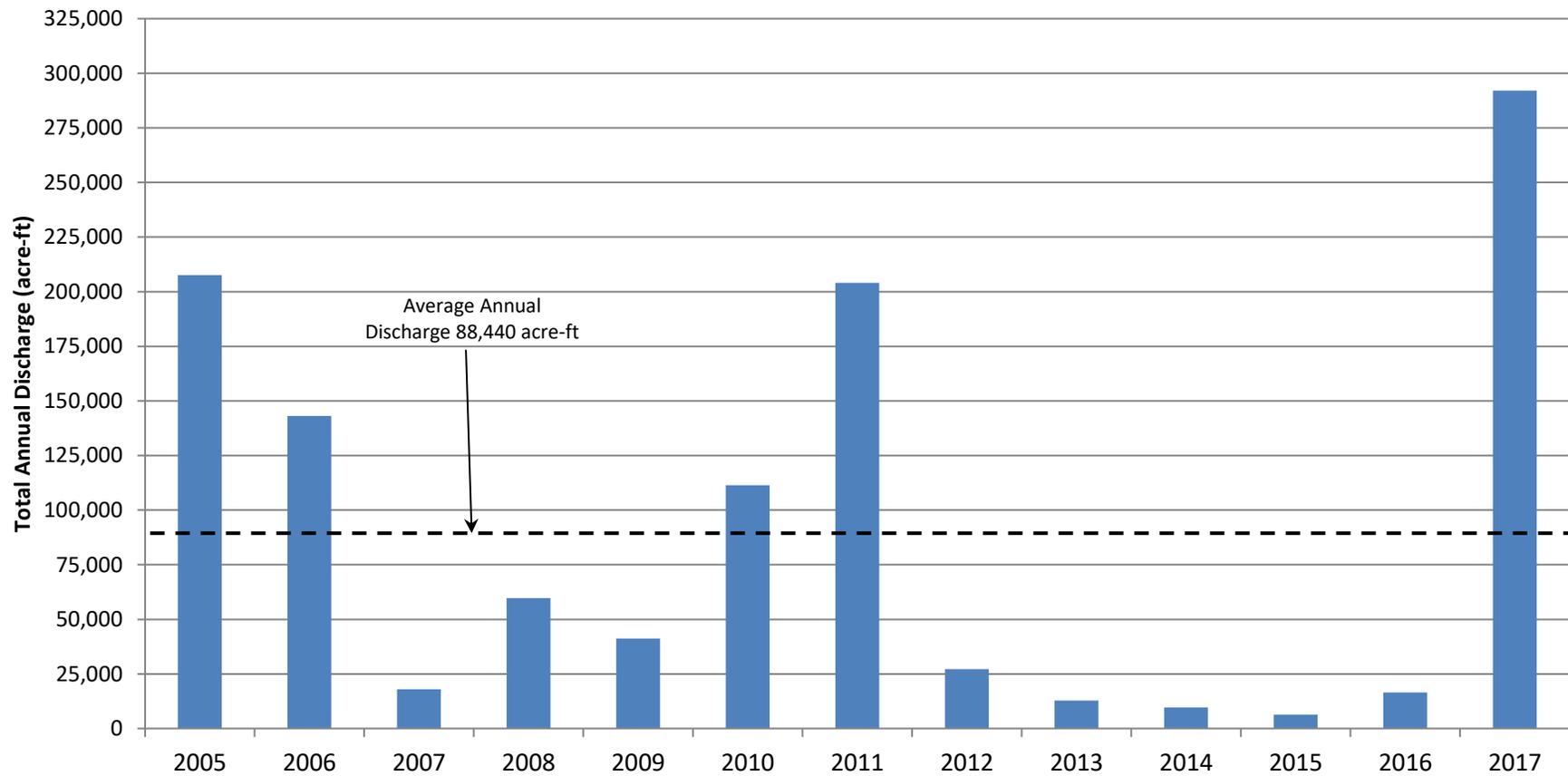


**Note:**

Data for Station 11187000 (North Fork Kern River near Kernville). Source: <http://www.spk-wc.usace.army.mil/reports/monthly.html>



**Total Annual Streamflow 2005 to 2017  
South Fork of the Kern River at Station 11189500**



**Note:**

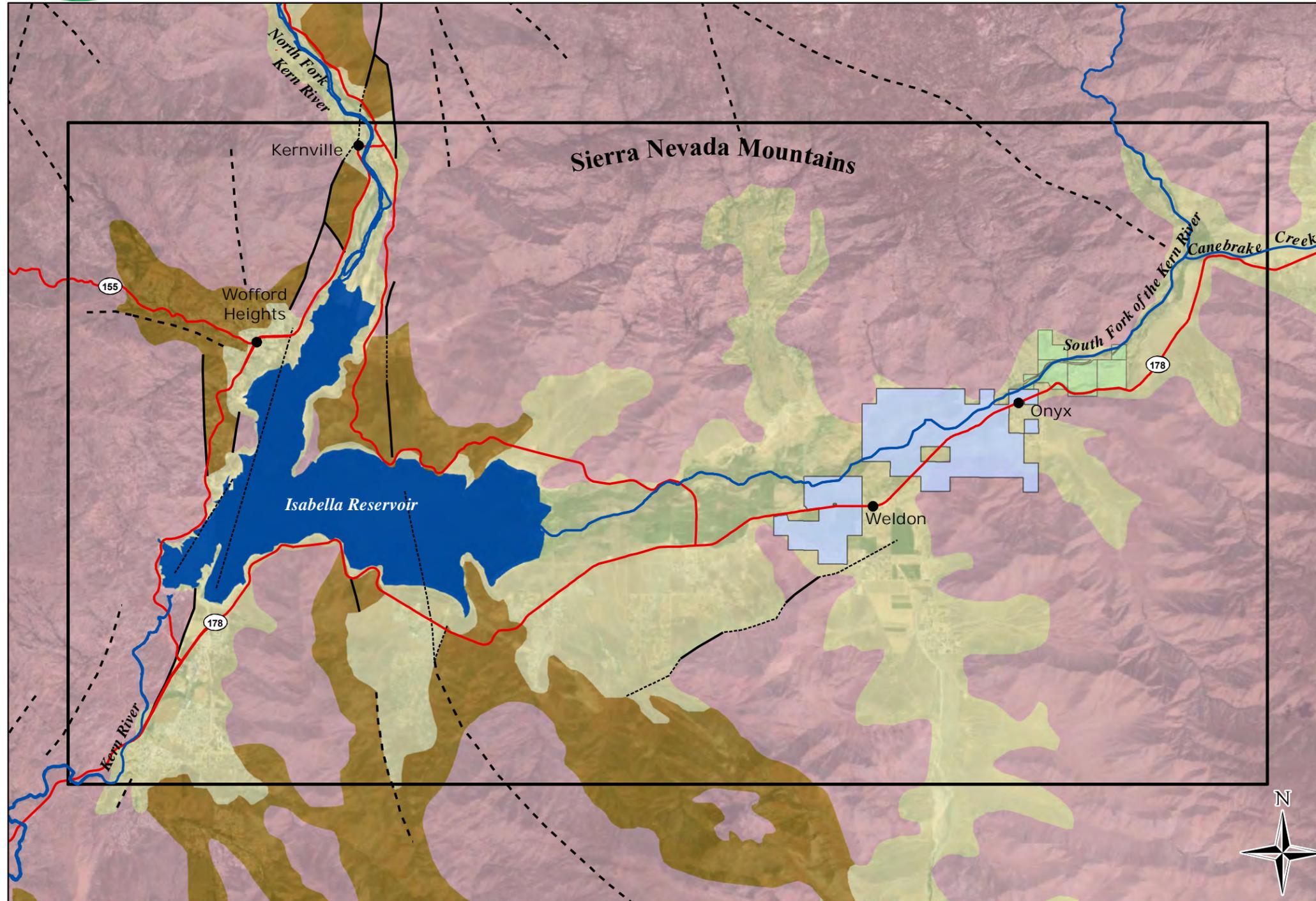
Data for Station 11189500 (South Fork Kern River near Onyx). Source: <http://waterdata.usgs.gov>





October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

- Alluvium
- Mesozoic Granitic Rocks
- Pre-Cretaceous Metasedimentary Rocks
- Fault, Certain
- Fault, Approximately Located
- Fault, Concealed
- Study Area
- Onyx Ranch Property
- Smith Ranch Property
- River
- Hydrologic Feature
- Highway/Major Road

Notes: Geology modified from USGS Open-File Report 2005-1305 and Crocker, 1930.



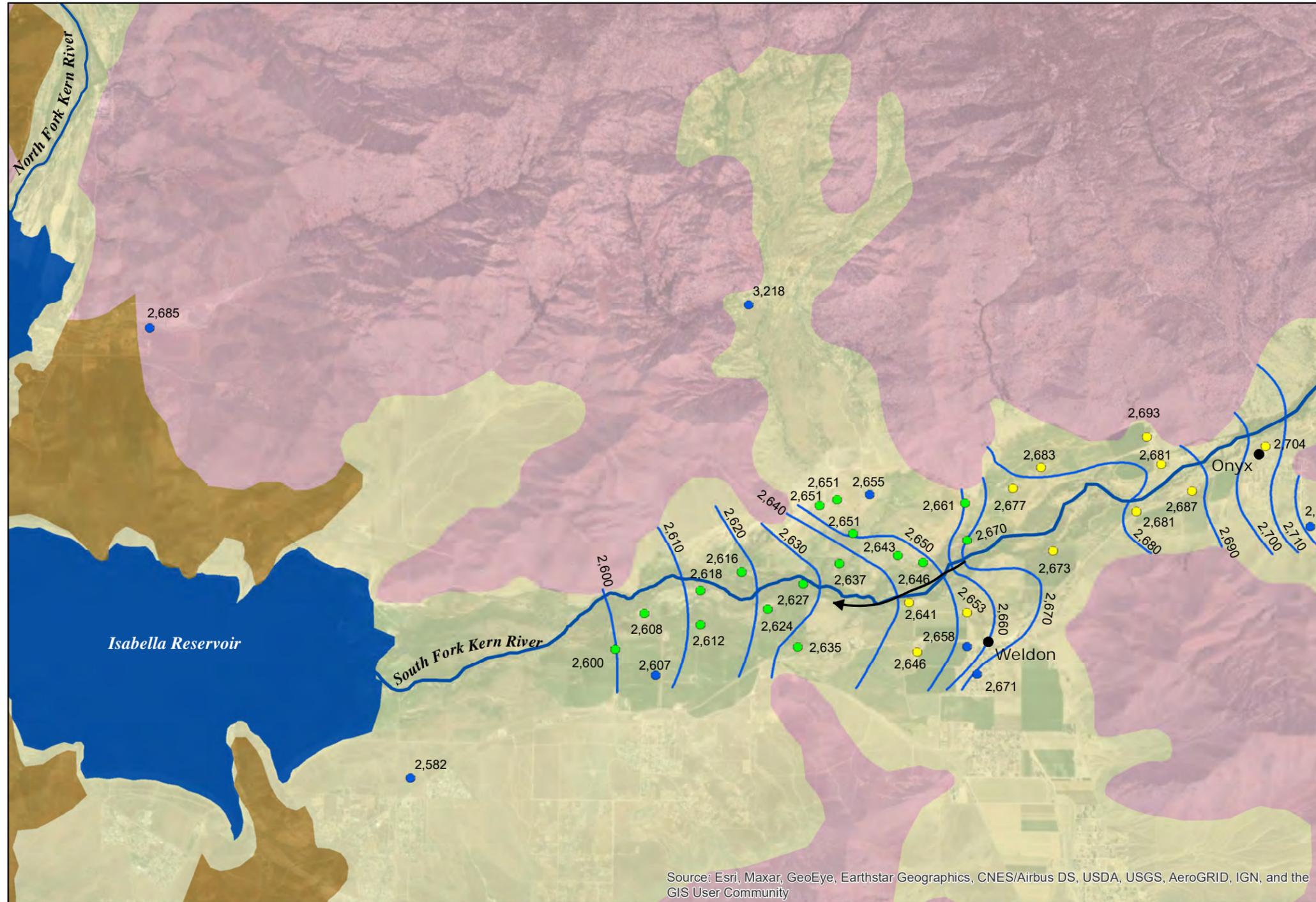
NAD 83 State Plane Zone 5





October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

- Audubon Kern River Preserve Well Groundwater Elevation (ft amsl)
- CASGEM Well Groundwater Elevation (ft amsl)
- RRBWSD/Onyx Well Groundwater Elevation (ft amsl)
- Groundwater Elevation Contour (ft amsl)
- ← Direction of Groundwater Flow
- Kern River
- Alluvium
- Mesozoic Granitic Rocks
- Pre-Cretaceous Metasedimentary Rocks
- Hydrologic Feature

Note: Geology modified from USGS Open-File Report 2005-1305

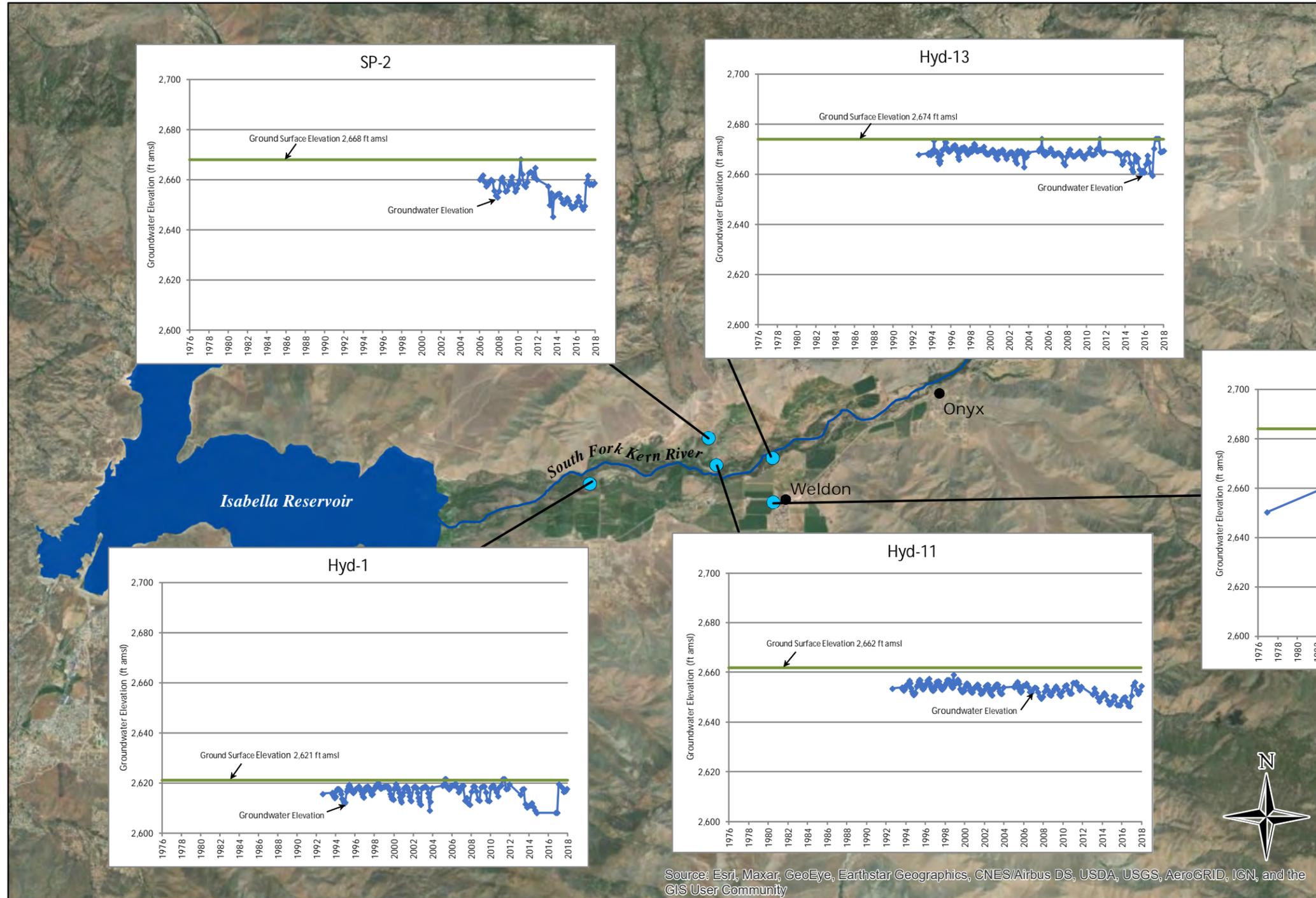
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community





# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project

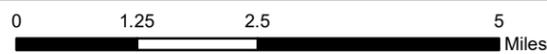
October 2020



**Map Features**

- Well with Hydrograph
- Kern River
- Hydrologic Feature

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



NAD 83 State Plane Zone 5

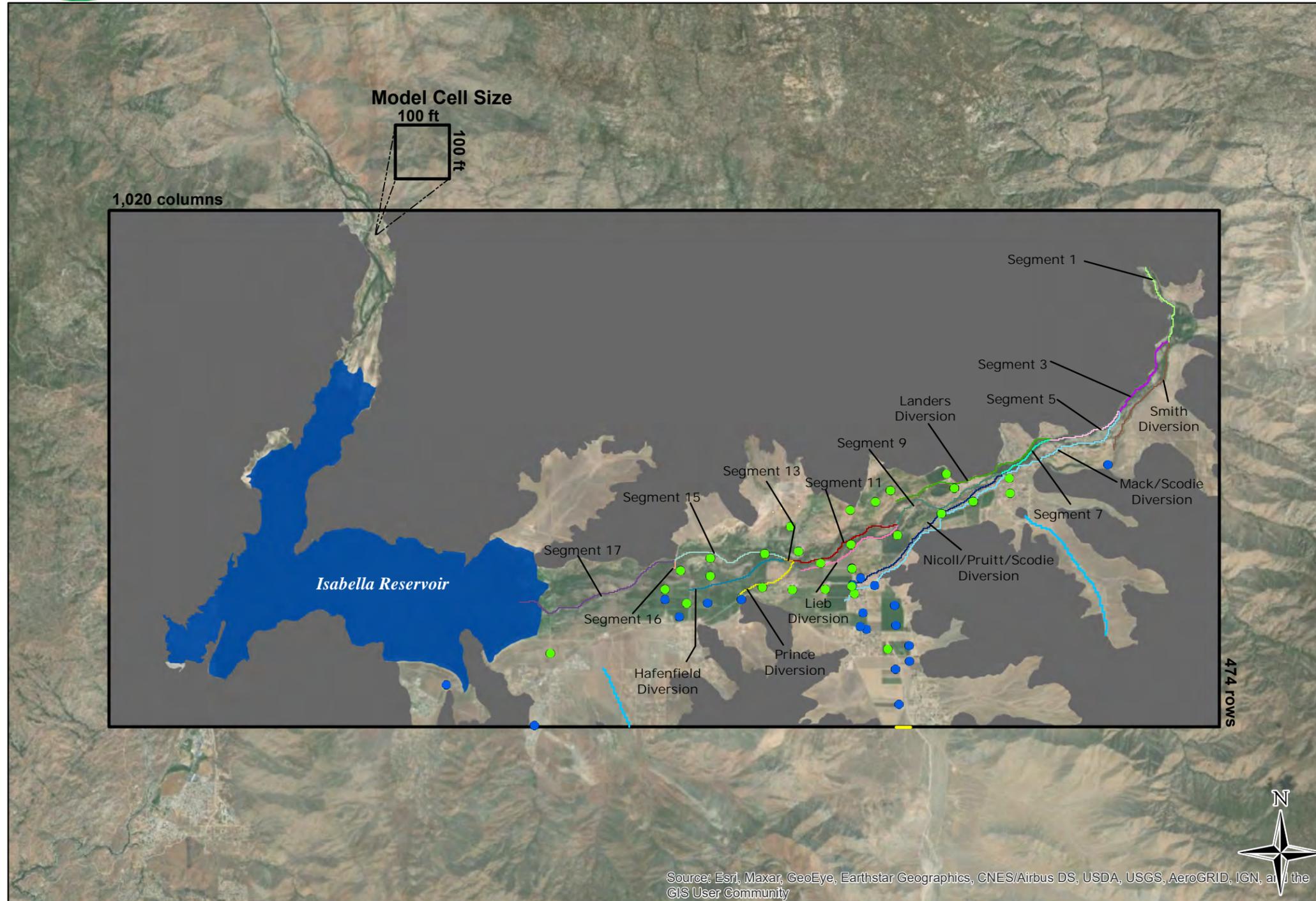
## Measured Groundwater Levels Relative to the Ground Surface in Selected Wells

Figure 10



October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

- Calibration Target
- Production Well
- Segment 1
- Segment 2 -Smith Diversion
- Segment 3
- Segment 4 - Mack/Scodie Diversion
- Segment 5
- Segment 6 - Landers Diversion
- Segment 7
- Segment 8 - Nicoll/Pruitt Diversion
- Segment 9
- Segment 10 - Lieb Diversion
- Segment 11
- Segment 12 - Prince Diversion
- Segment 13
- Segment 14 - Hafenfeld Diversion
- Segment 15
- Segment 16
- Segment 17
- Tributary Drainages
- Boundary Condition Cells
- No-Flow Cell
- Model Domain
- Hydrologic Feature

0 1 2 4 Miles  
NAD 83 Stateplane Zone 5

**Model Area**



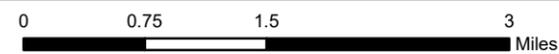
October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

- Calibration Well
- Kern River
- Major Road
- Hydrologic Feature



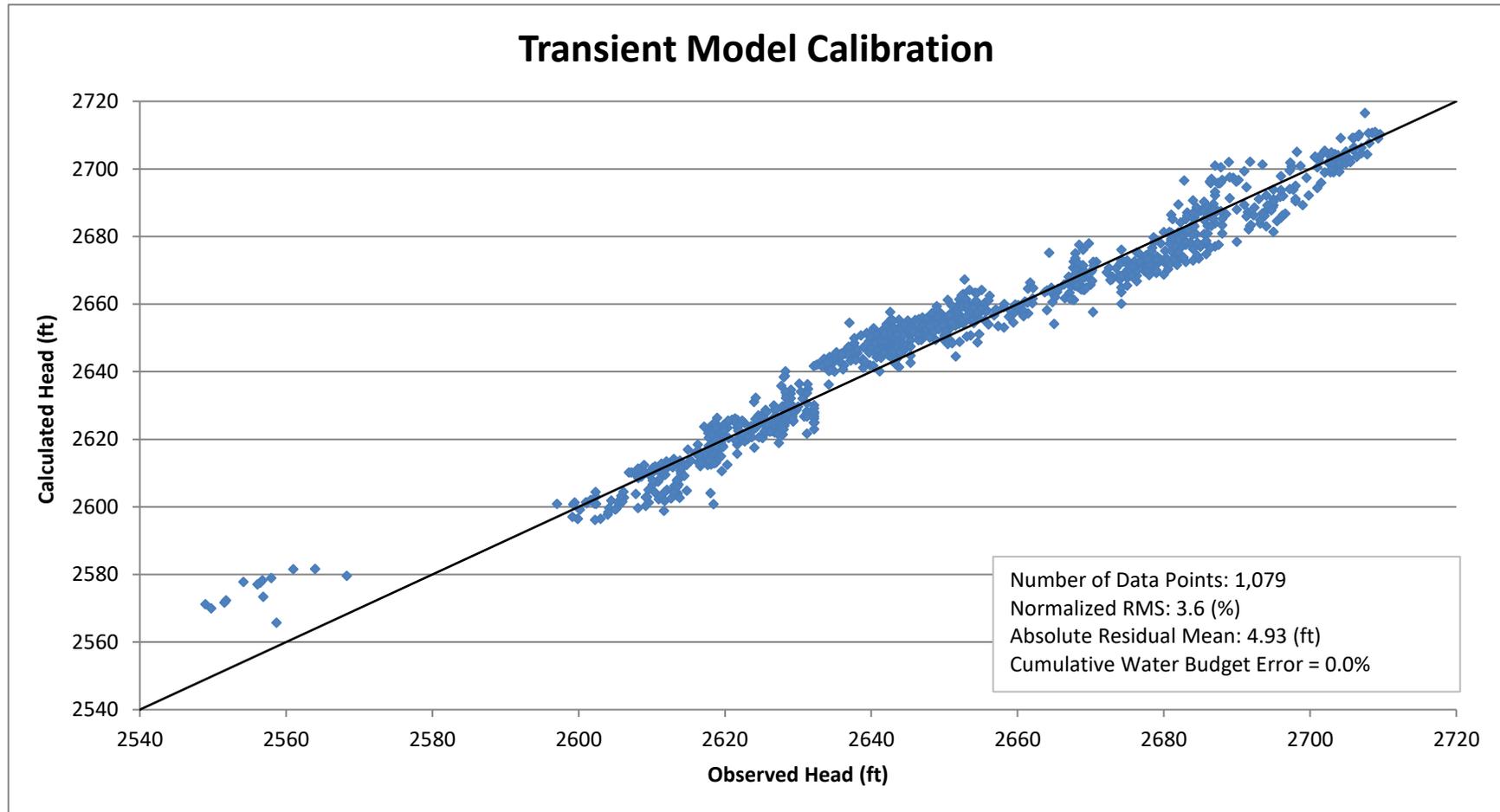
NAD 83 State Plane Zone 5

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## Calibration Wells

Figure 12

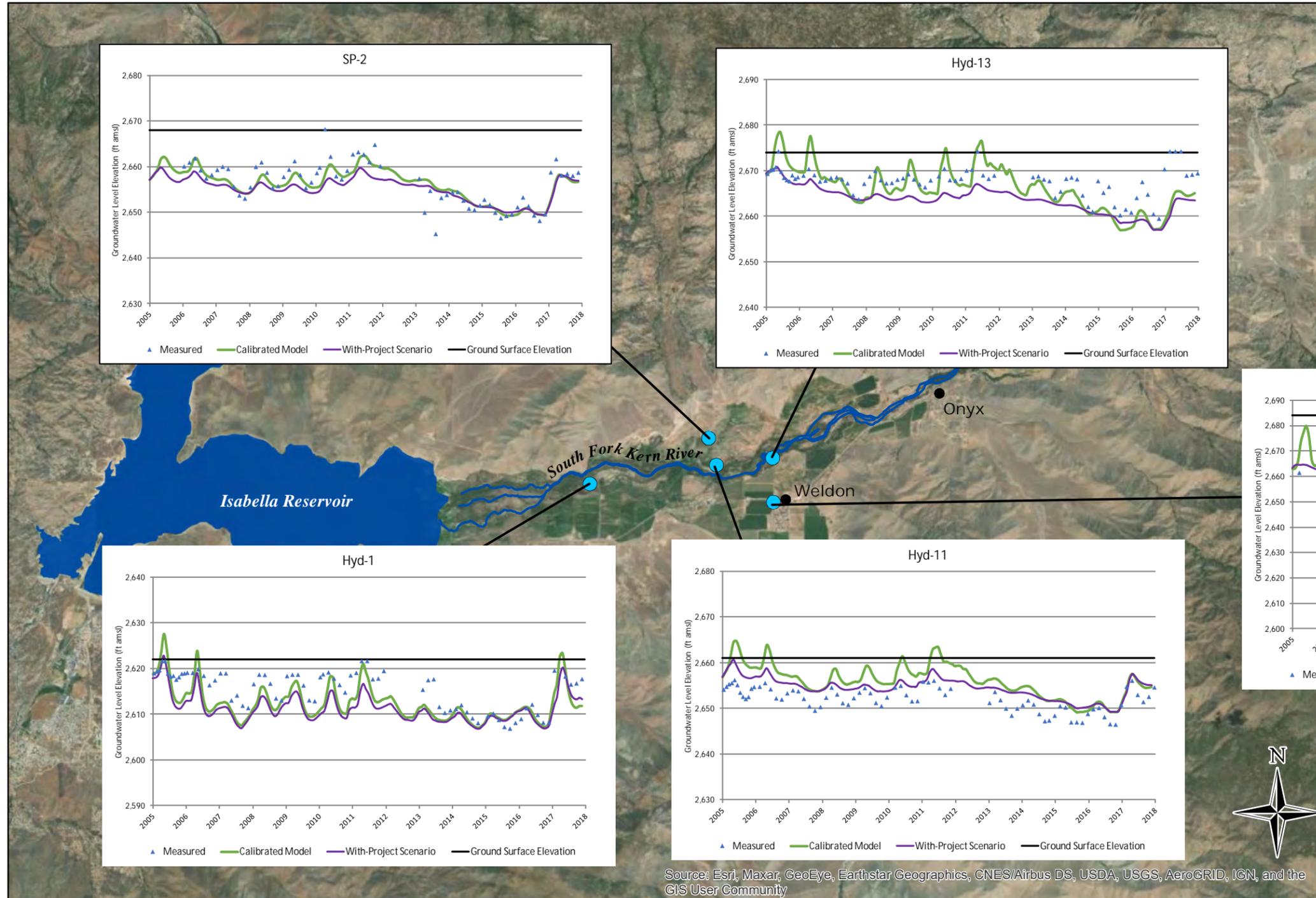
Measured vs. Model-Generated Groundwater Elevations





# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project

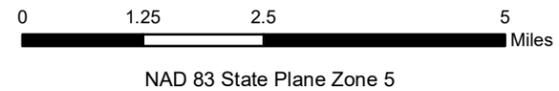
October 2020



**Map Features**

- Calibration Well with Hydrograph
- Kern River
- Hydrologic Feature

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



## Calibration Wells With Hydrographs

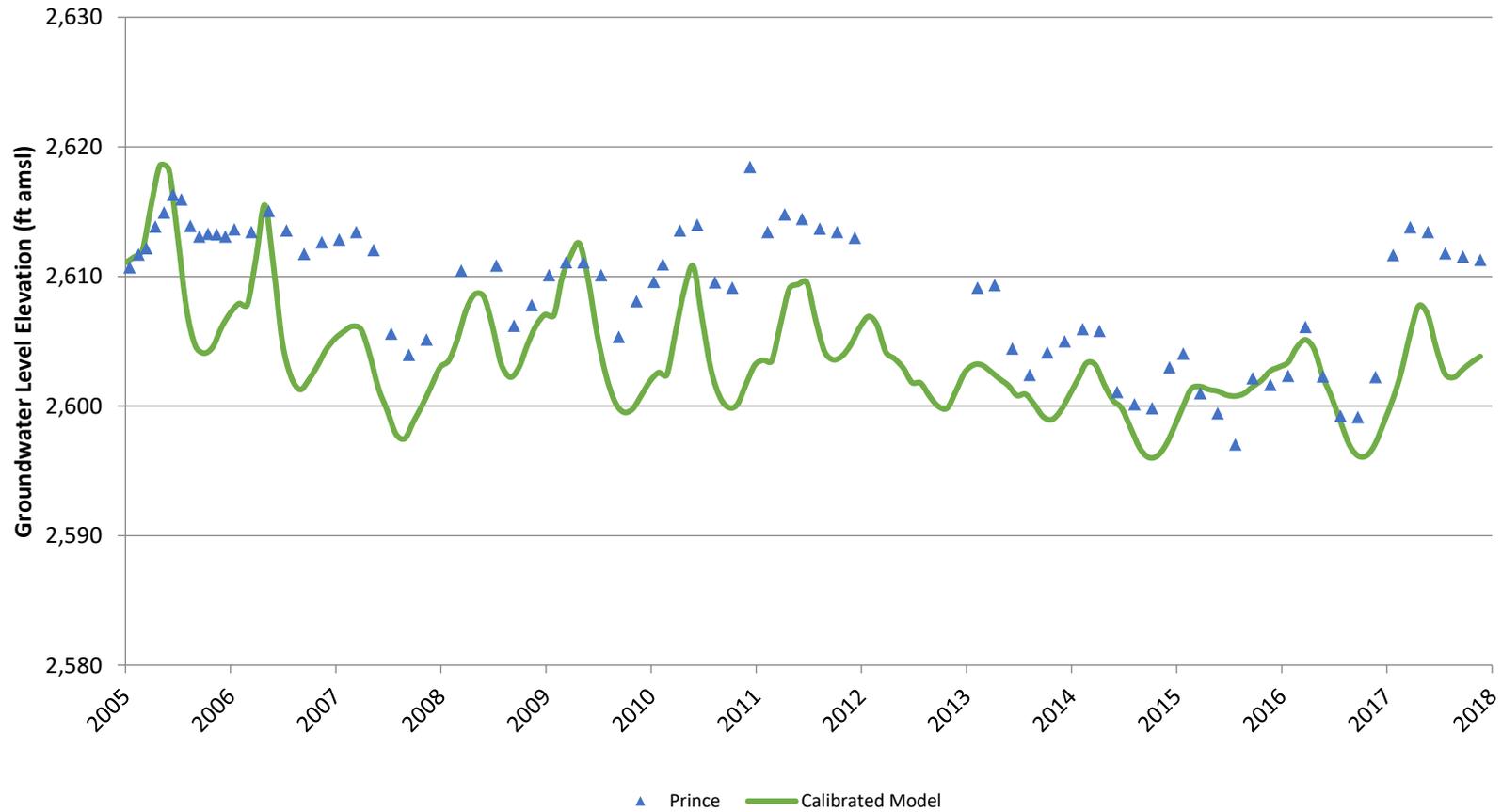
# Appendix A

## Calibration Hydrographs



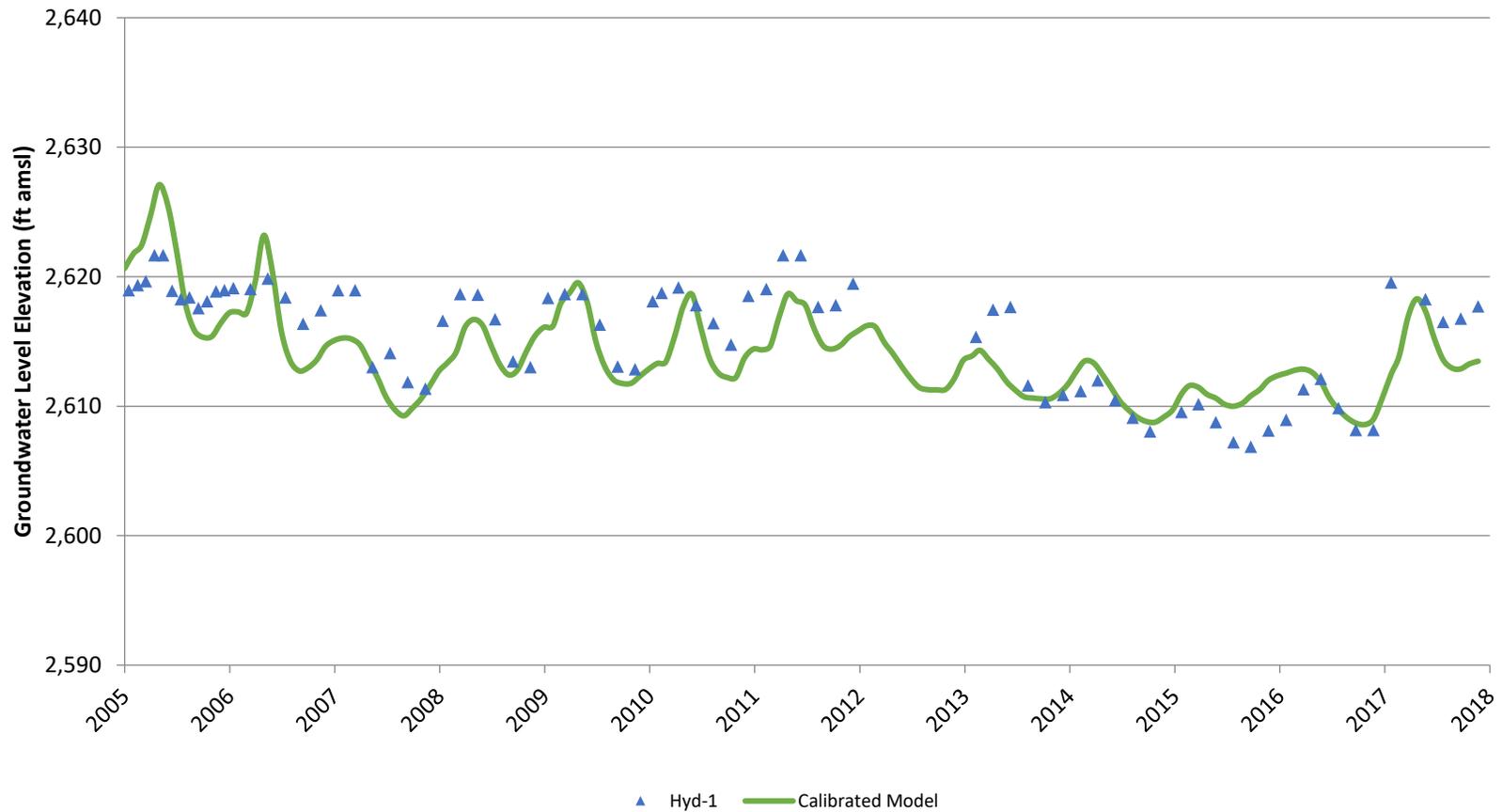
### Calibration Hydrographs

#### Prince



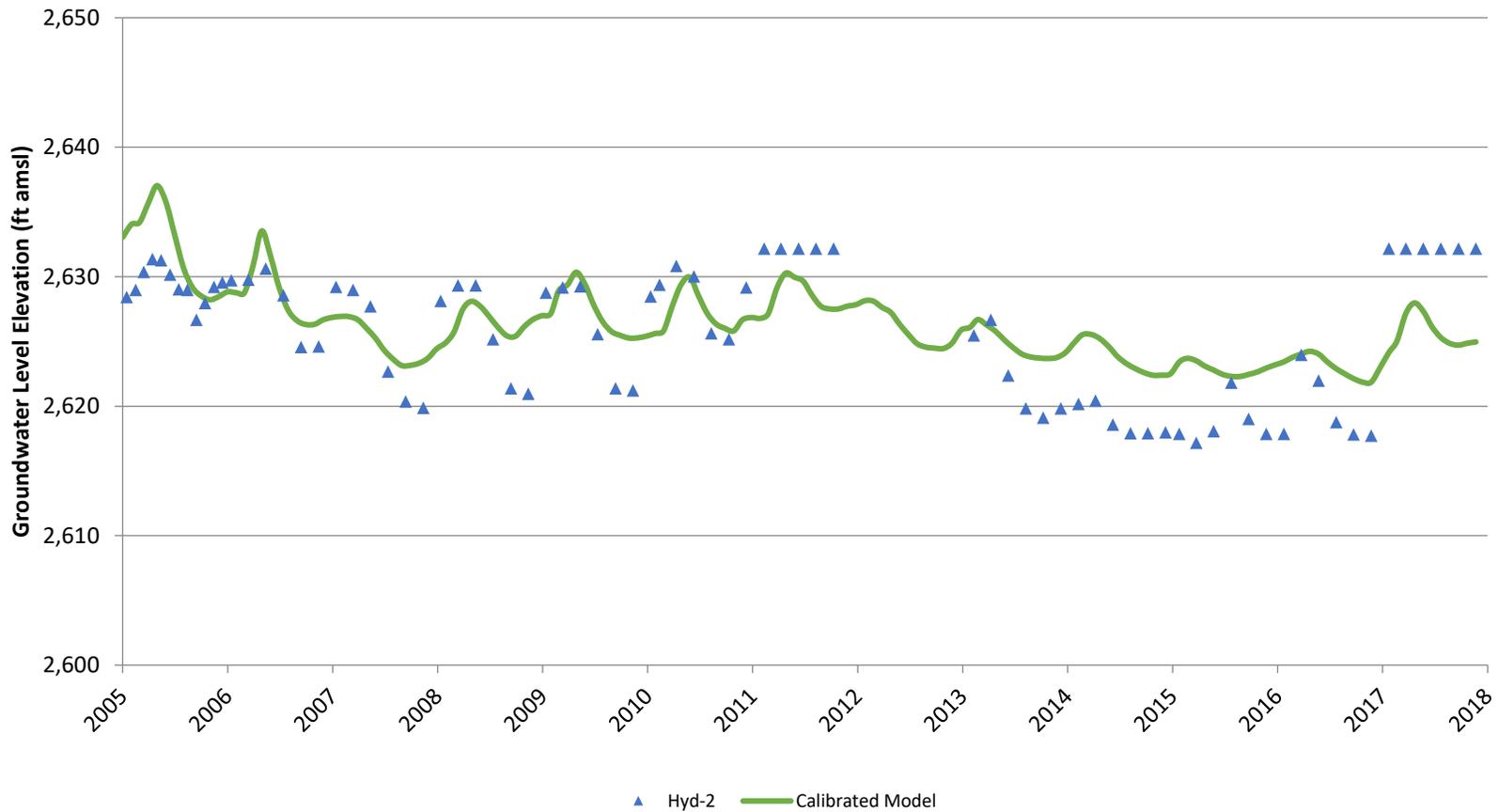
### Calibration Hydrographs

#### Hyd-1



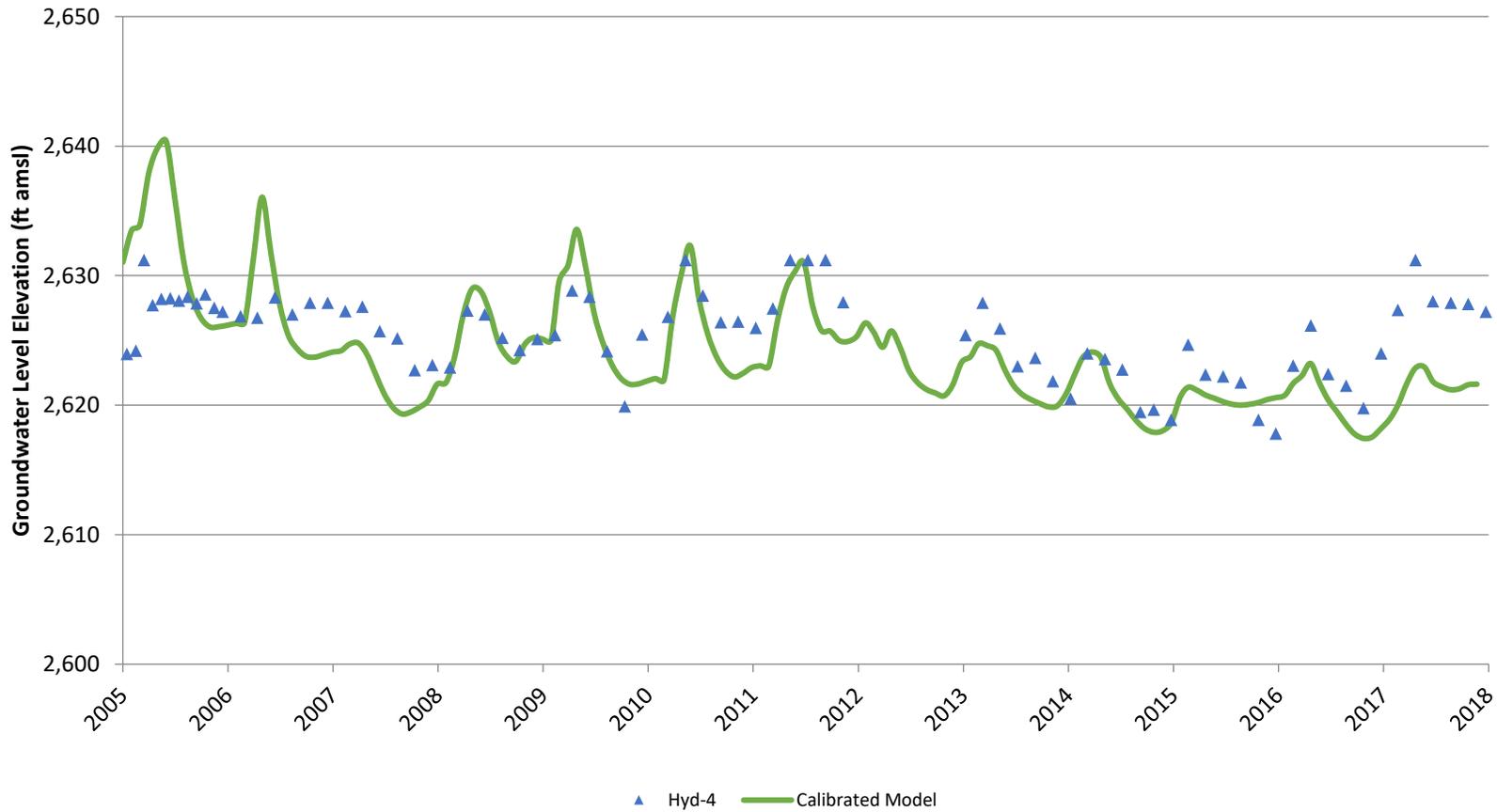
### Calibration Hydrographs

#### Hyd-2



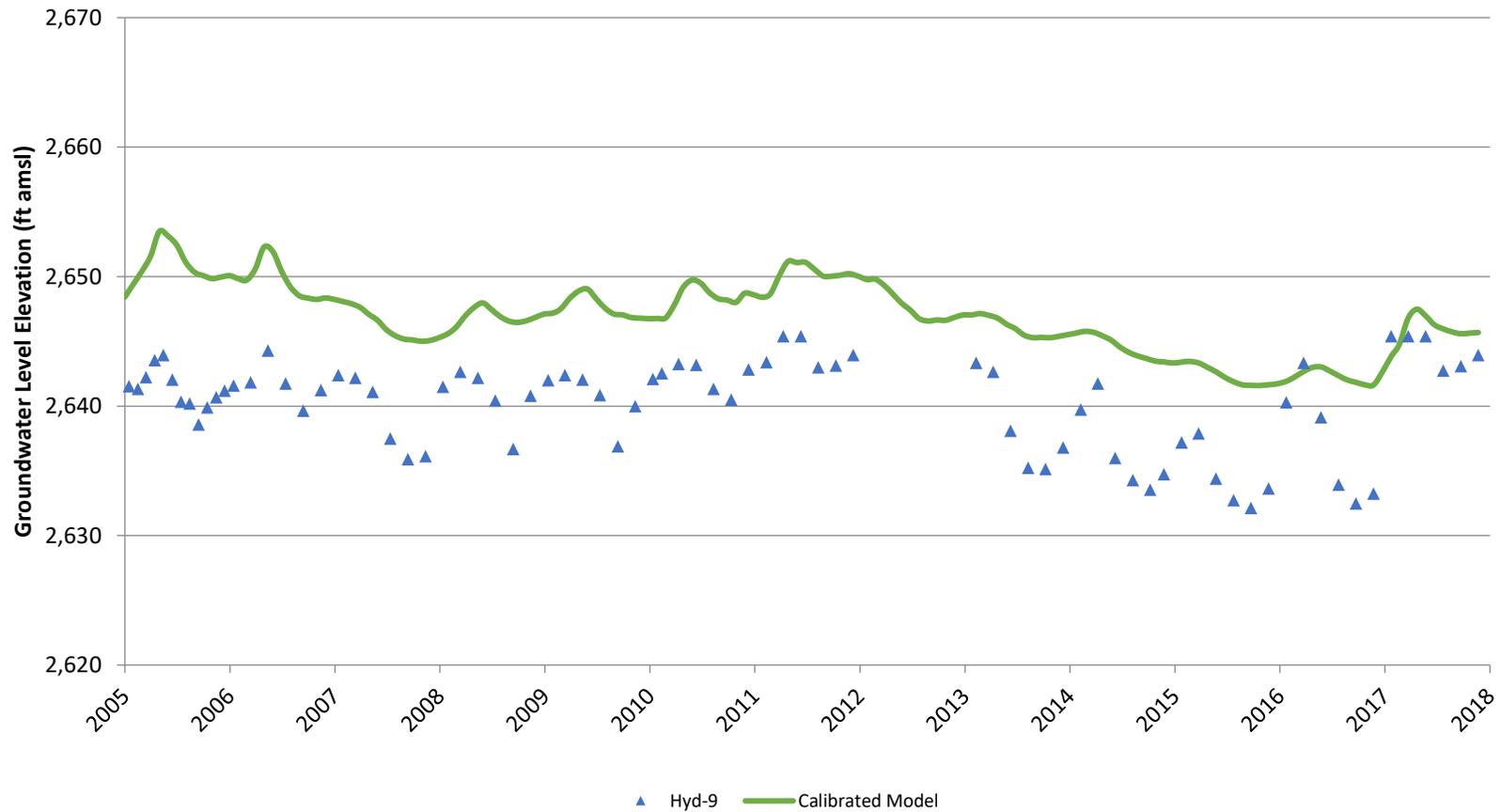
### Calibration Hydrographs

#### Hyd-4



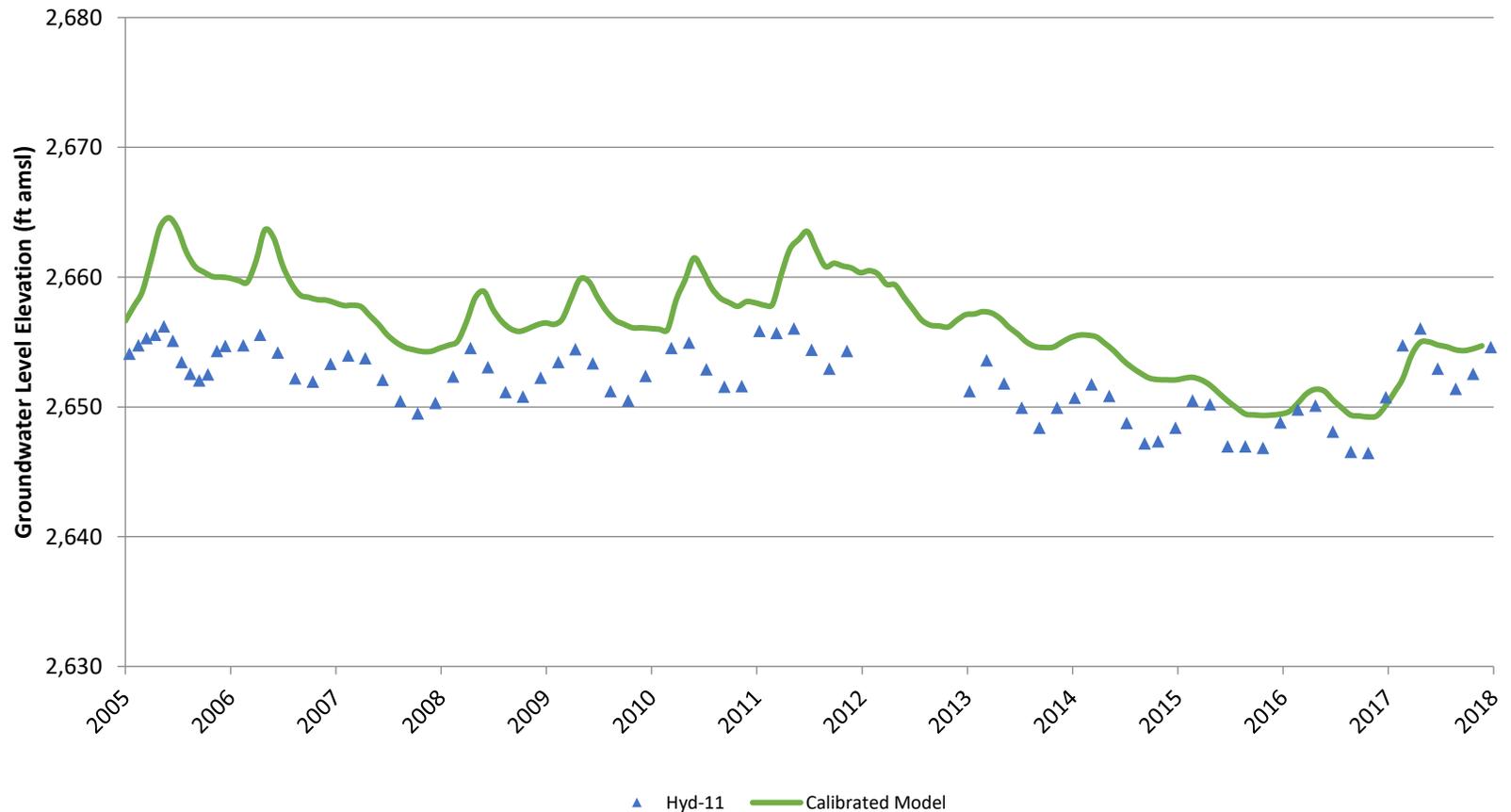
### Calibration Hydrographs

#### Hyd-9



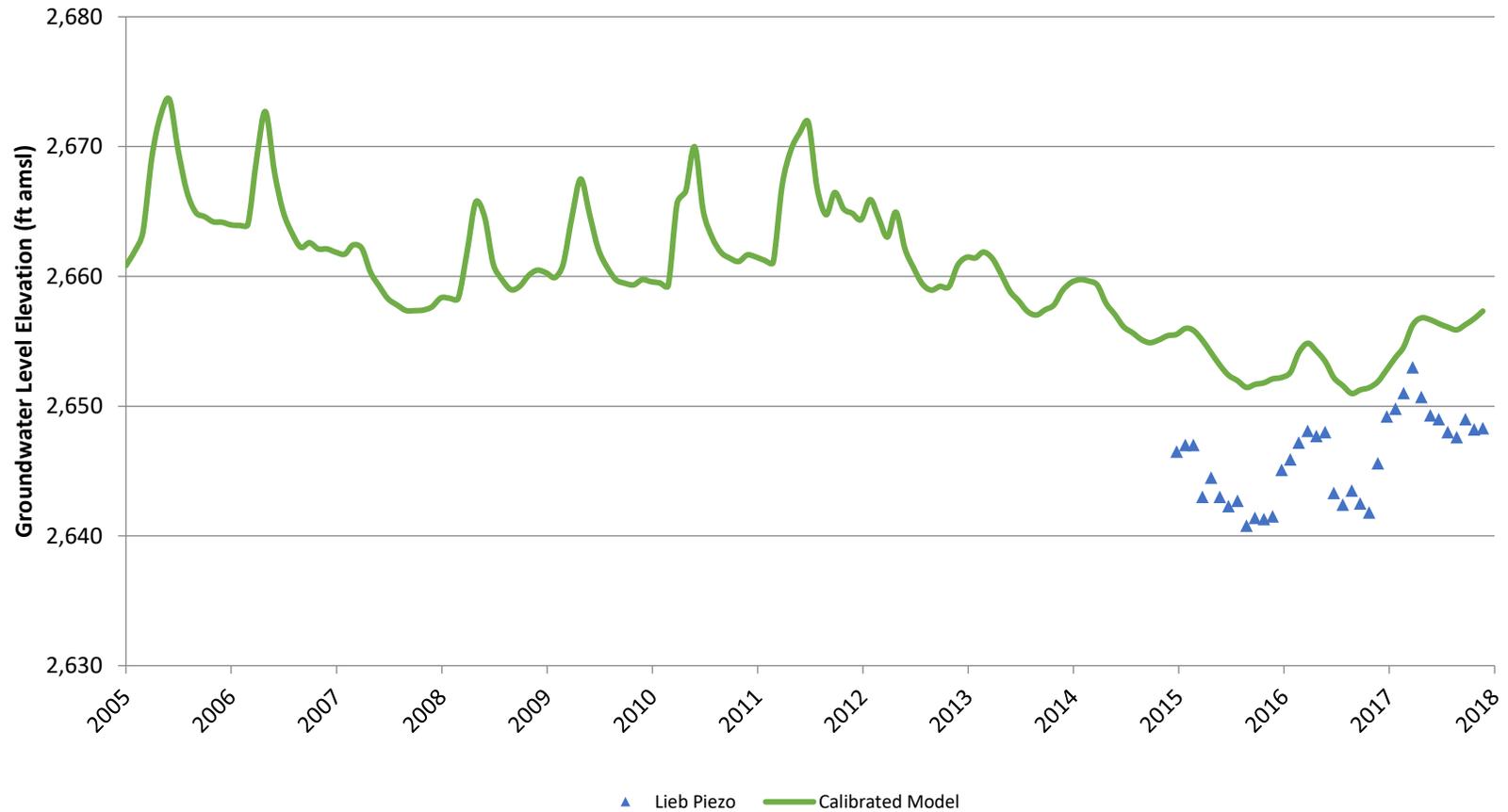
### Calibration Hydrographs

#### Hyd-11



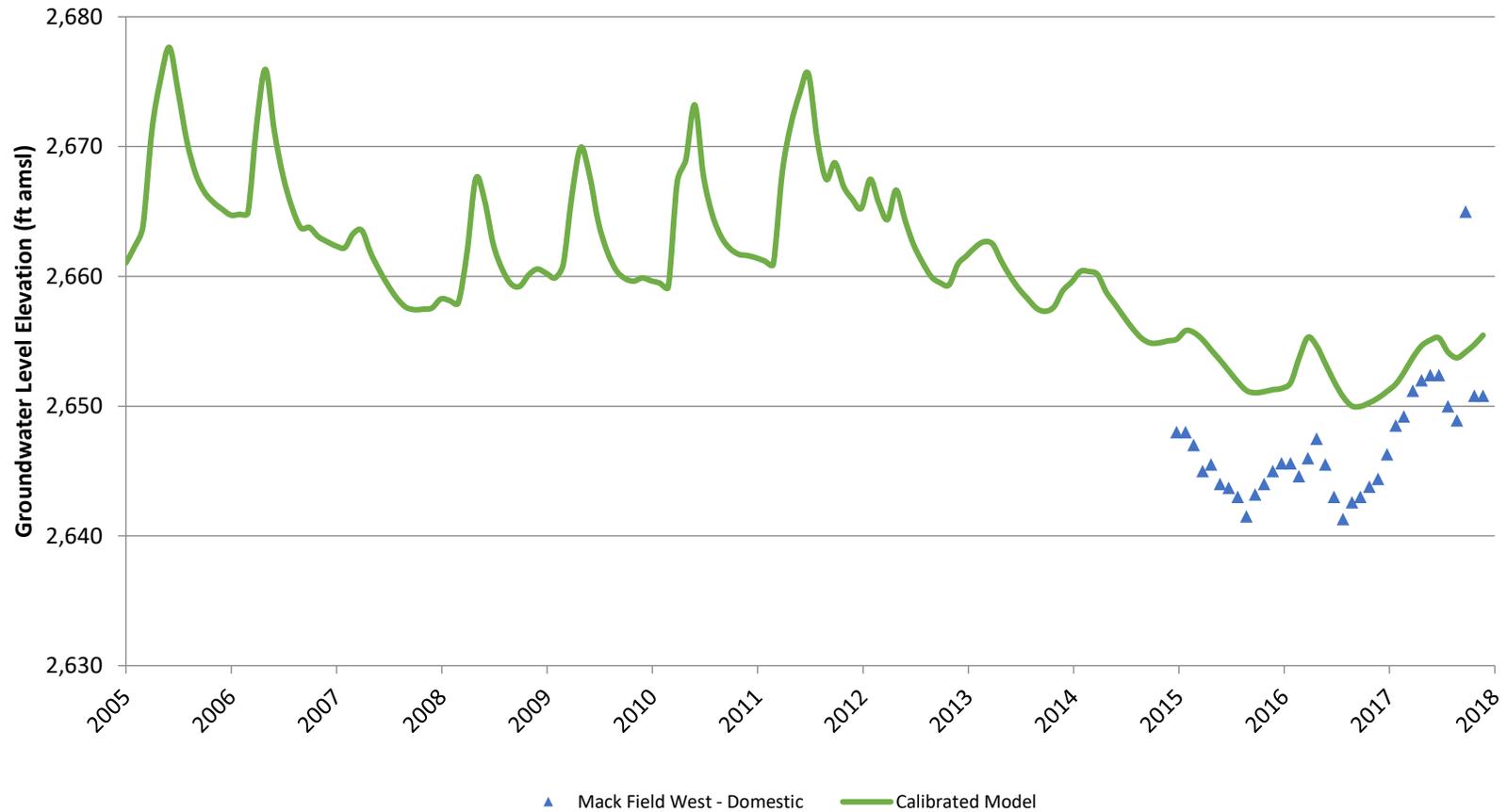
### Calibration Hydrographs

#### Lieb Piezo



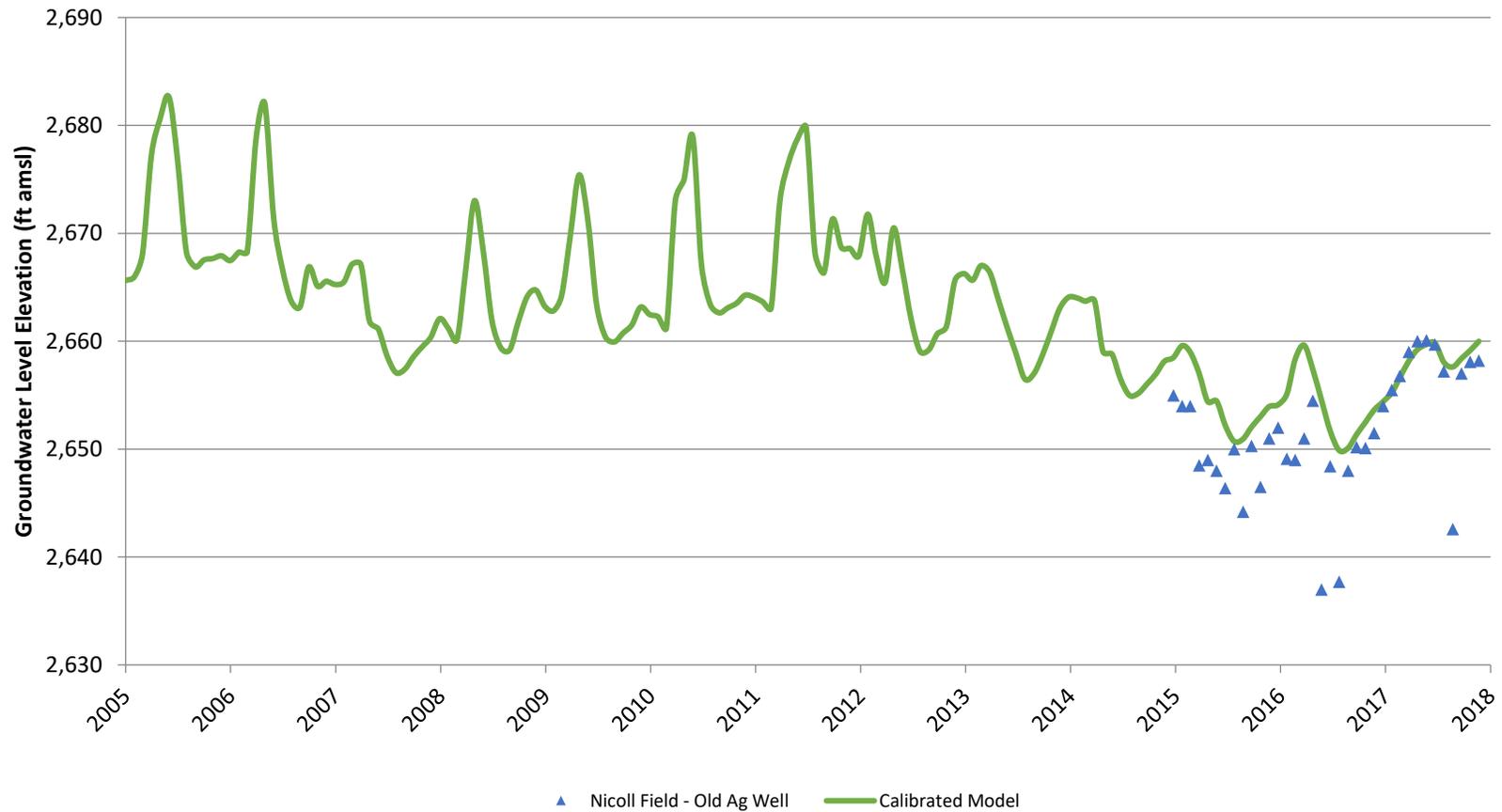
### Calibration Hydrographs

#### Mack Field West - Domestic



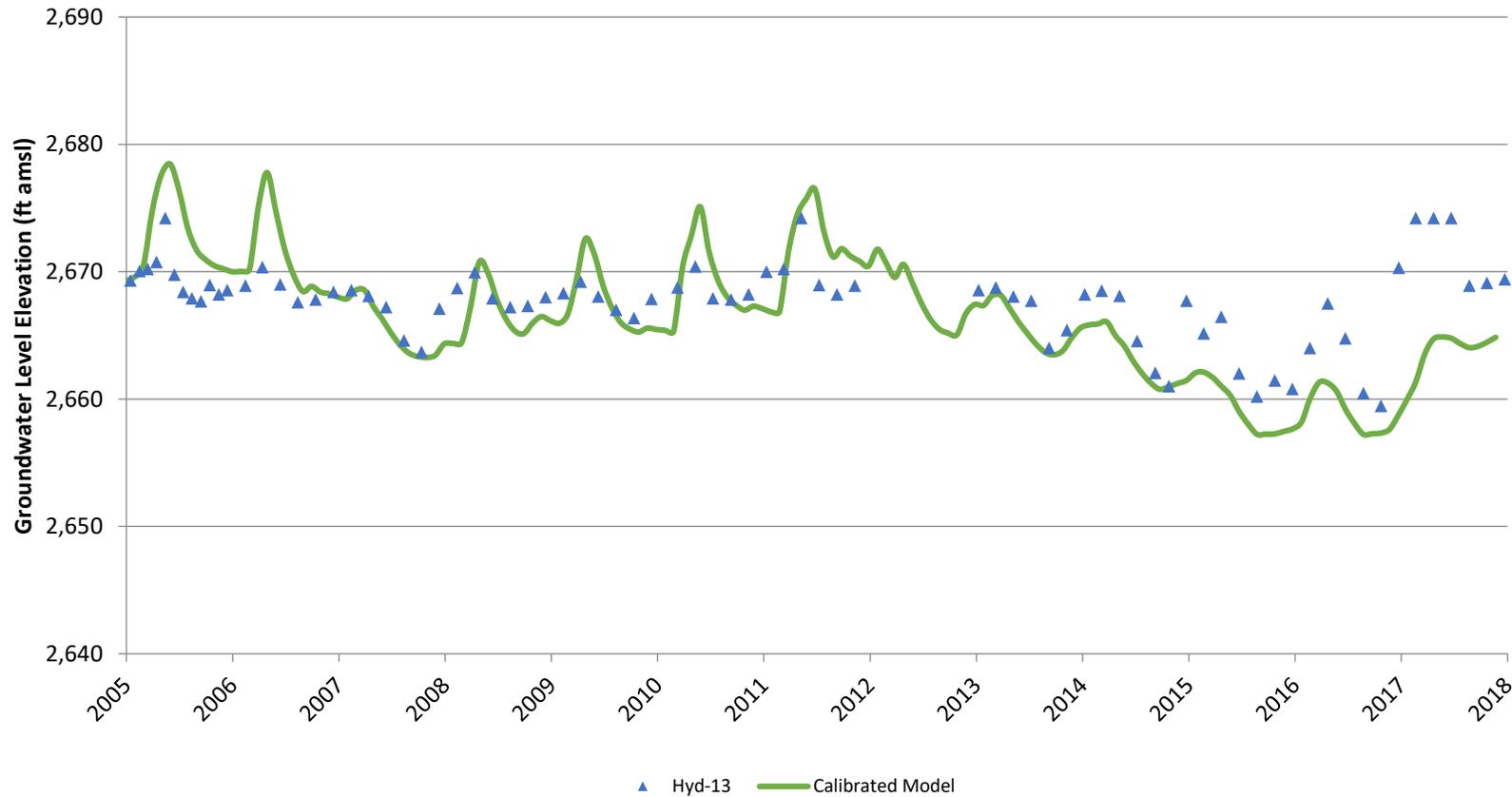
### Calibration Hydrographs

#### Nicoll Field - Old Ag Well



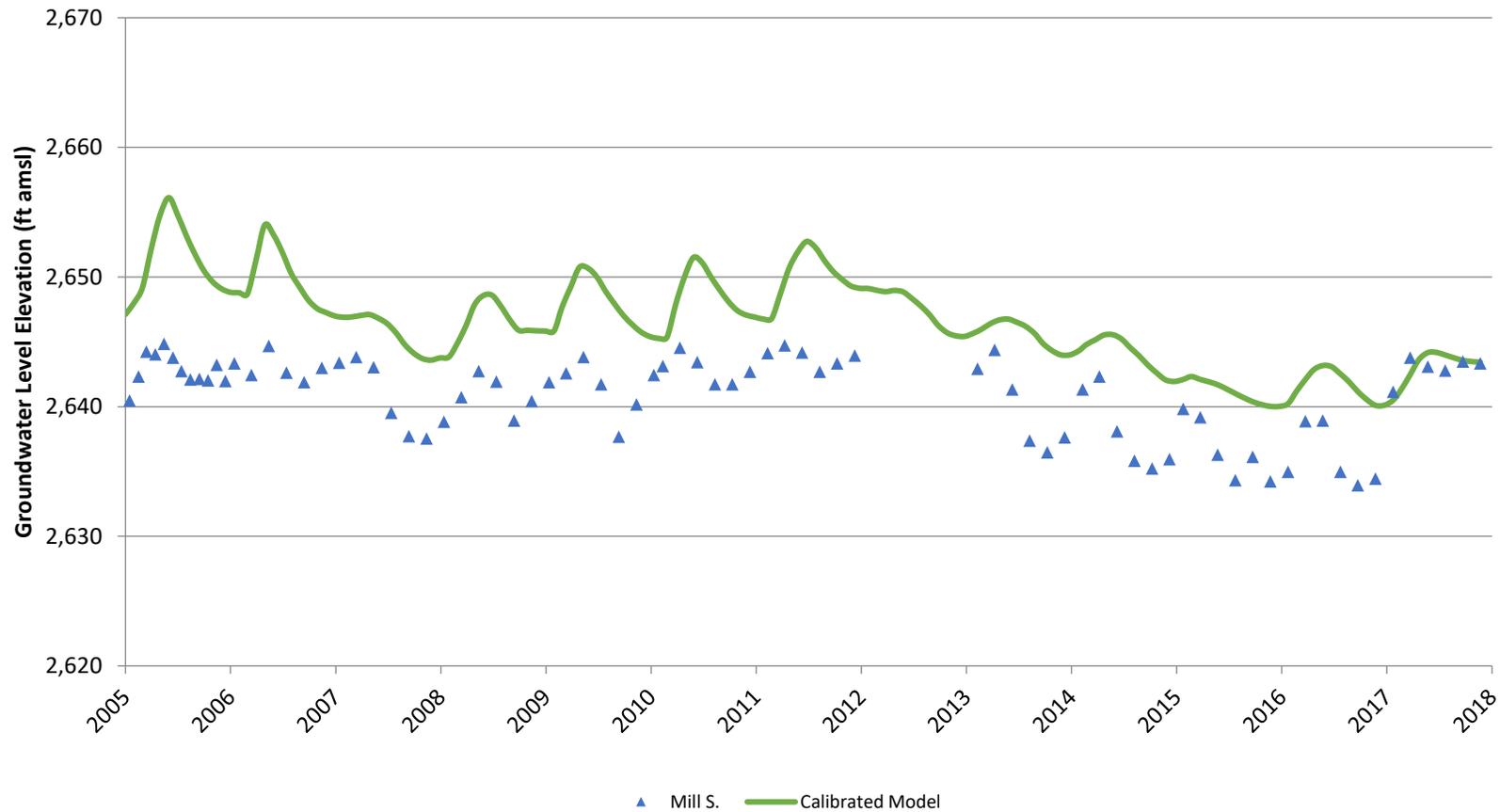
### Calibration Hydrographs

#### Hyd-13



### Calibration Hydrographs

#### Mill S.



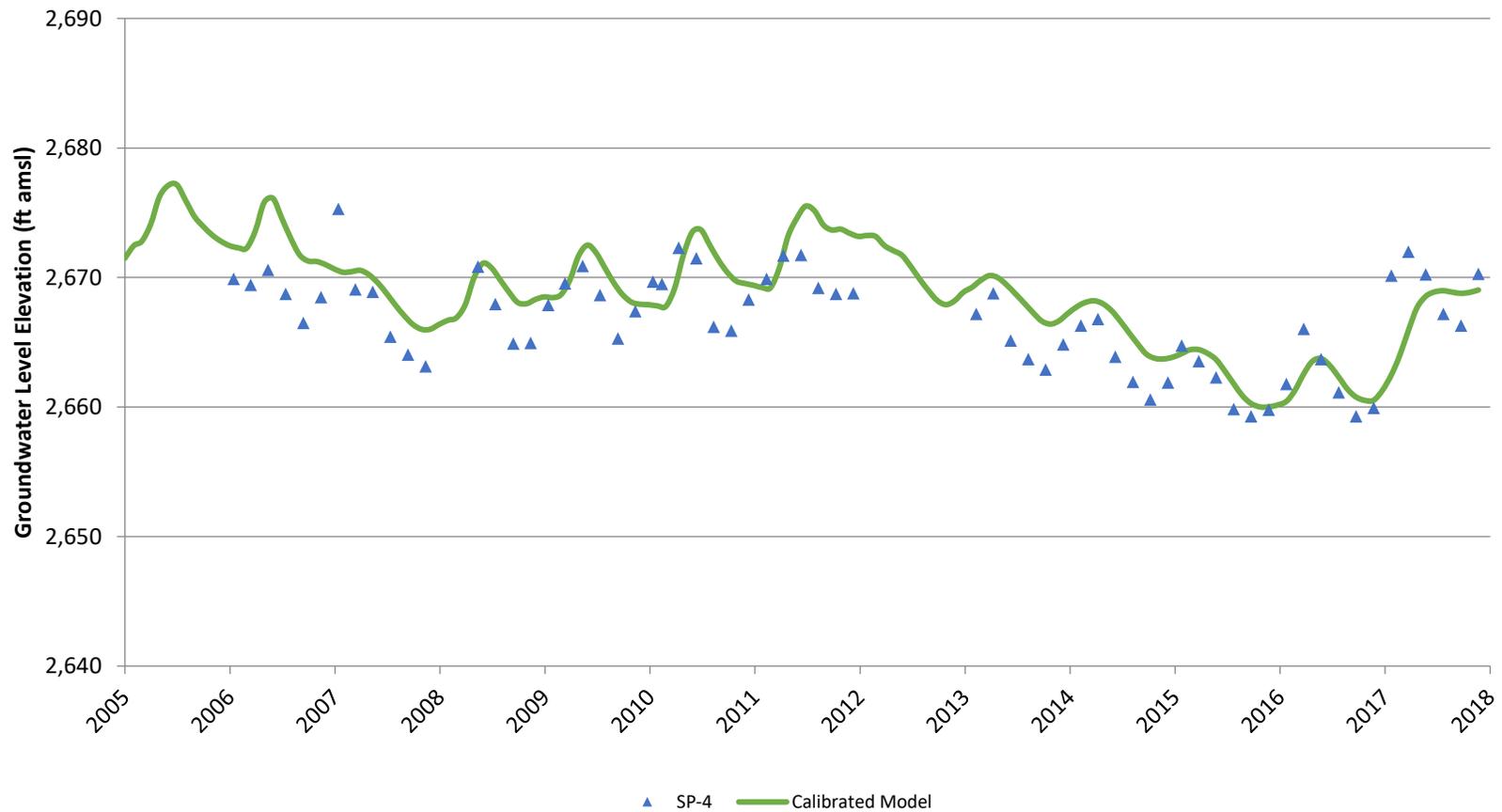
### Calibration Hydrographs

#### SP-2



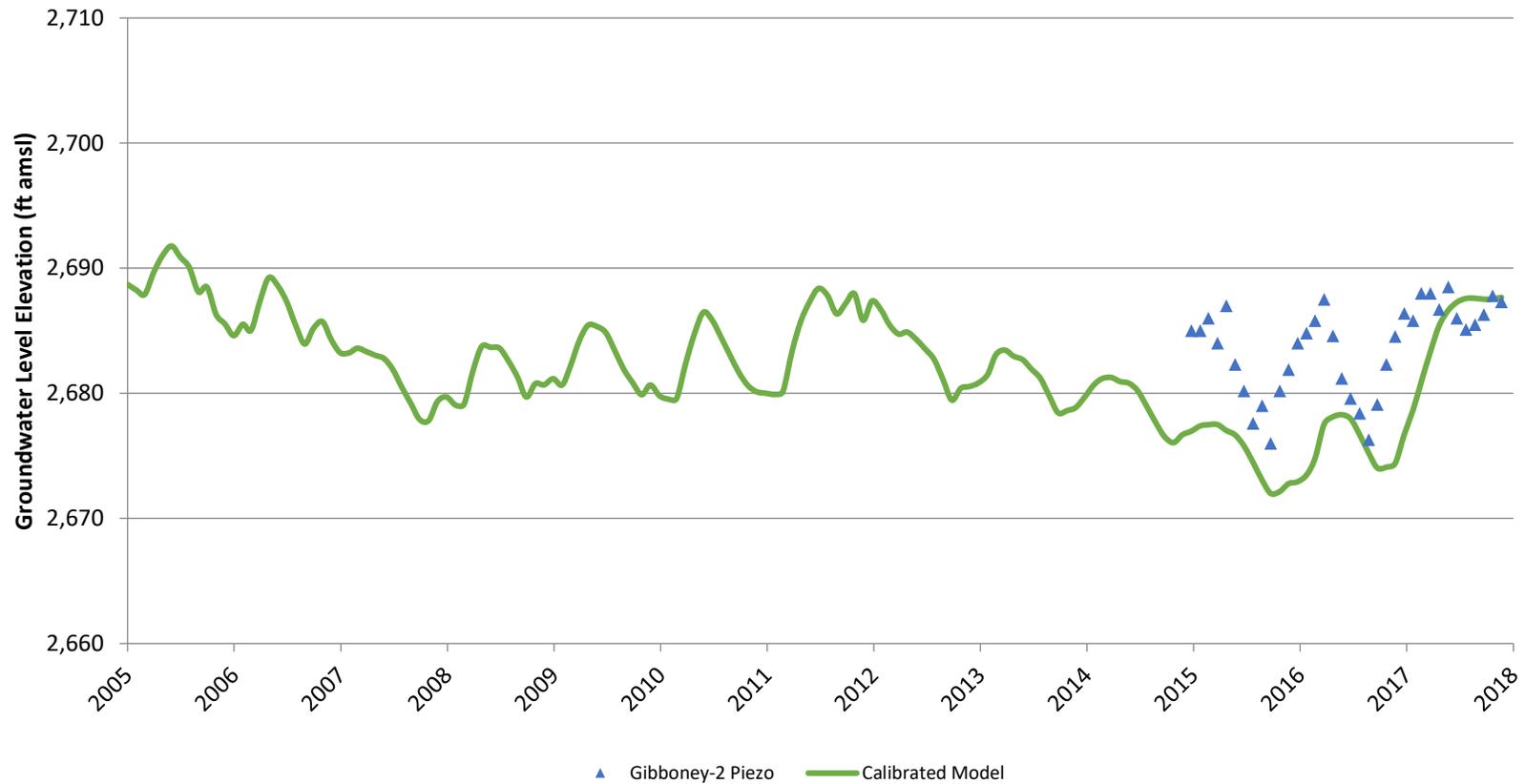
### Calibration Hydrographs

#### SP-4



### Calibration Hydrographs

#### Gibboney-2 Piezo



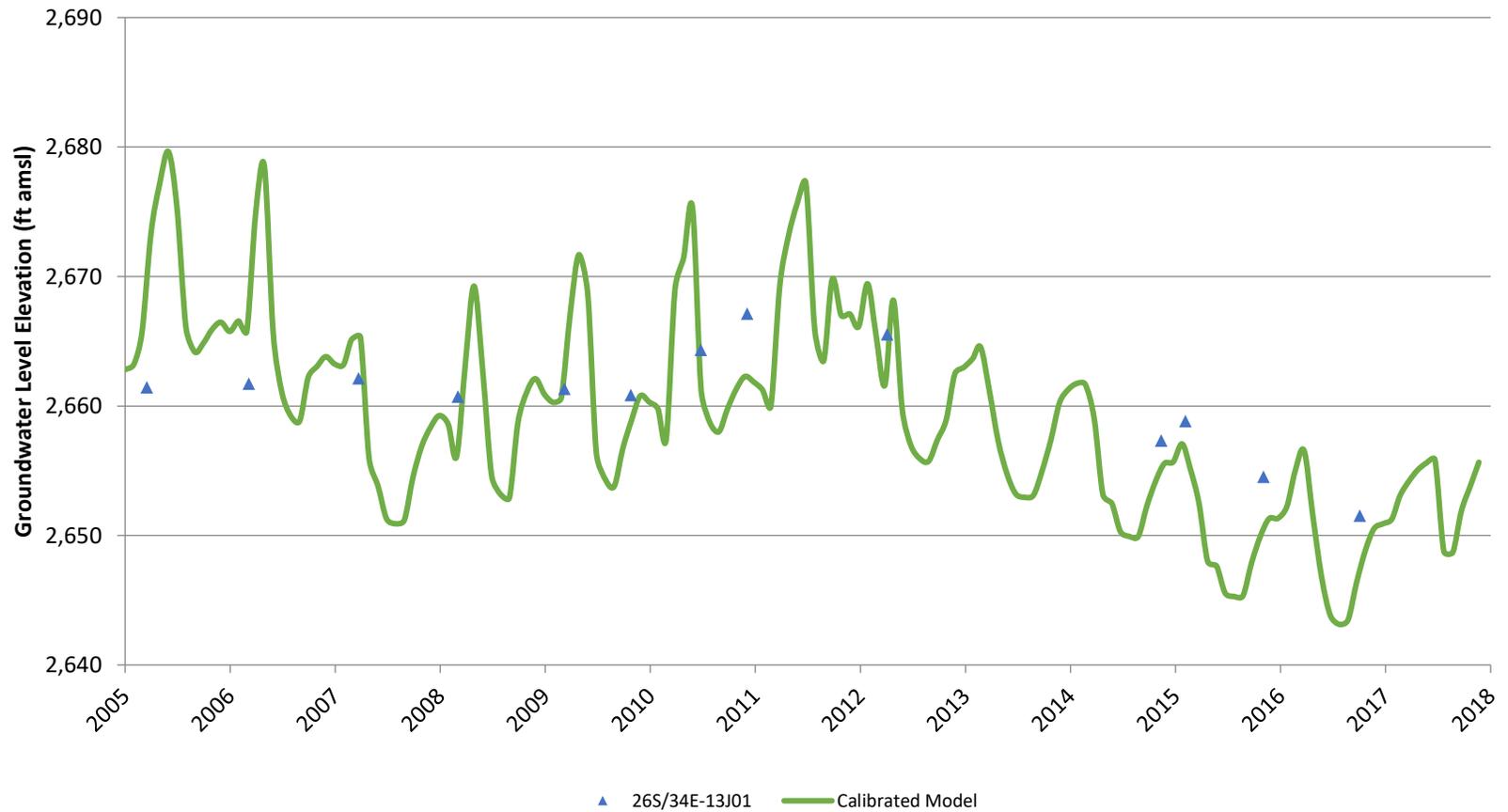
### Calibration Hydrographs

#### Gibboney-3 Piezo



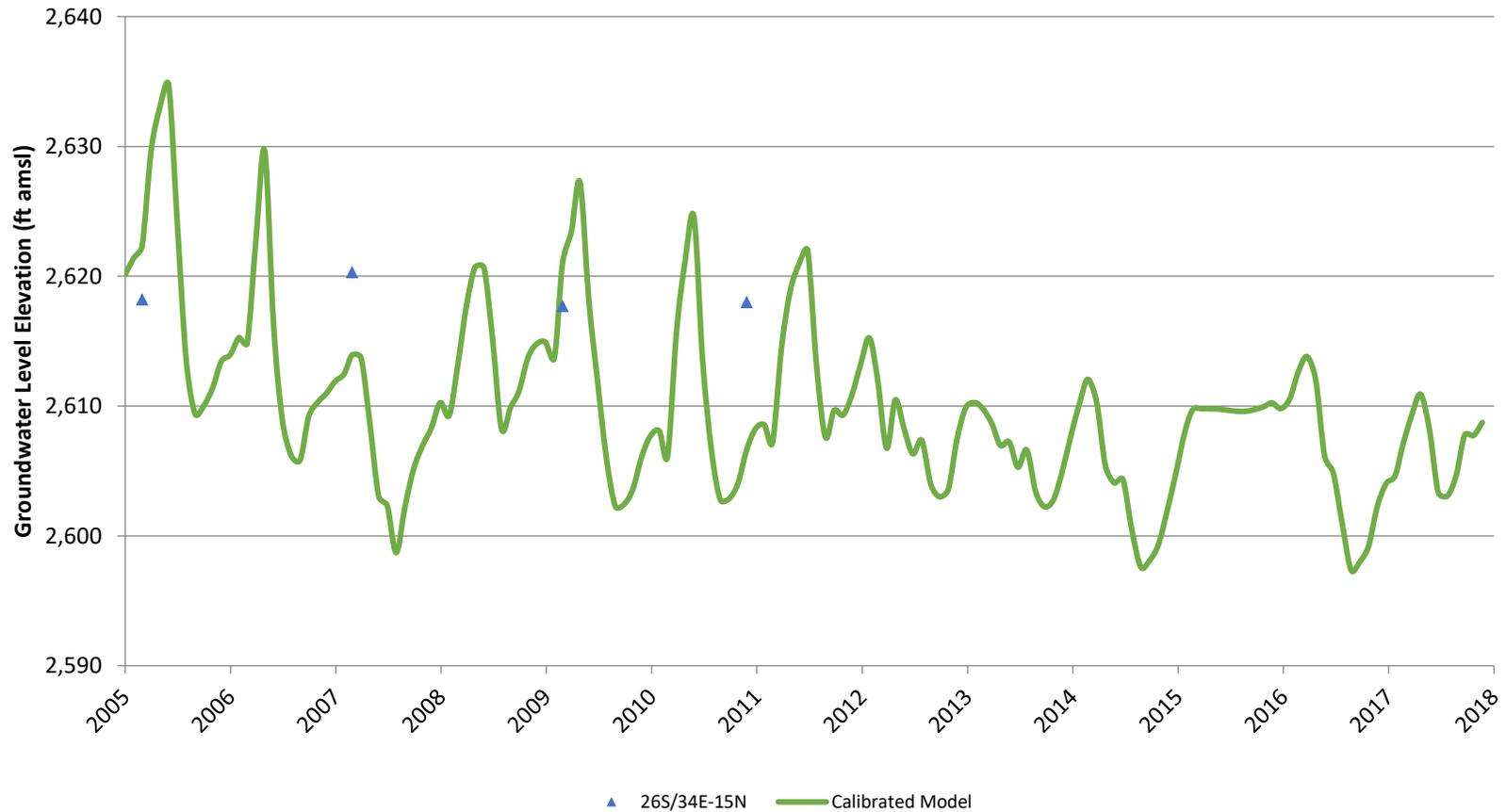
### Calibration Hydrographs

#### 26S/34E-13J01



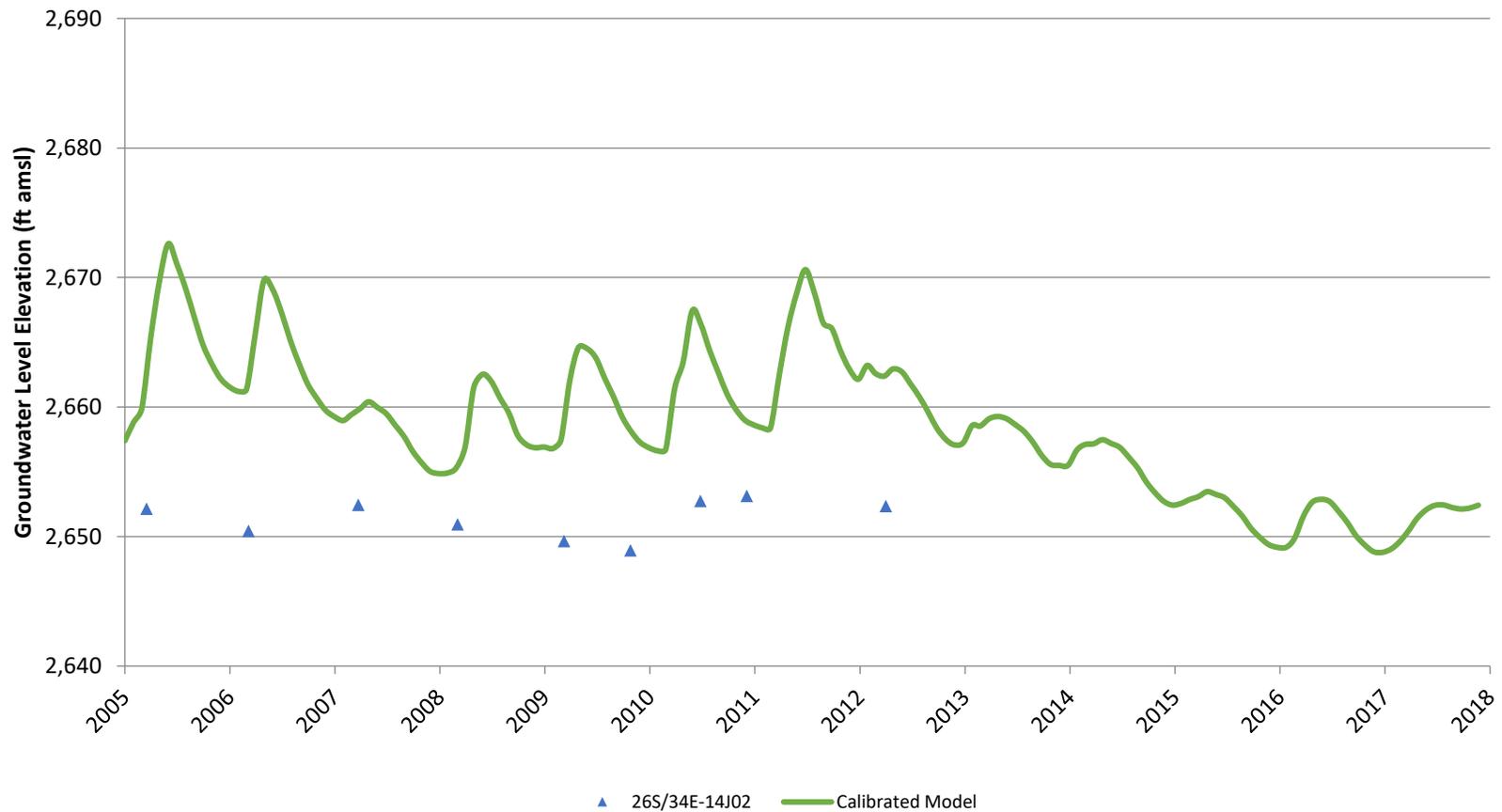
### Calibration Hydrographs

#### 26S/34E-15N



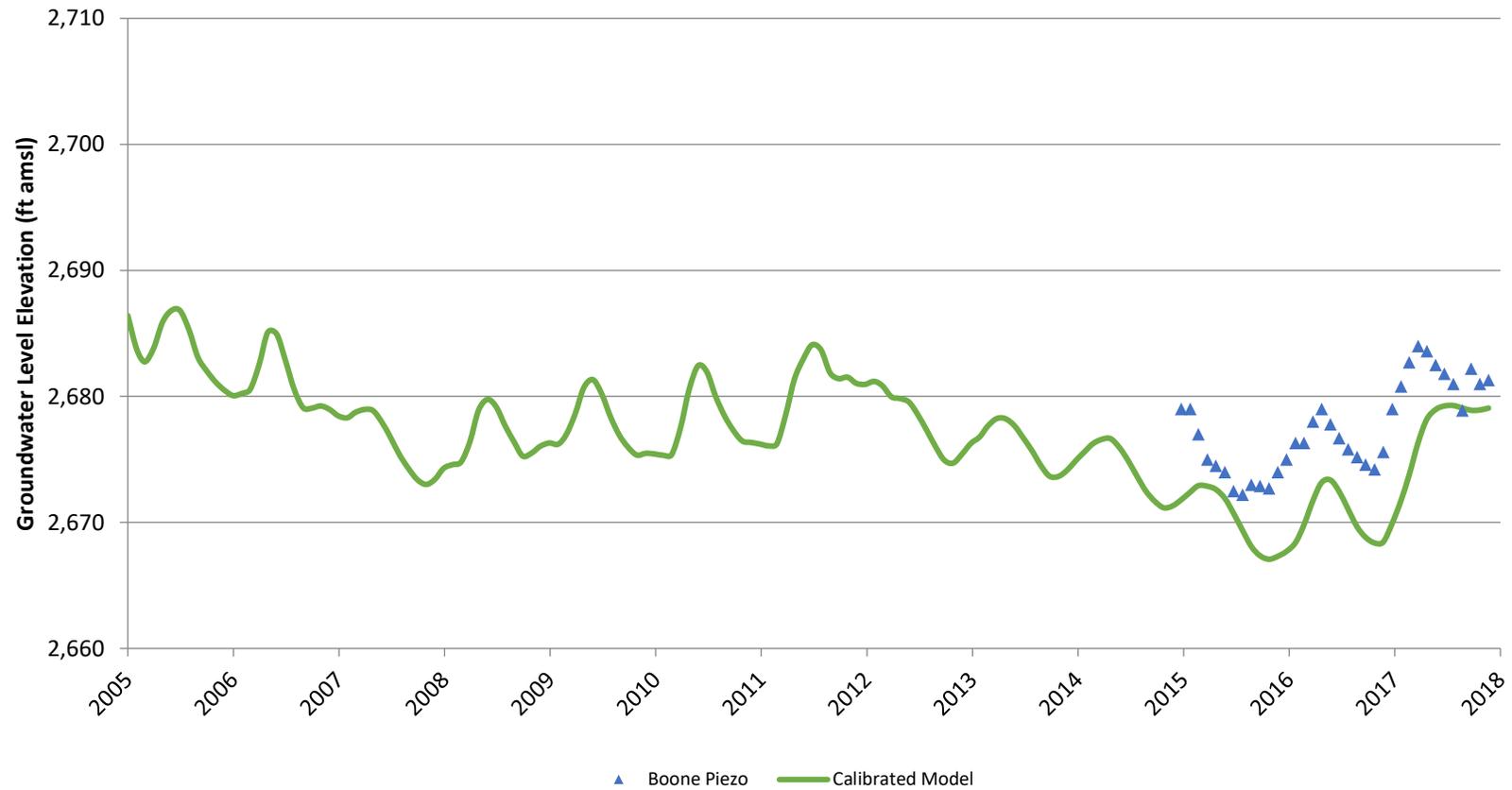
### Calibration Hydrographs

#### 26S/34E-14J02



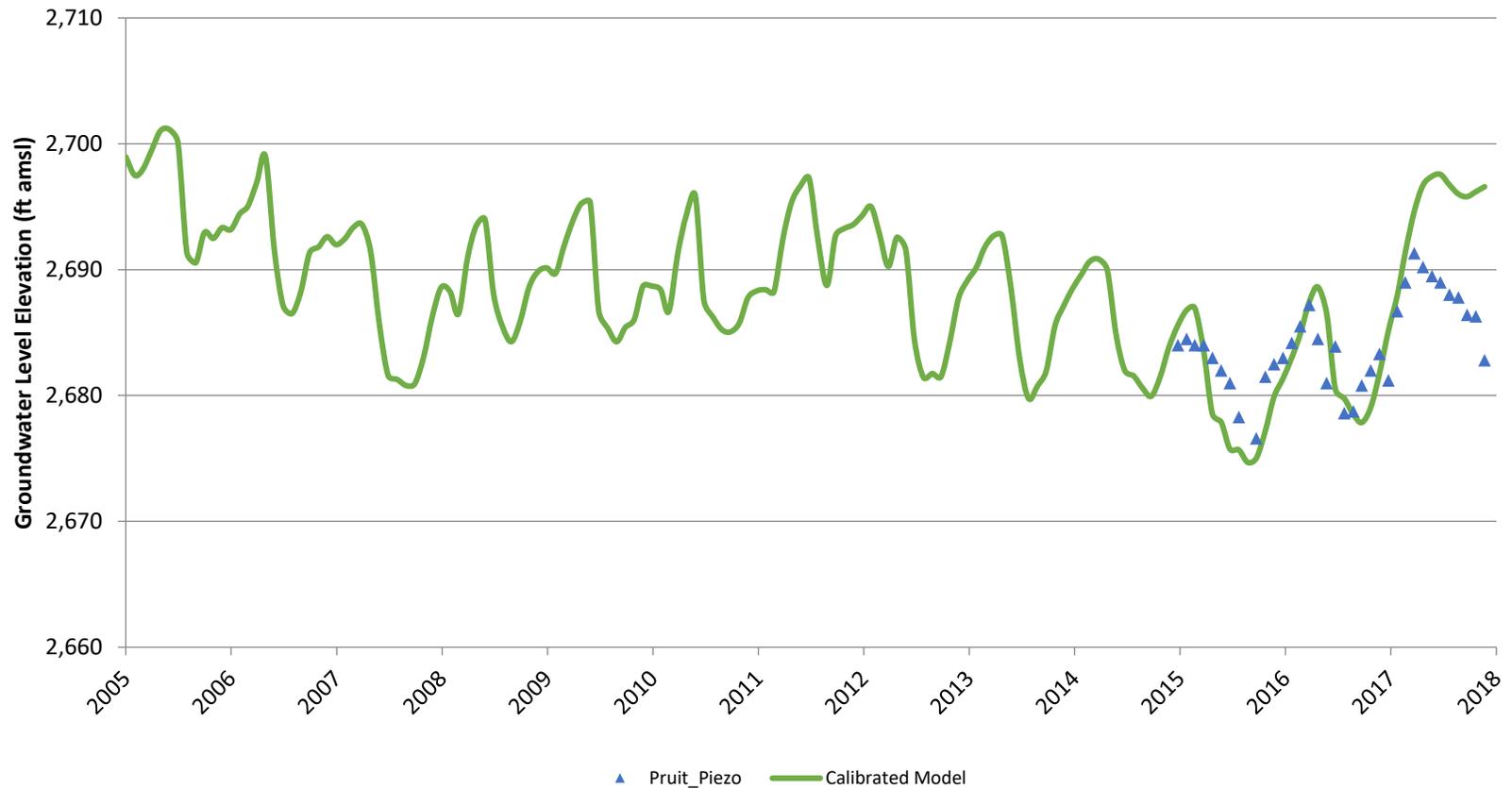
### Calibration Hydrographs

#### Boone Piezo



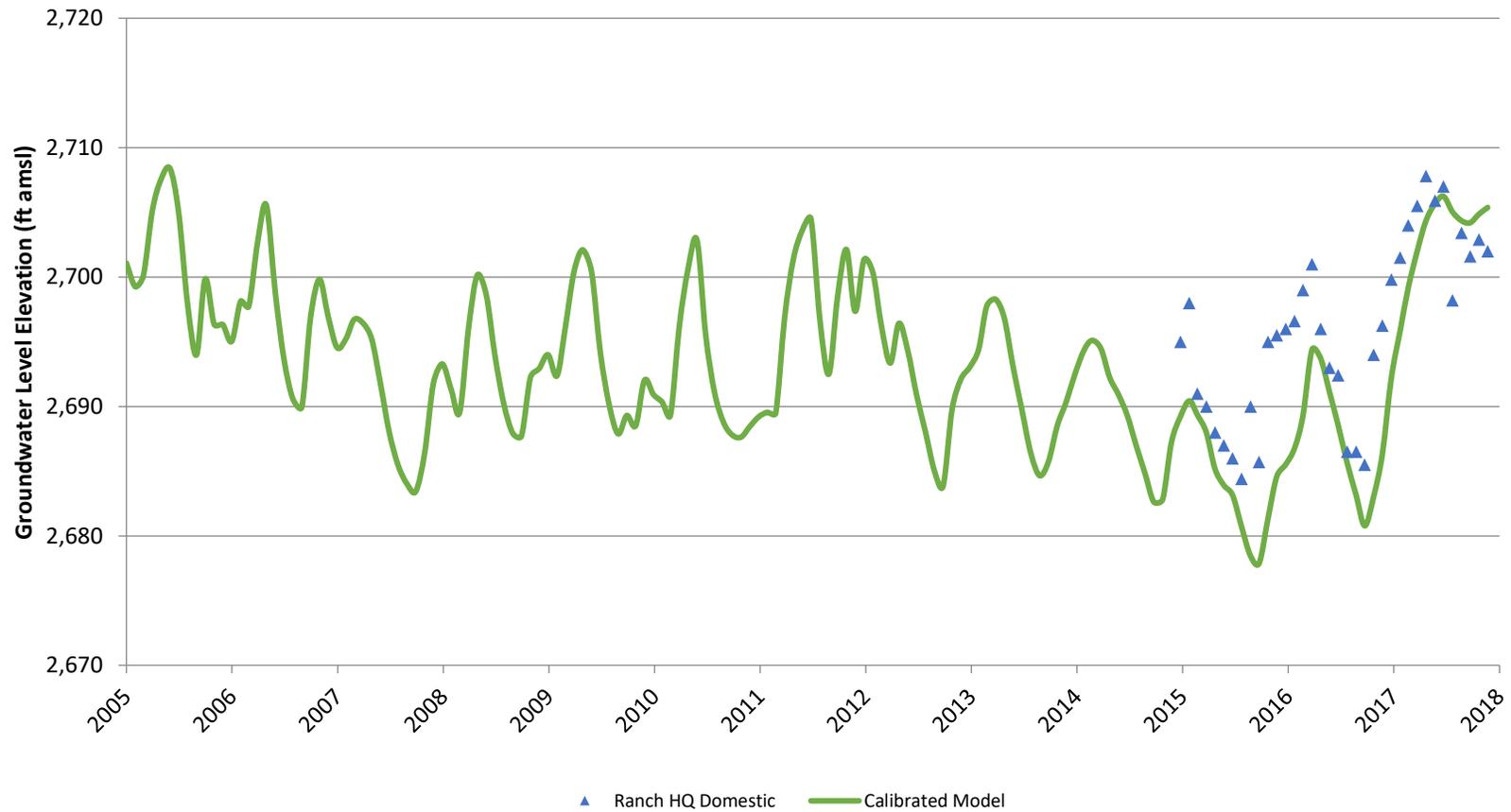
### Calibration Hydrographs

#### Pruitt Piezo



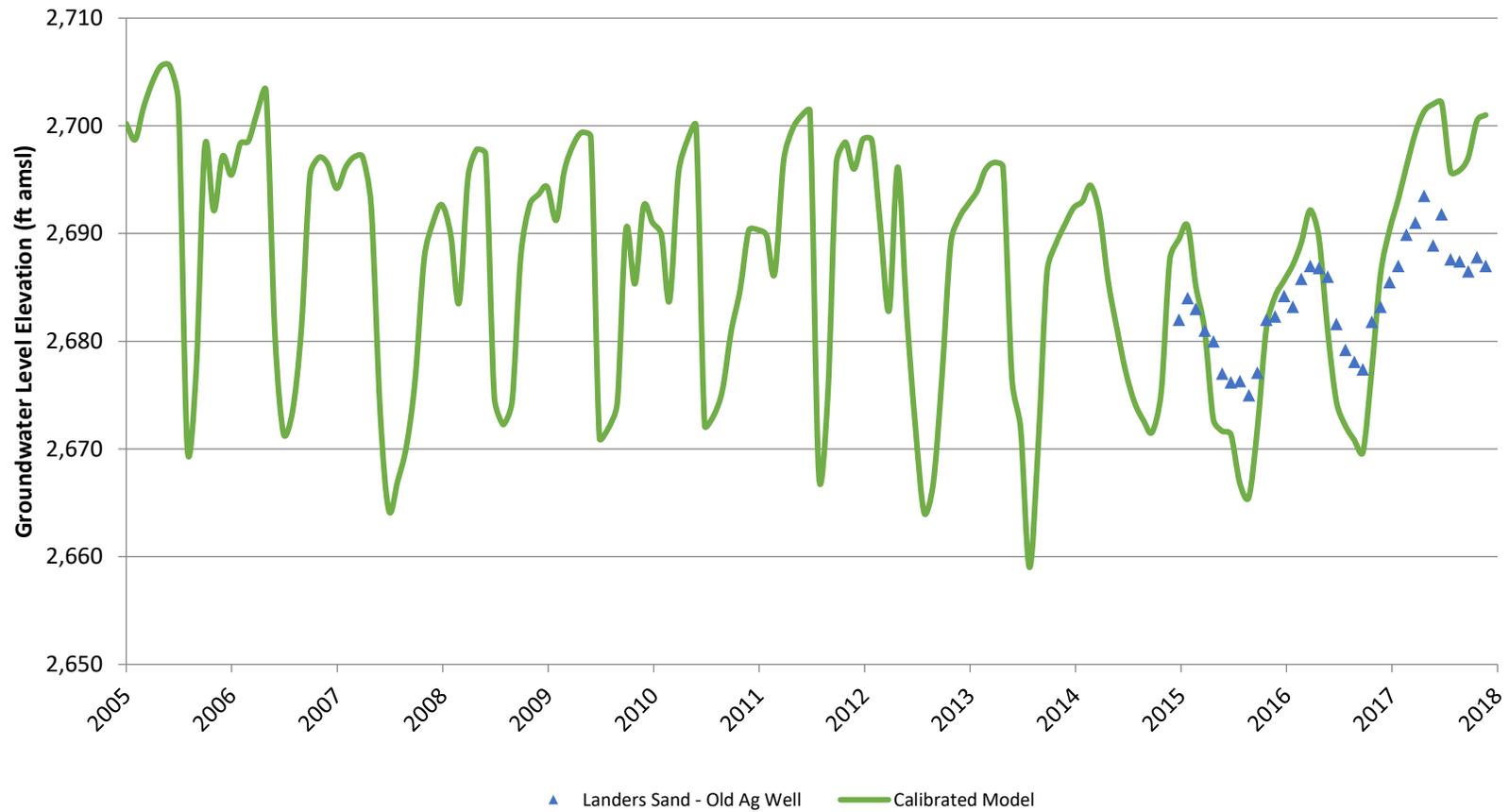
### Calibration Hydrographs

### Ranch HQ - Domestic



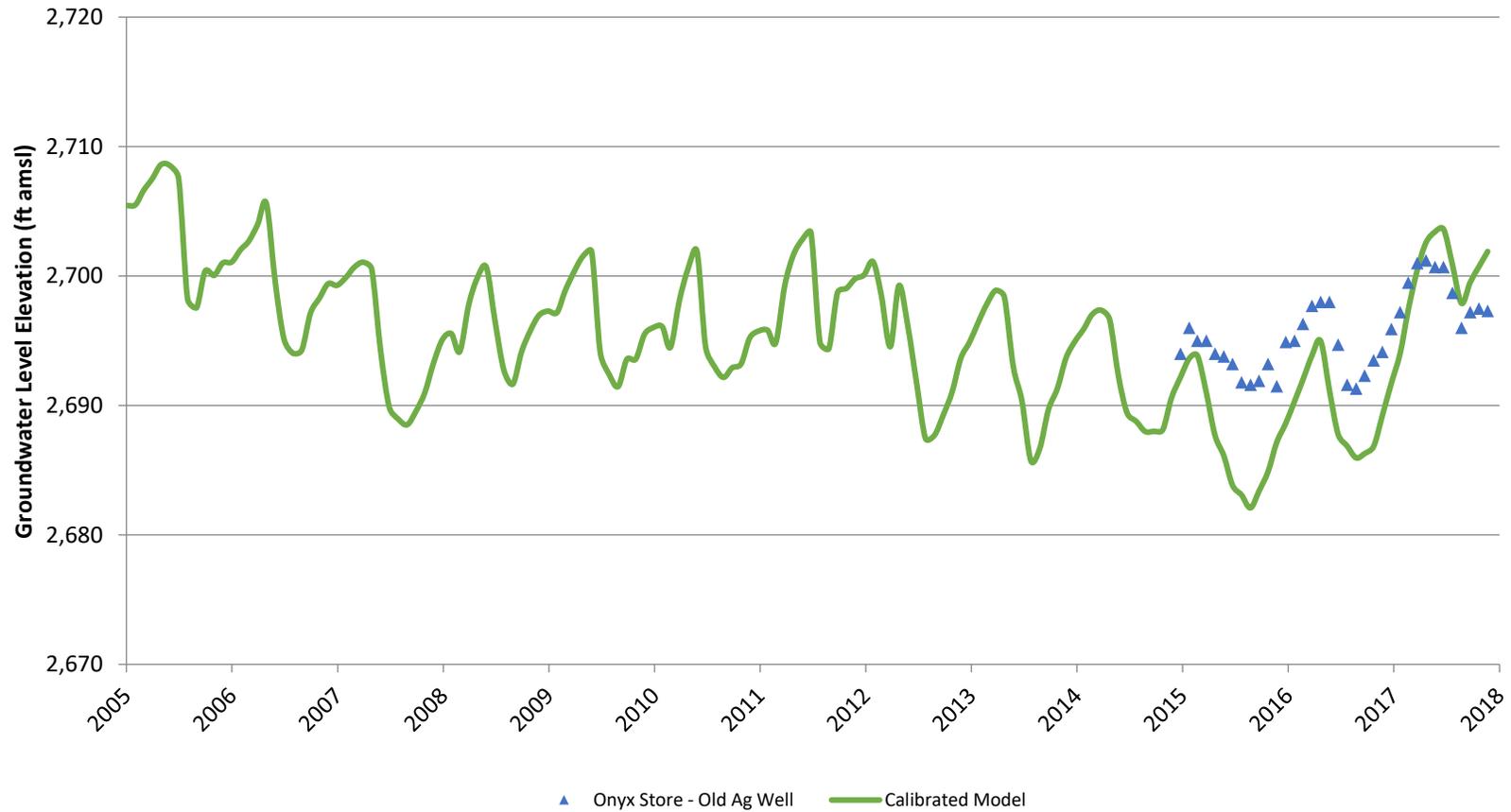
### Calibration Hydrographs

#### Landers Sand - Old Ag Well



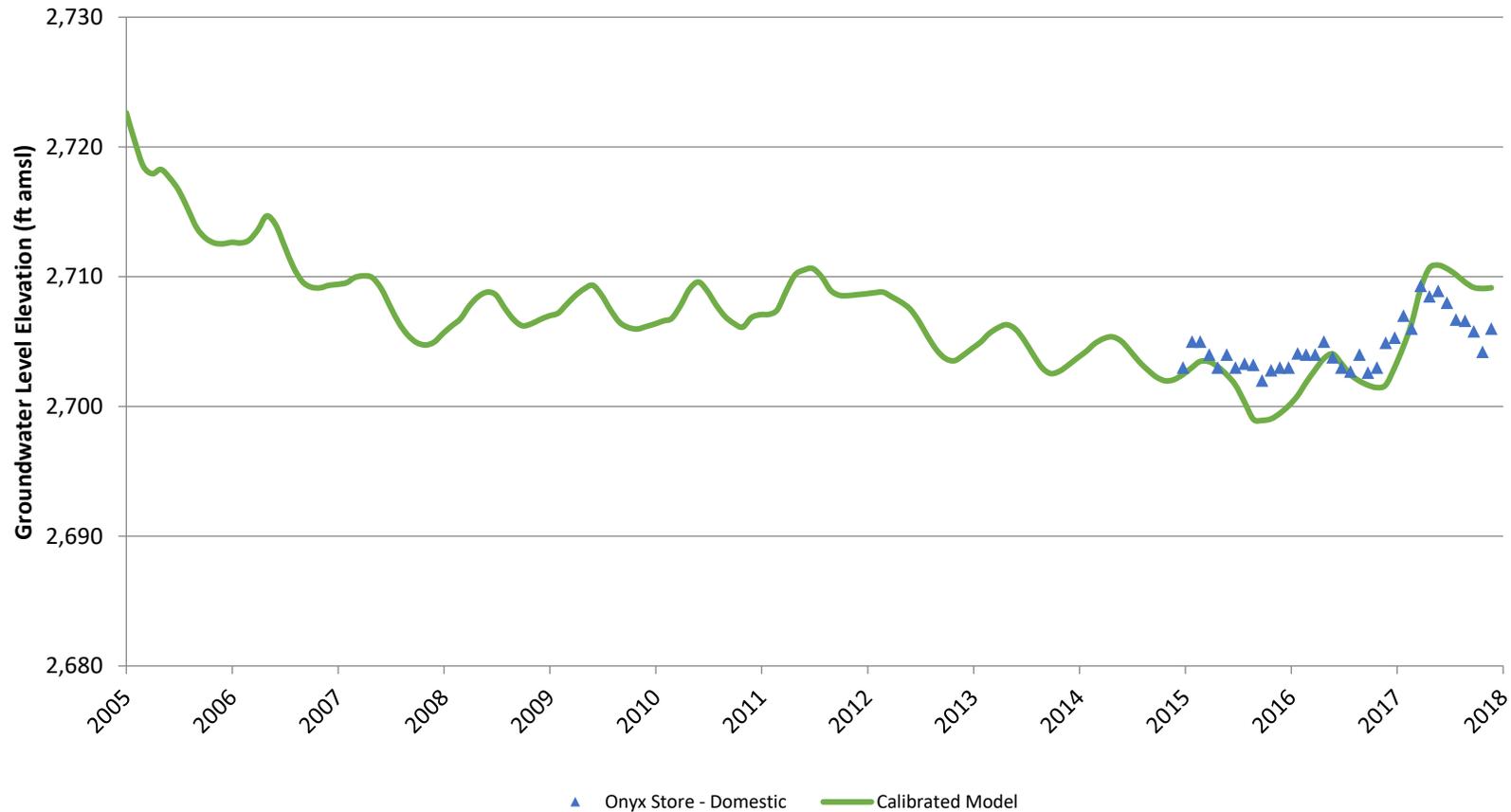
### Calibration Hydrographs

#### Onyx Store - Old Ag Well



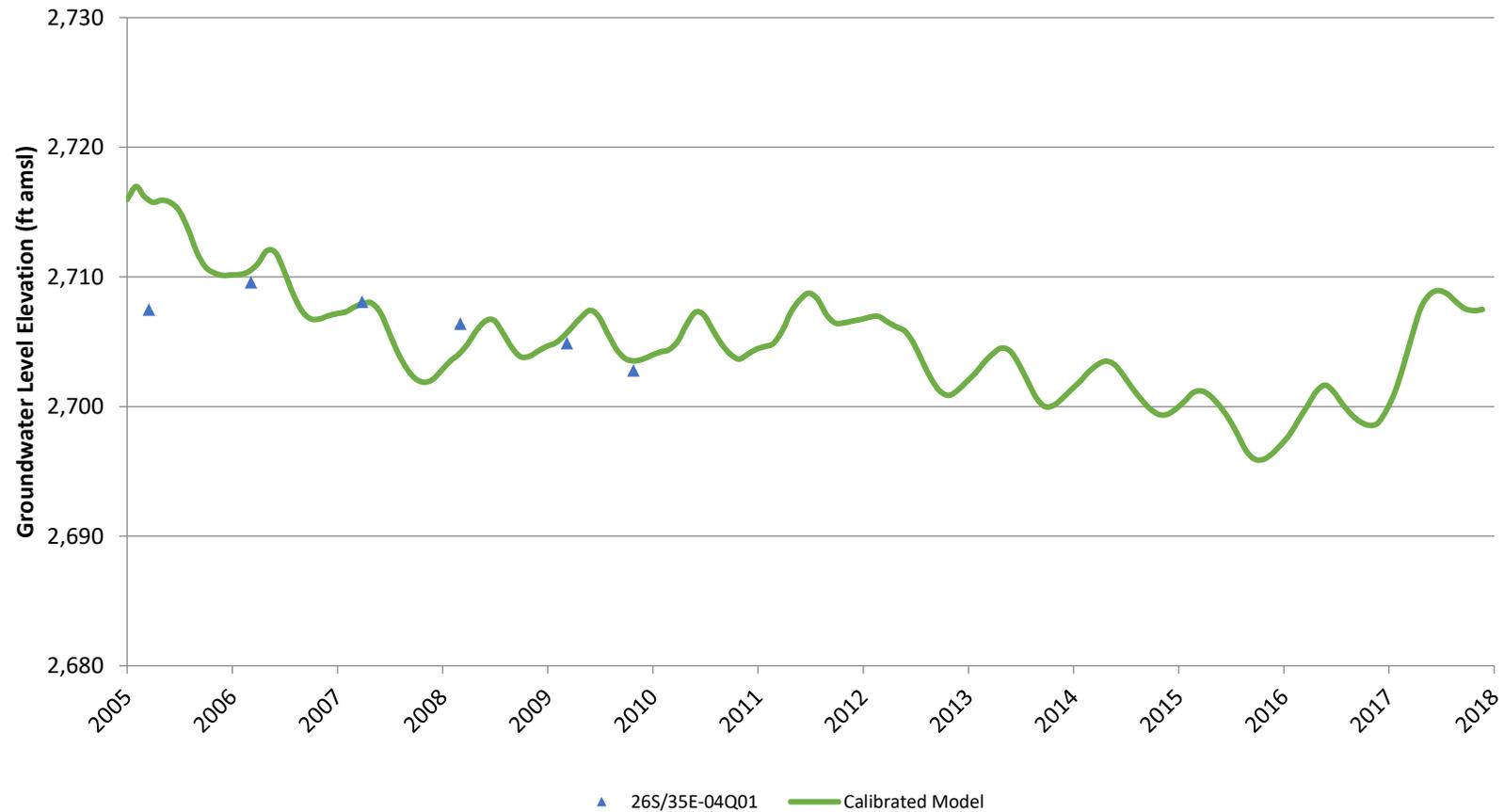
### Calibration Hydrographs

### Onyx Store - Domestic



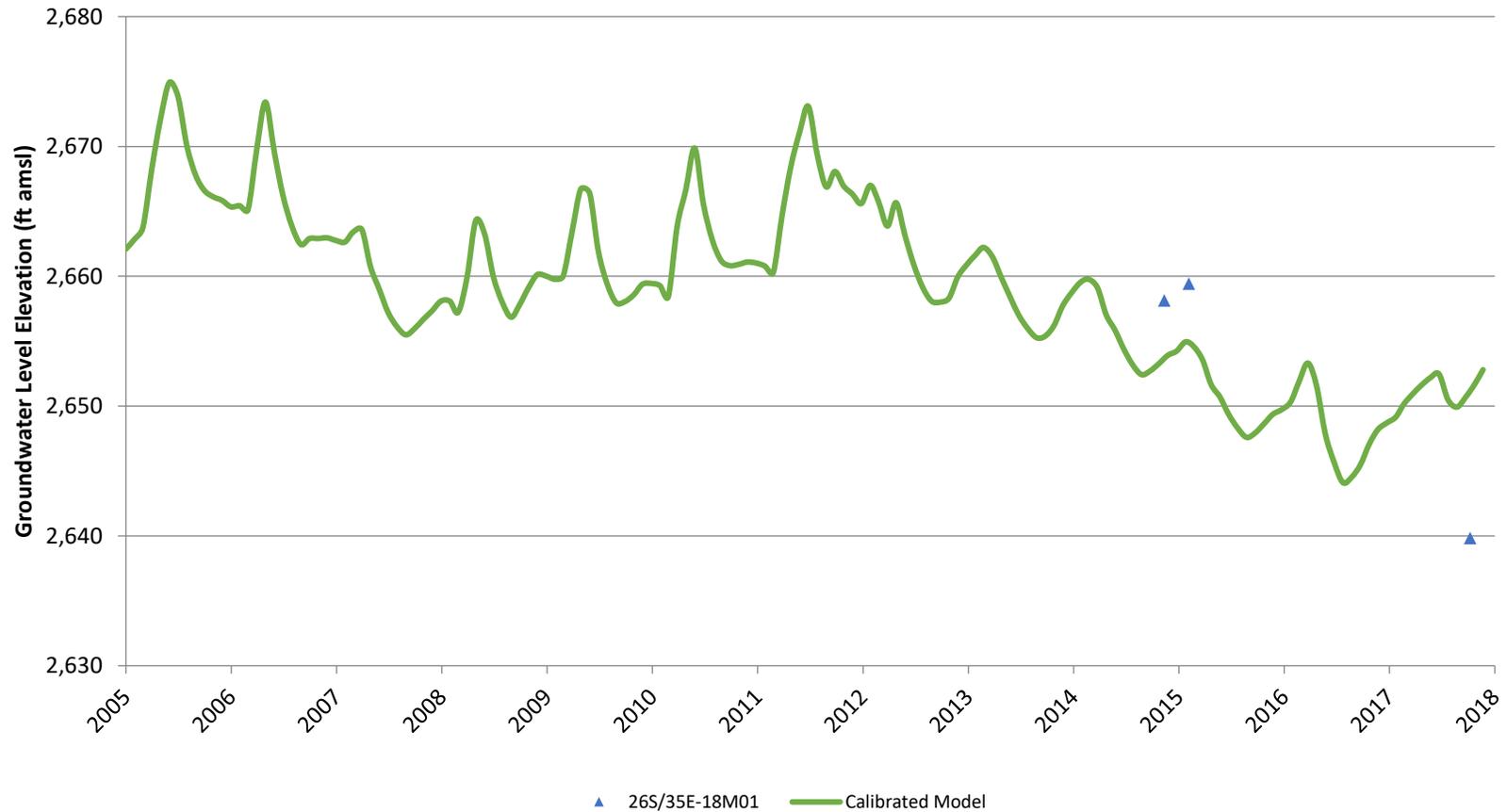
### Calibration Hydrographs

#### 26S/35E-04Q01



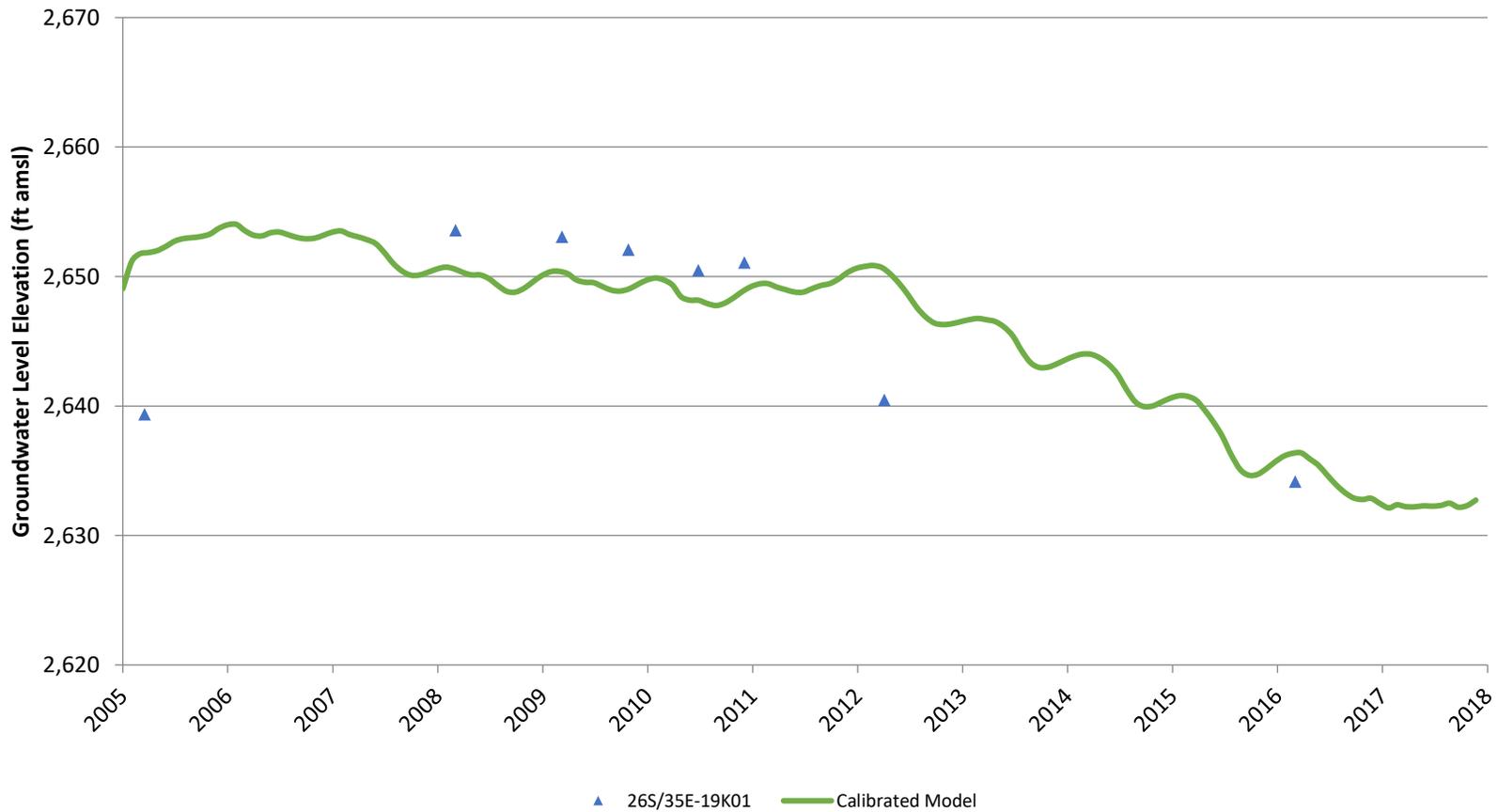
### Calibration Hydrographs

#### 26S/35E-18M01



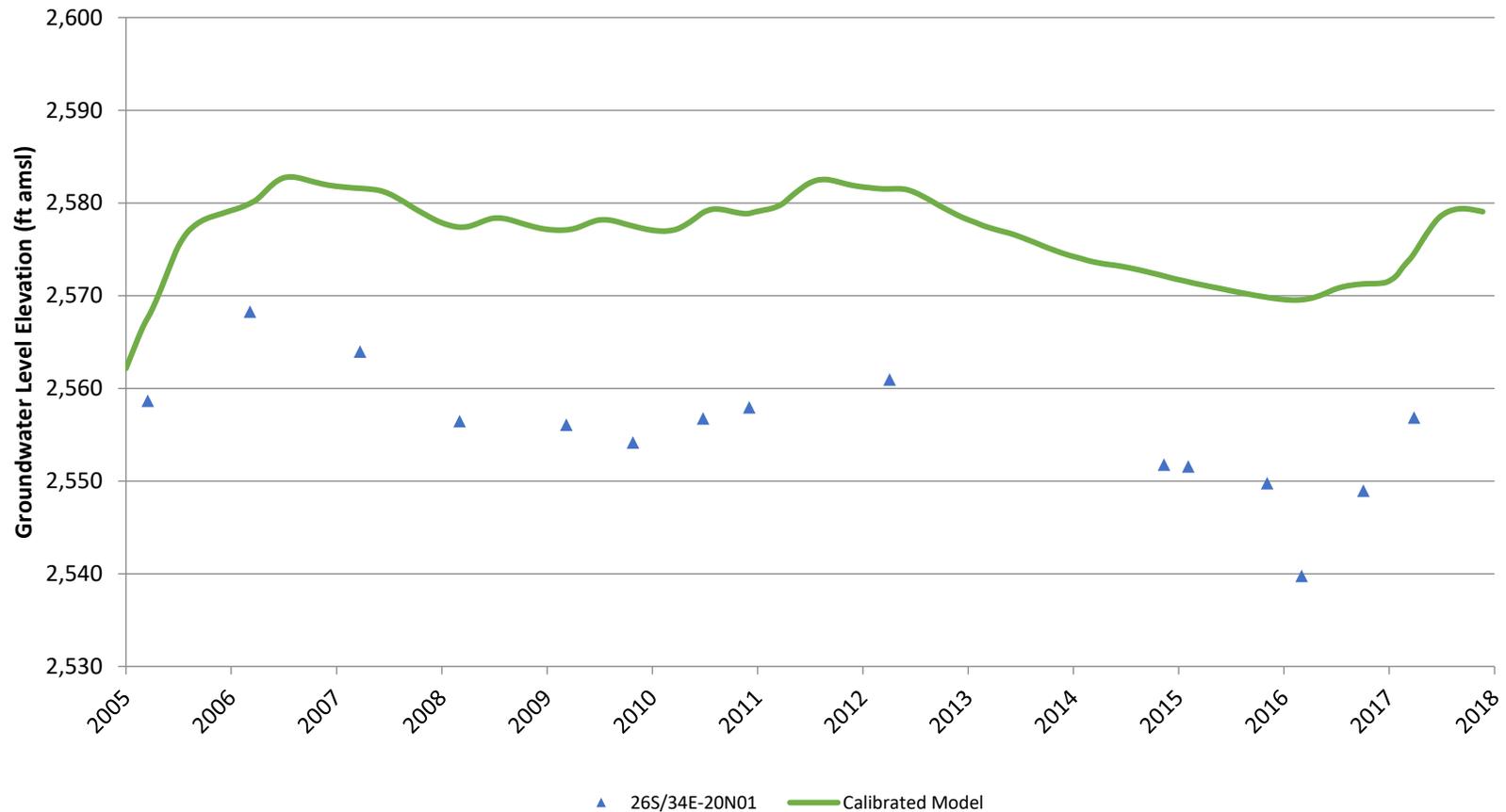
### Calibration Hydrographs

#### 26S/35E-19K01



### Calibration Hydrographs

#### 26S/34E-20N01



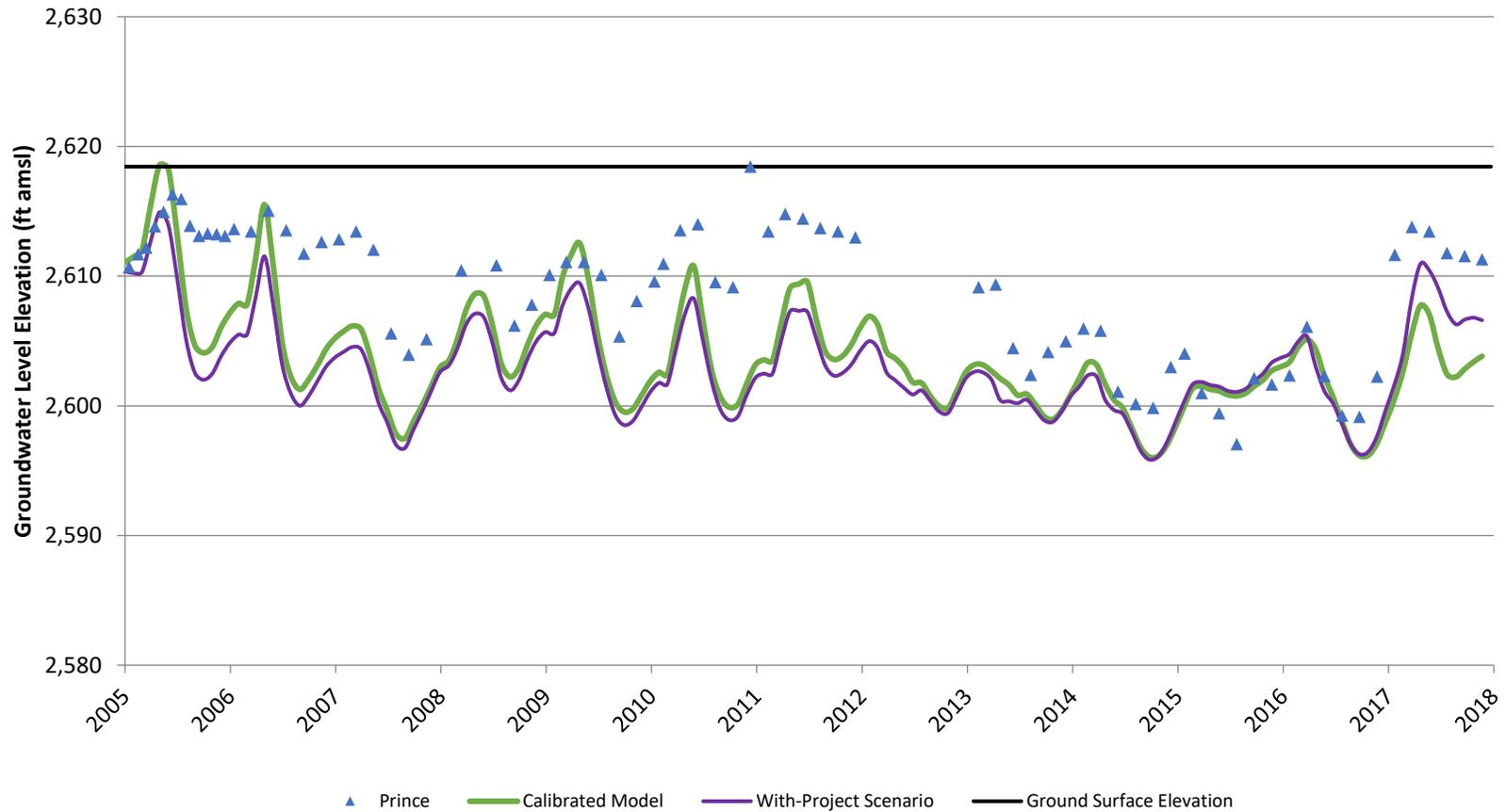
# Appendix B

## Calibration and Project Scenario Hydrographs



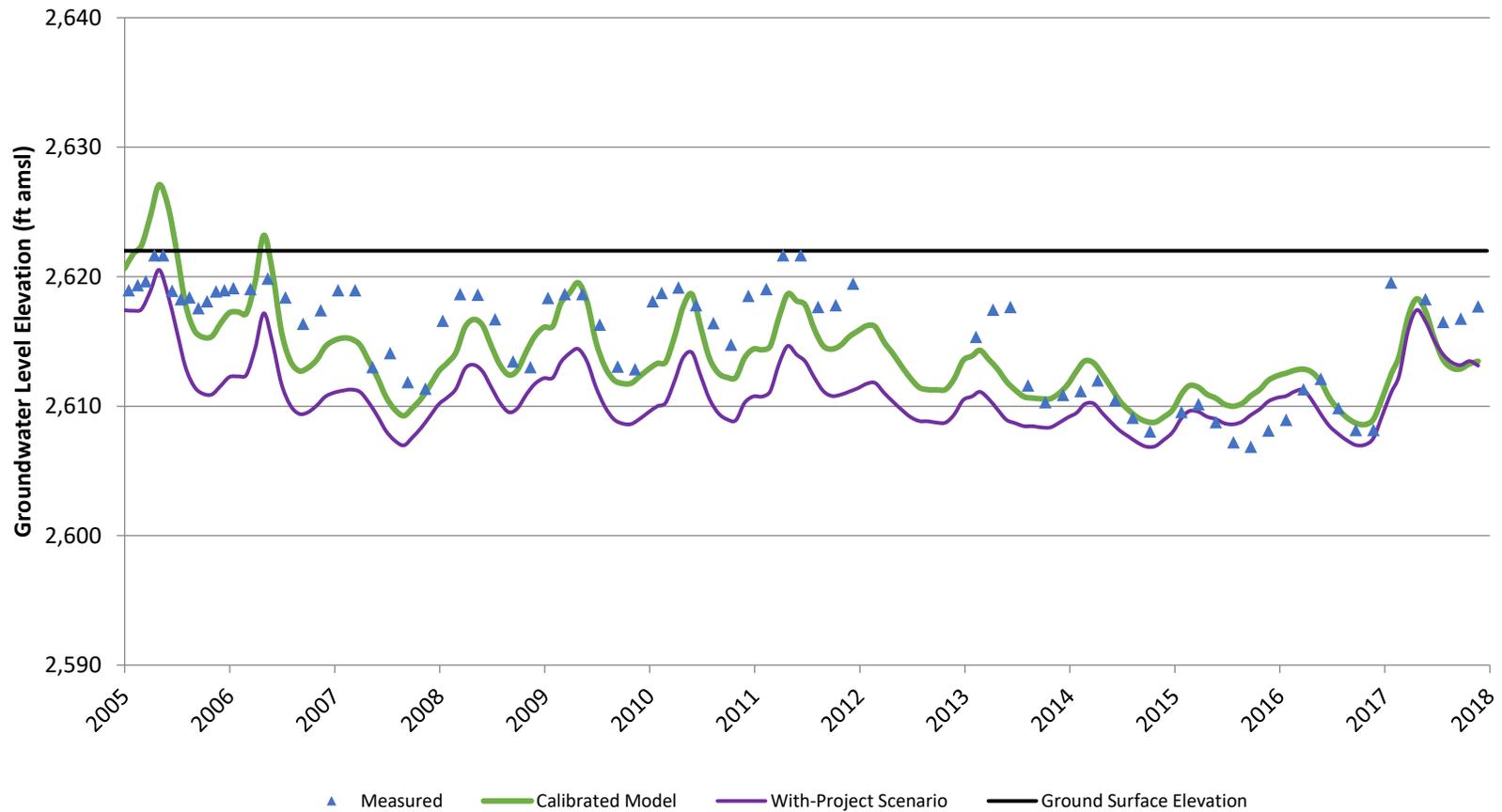
### Calibration vs. Scenario Hydrographs

#### Prince



### Calibration vs. Scenario Hydrographs

#### Hyd-1



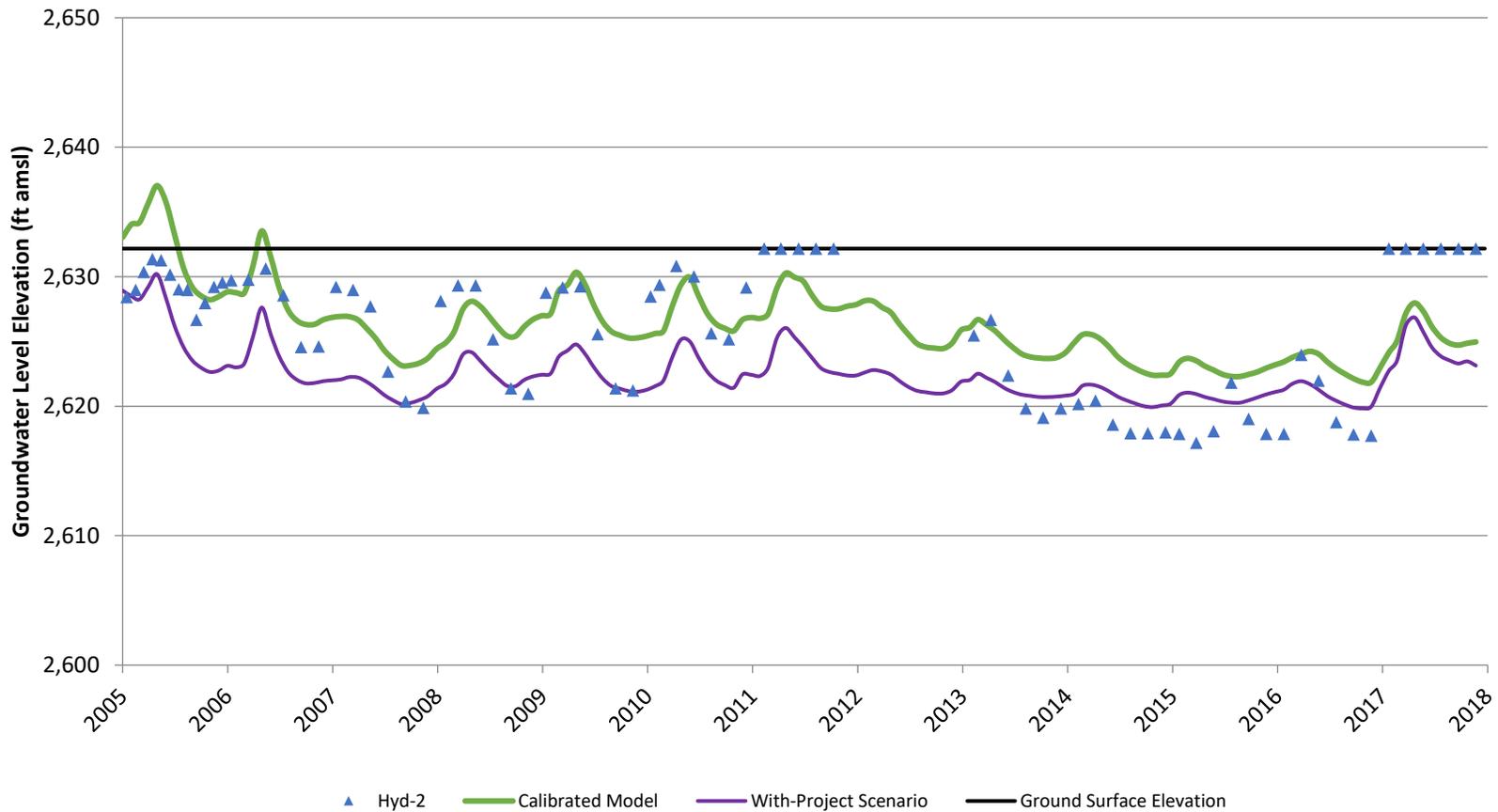
# Appendix B

## Calibration and Project Scenario Hydrographs

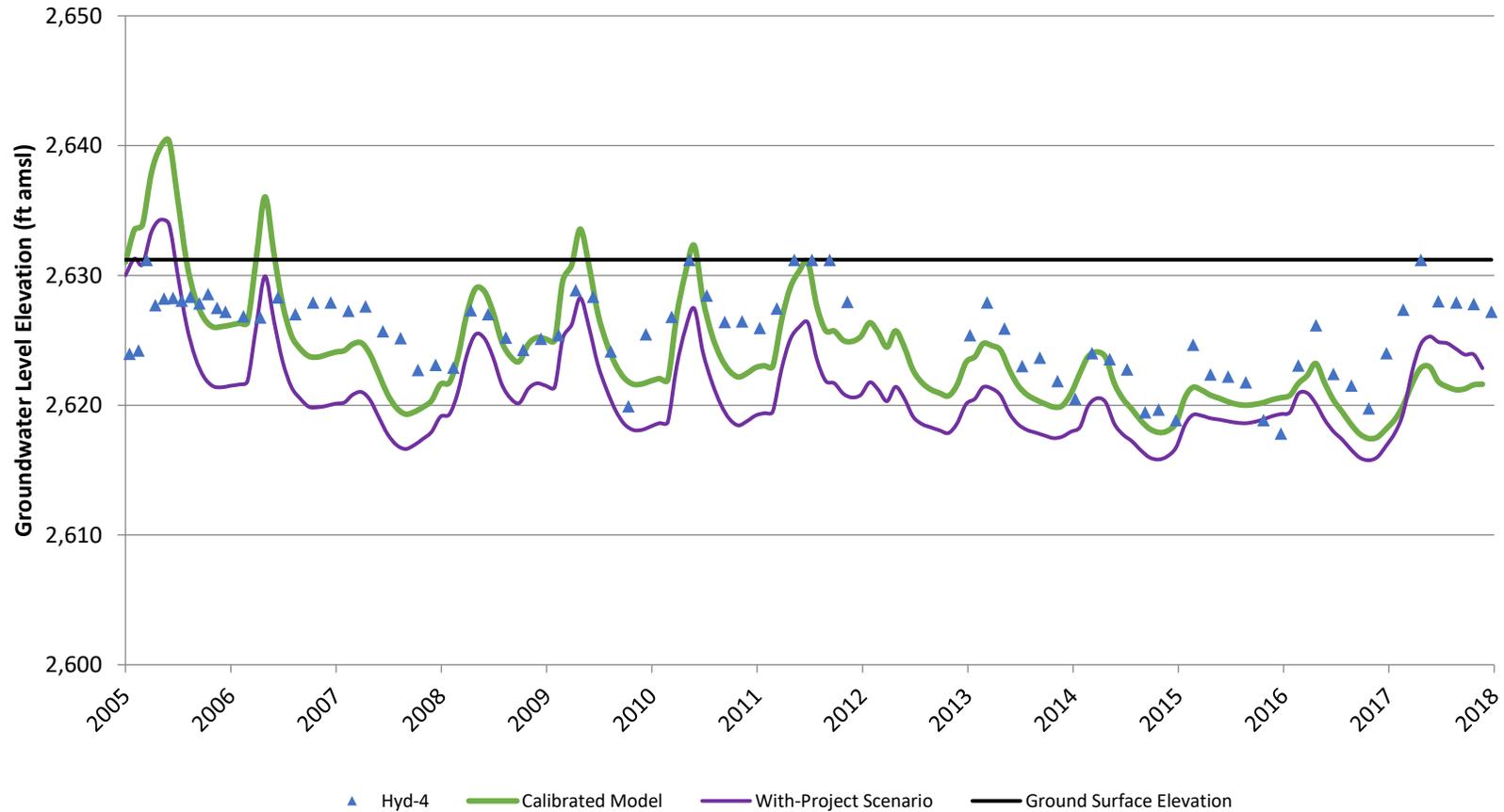


### Calibration vs. Scenario Hydrographs

#### Hyd-2

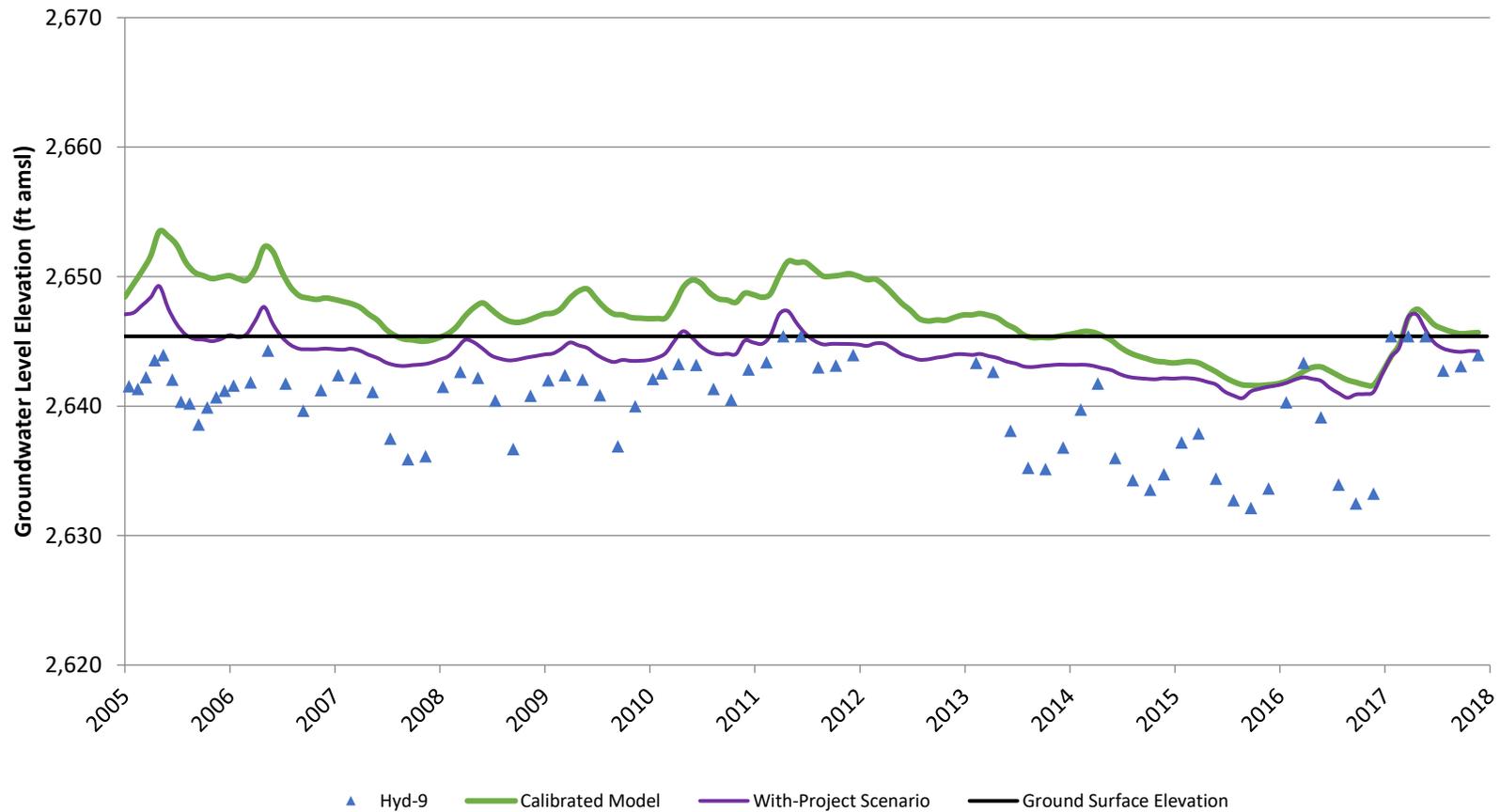


### Calibration vs. Scenario Hydrographs Hyd-4



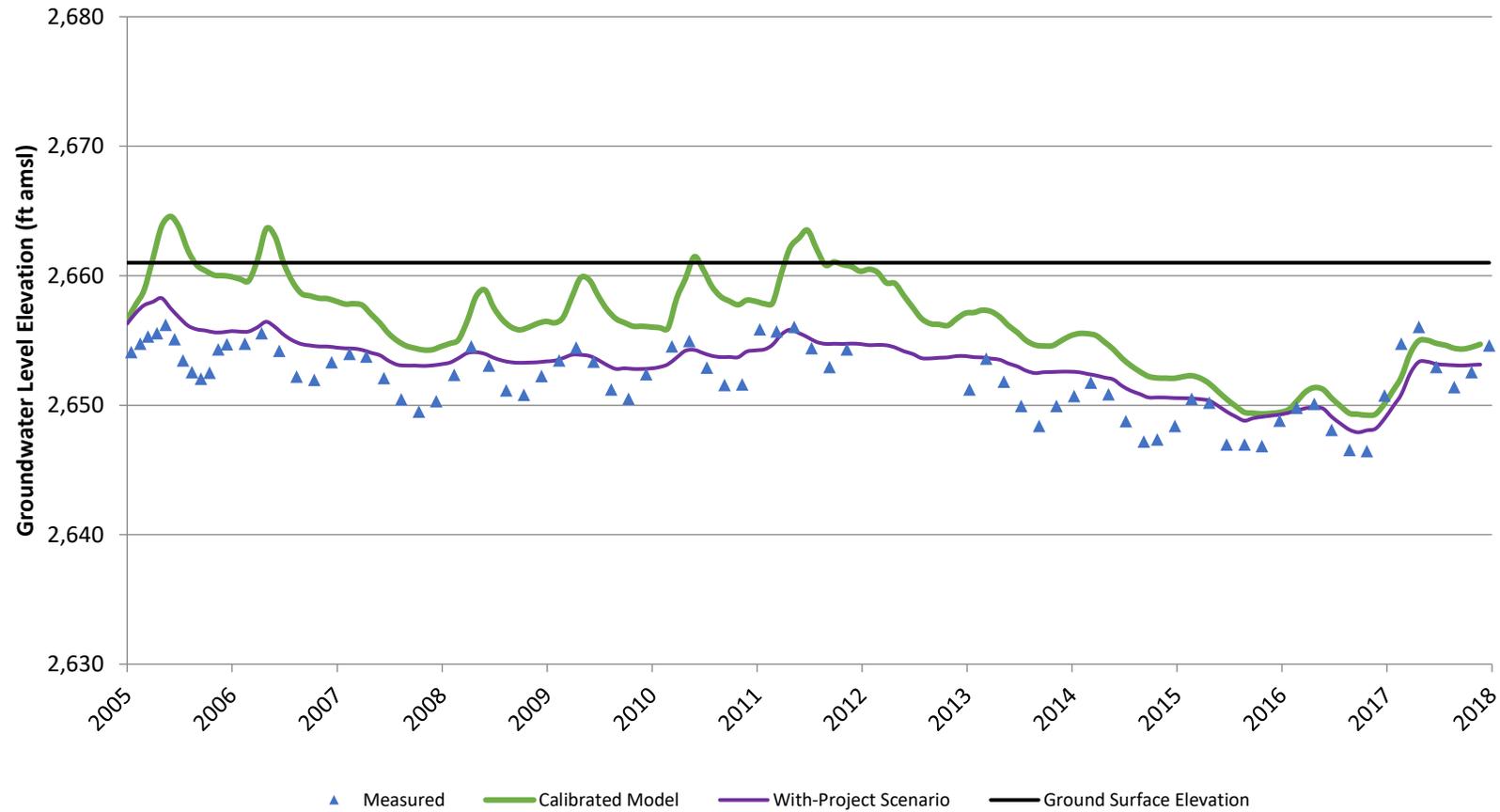
### Calibration vs. Scenario Hydrographs

#### Hyd-9



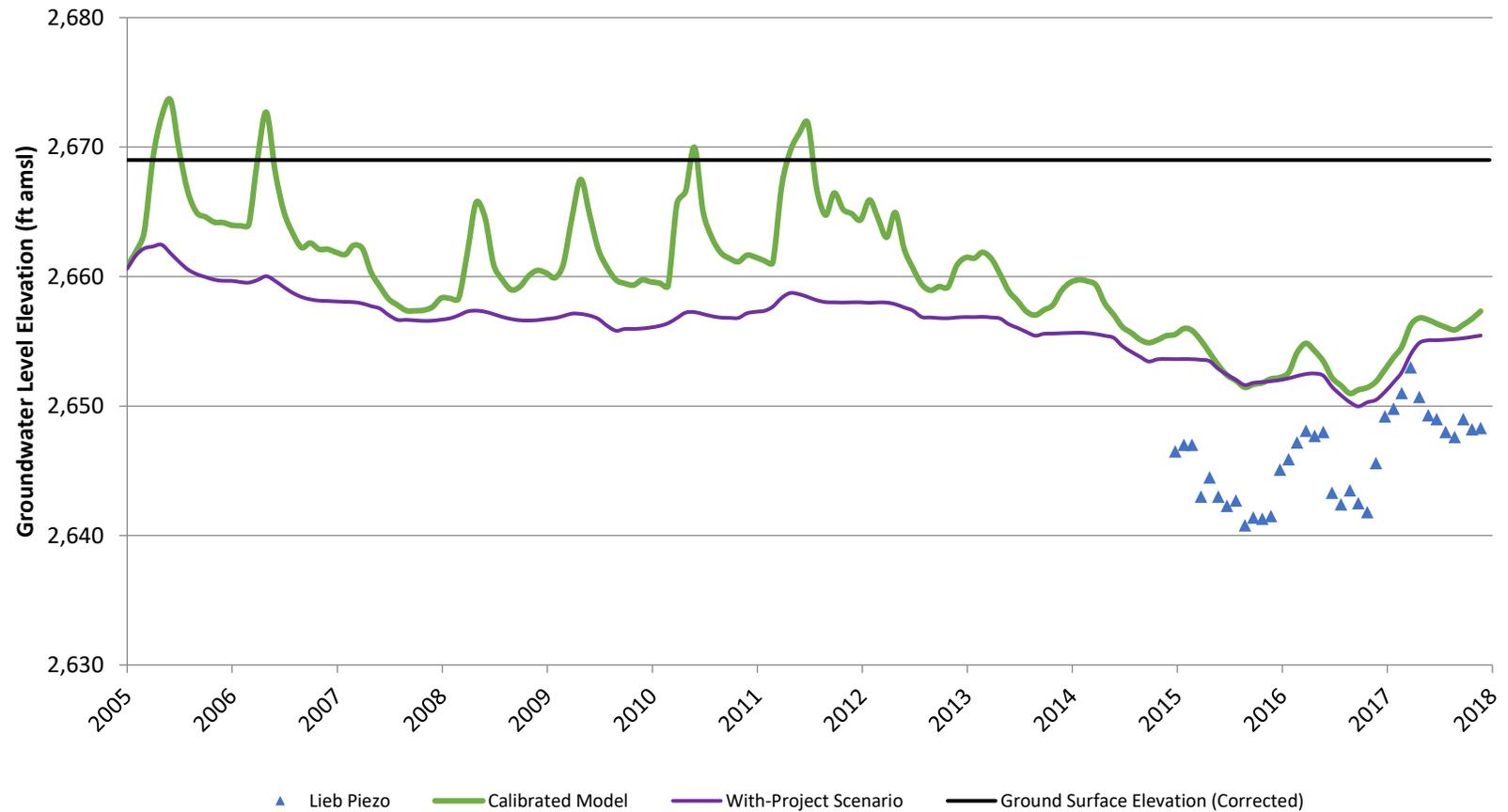
### Calibration vs. Scenario Hydrographs

#### Hyd-11



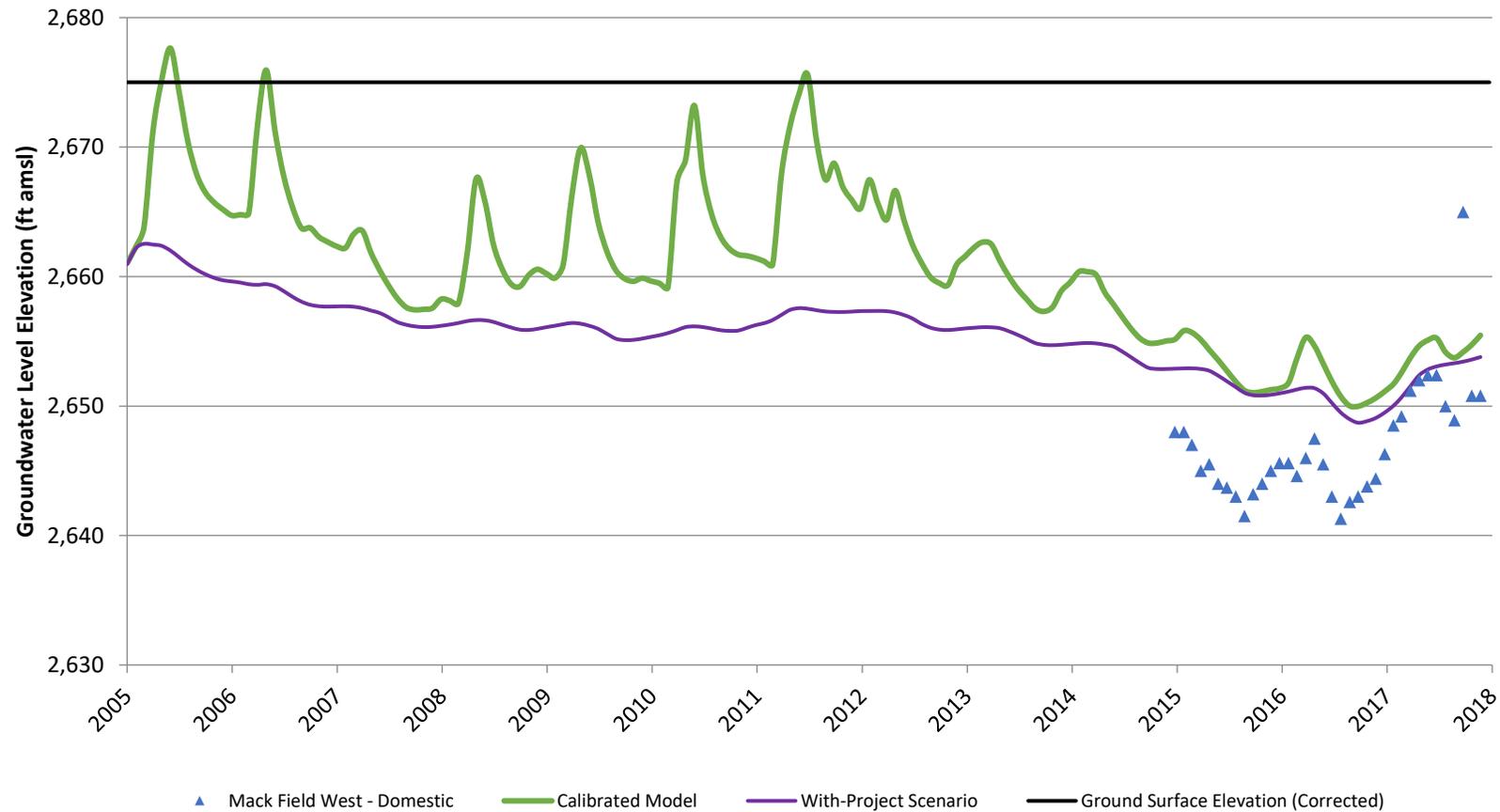
### Calibration vs. Scenario Hydrographs

#### Lieb Piezo



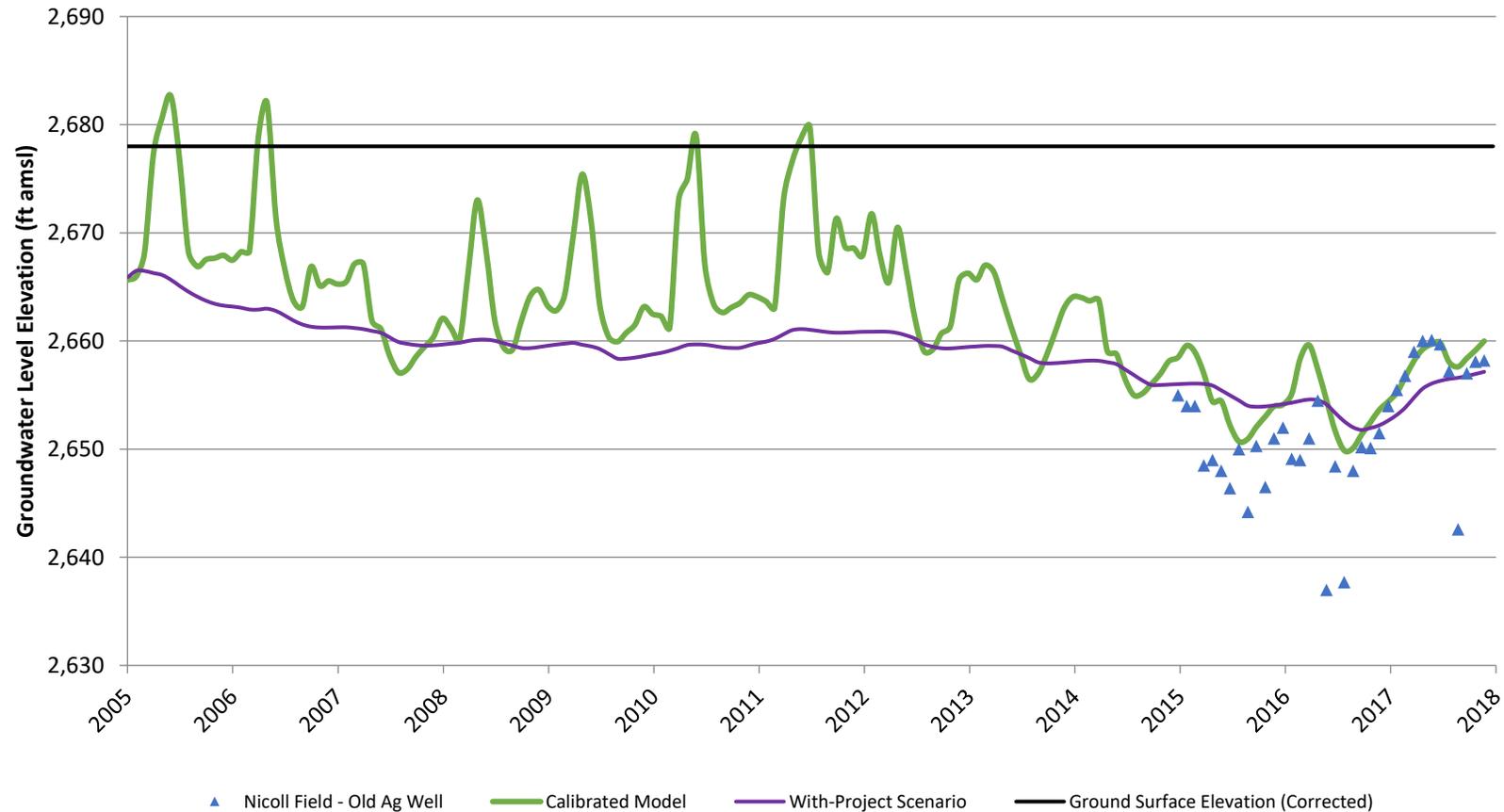
### Calibration vs. Scenario Hydrographs

#### Mack Field West - Domestic



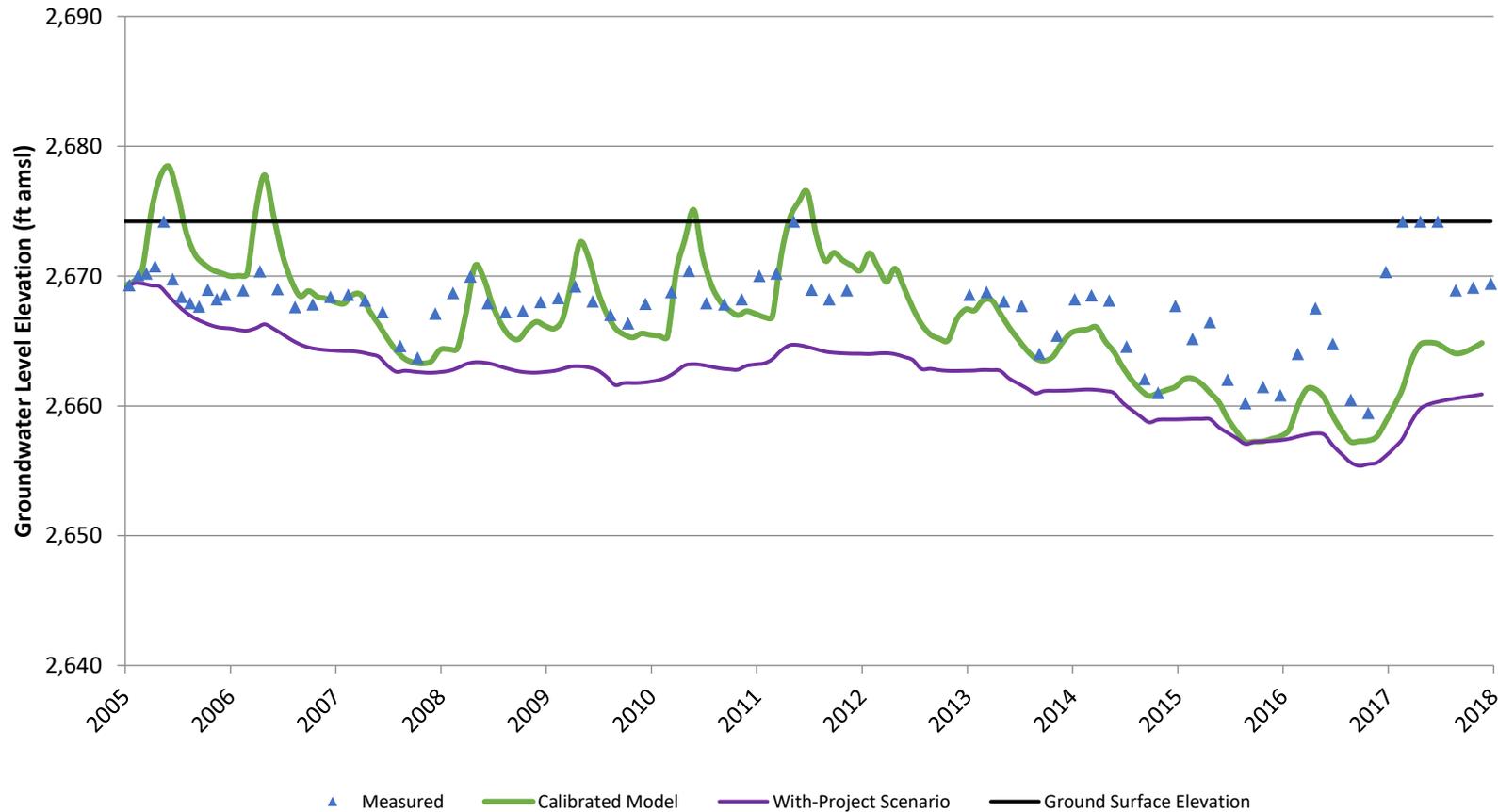
### Calibration vs. Scenario Hydrographs

#### Nicoll Field - Old Ag Well



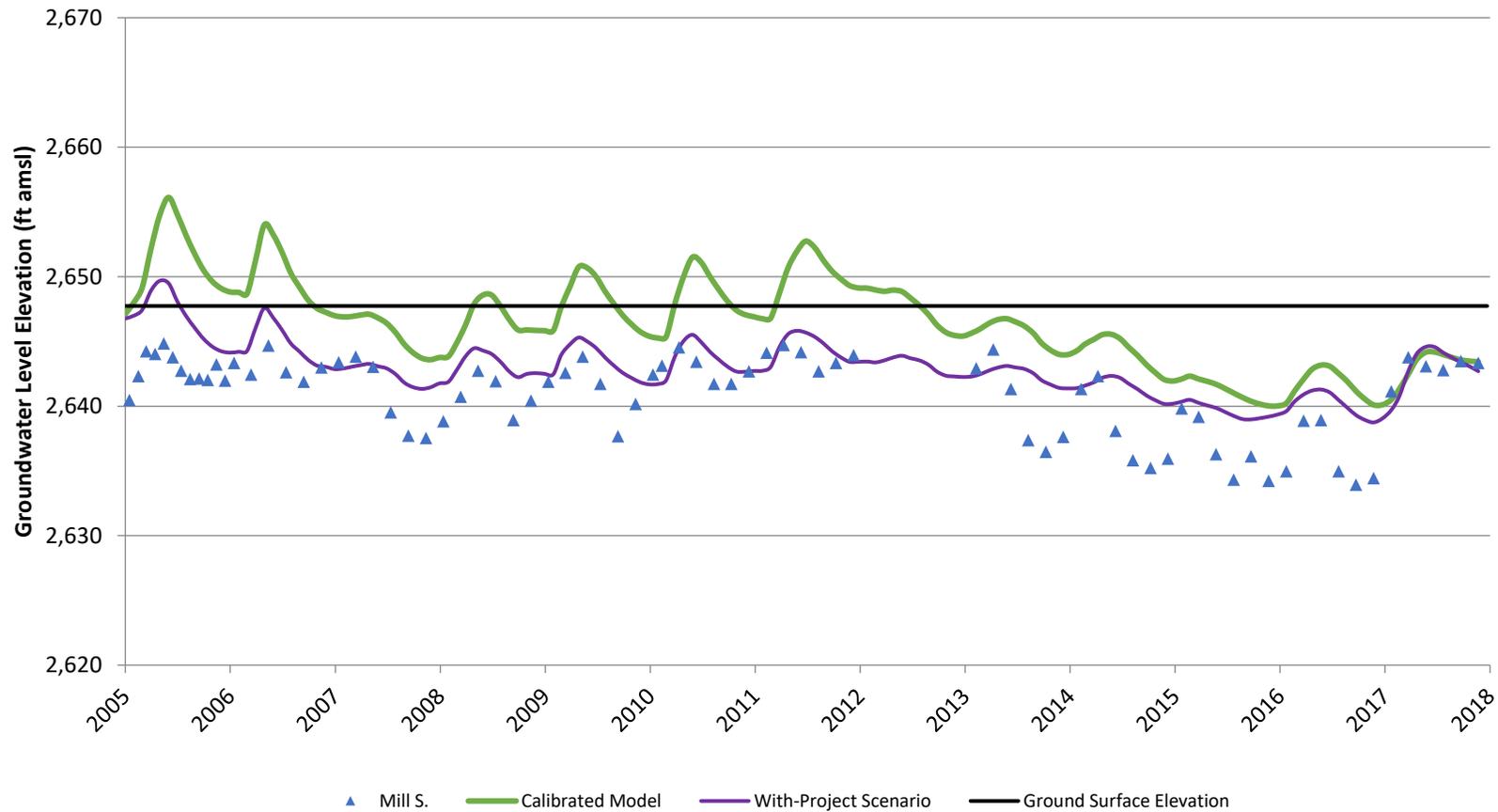
### Calibration vs. Scenario Hydrographs

#### Hyd-13



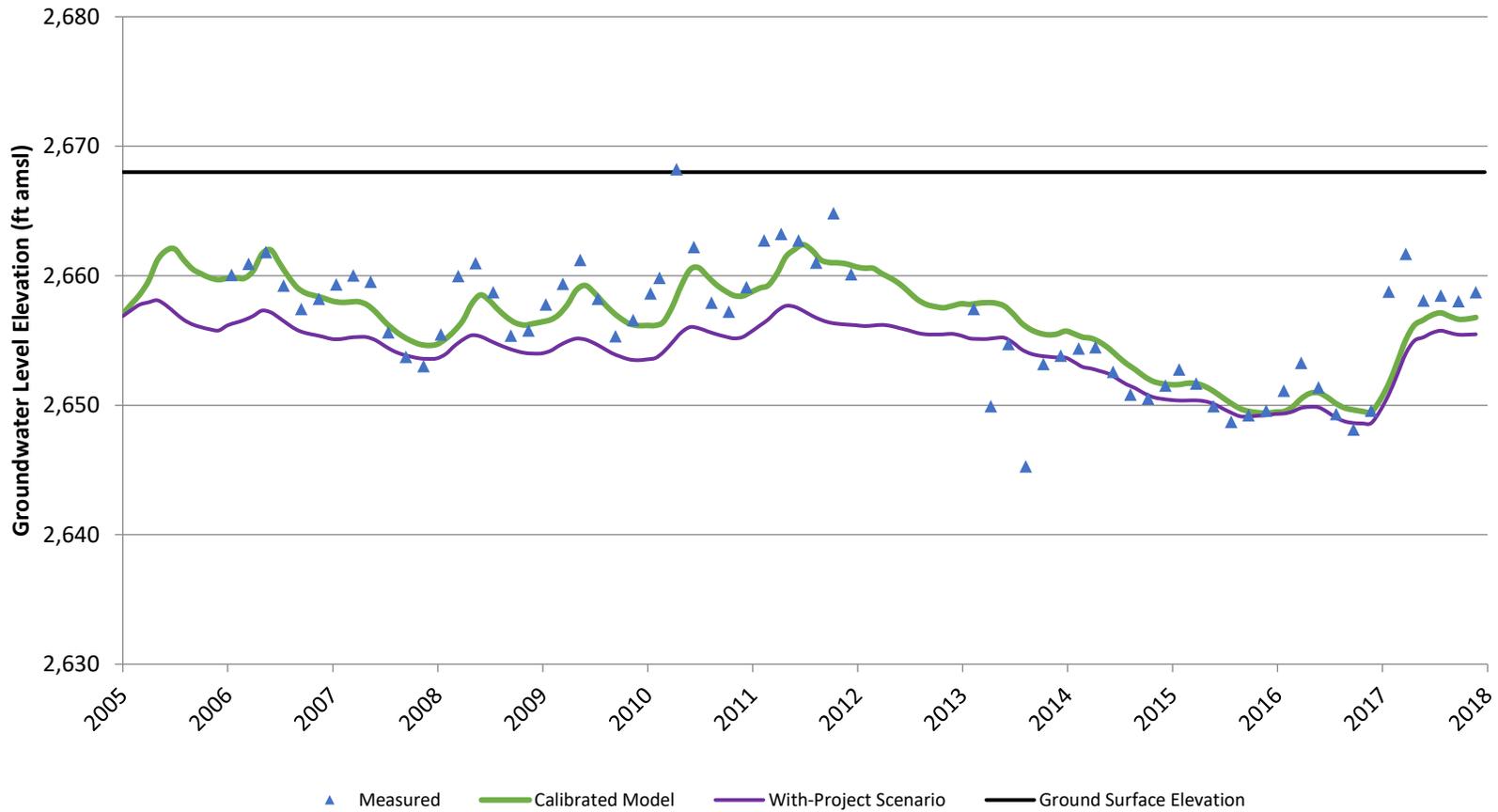
### Calibration vs. Scenario Hydrographs

#### Mill S.



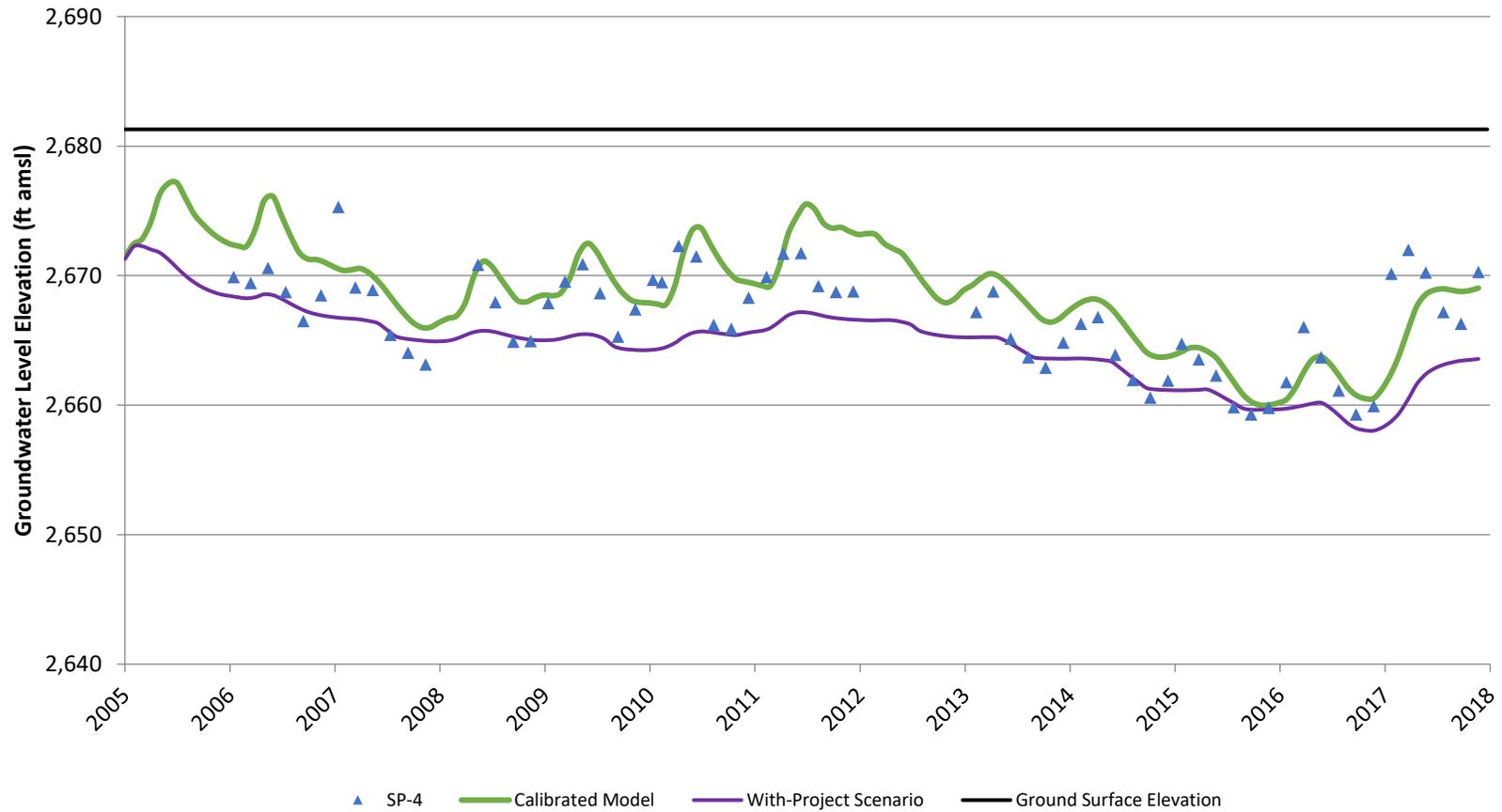
### Calibration vs. Scenario Hydrographs

#### SP-2



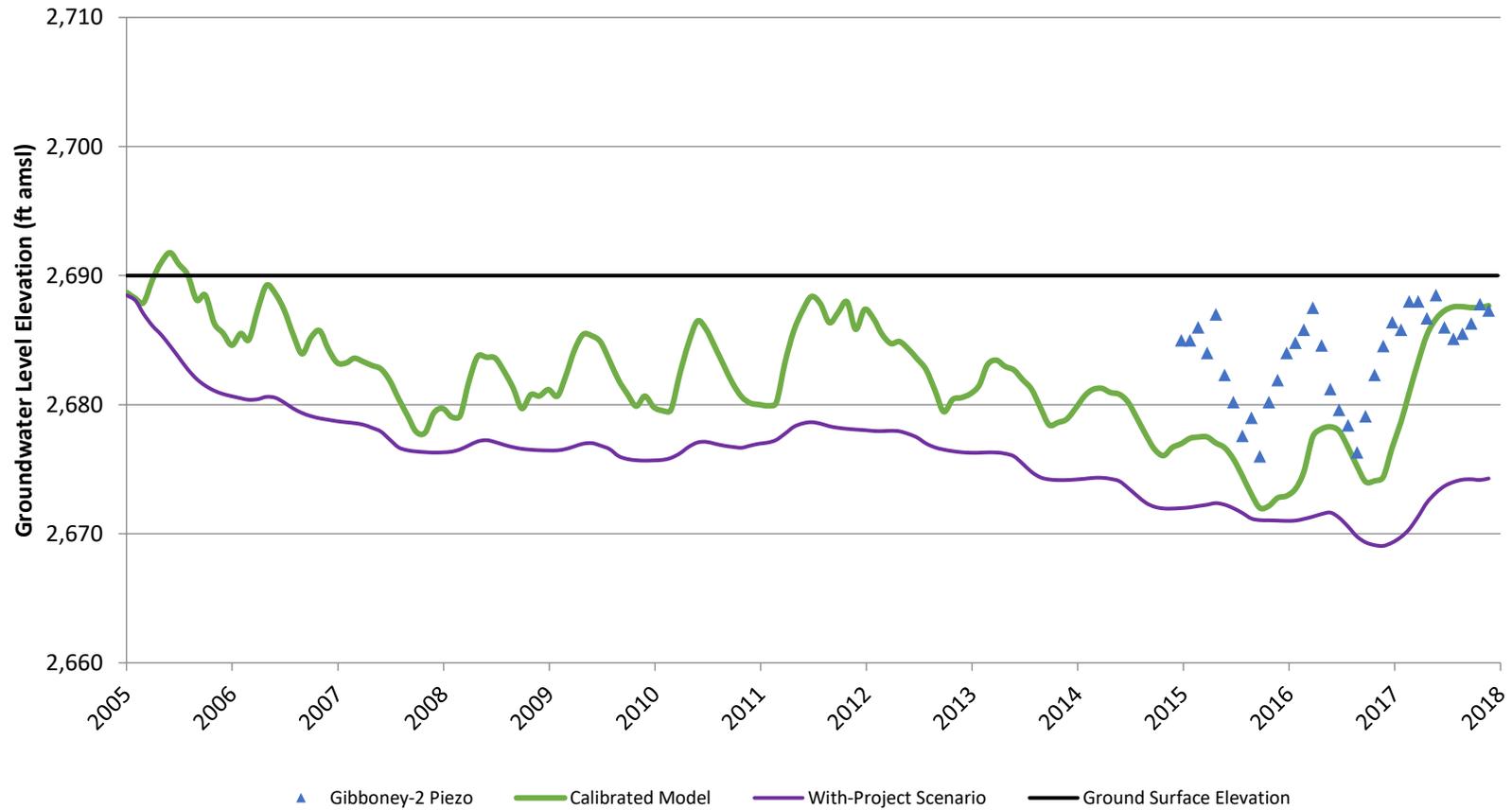
### Calibration vs. Scenario Hydrographs

#### SP-4



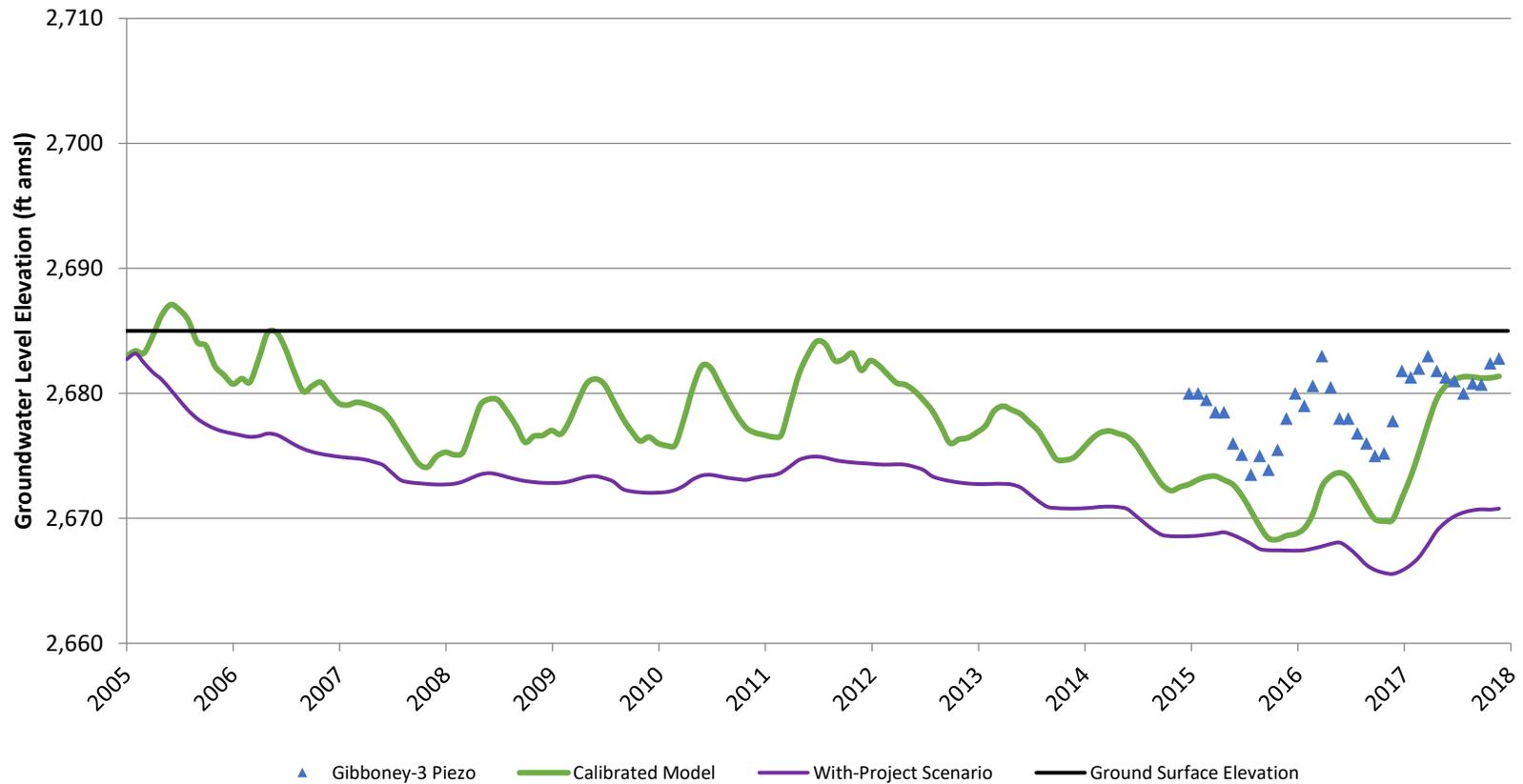
### Calibration vs. Scenario Hydrographs

#### Gibboney-2 Piezo



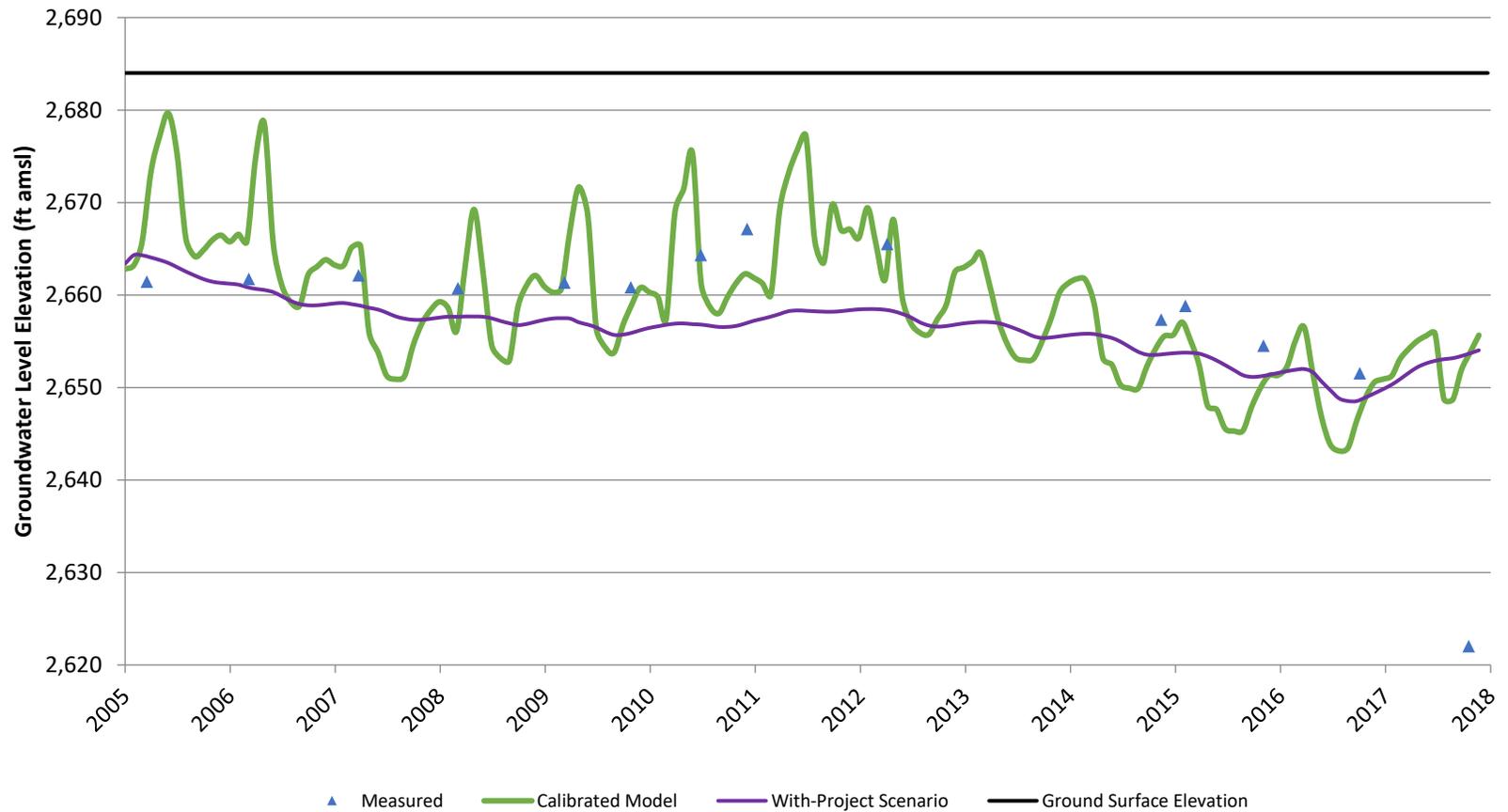
### Calibration vs. Scenario Hydrographs

#### Gibboney-3 Piezo



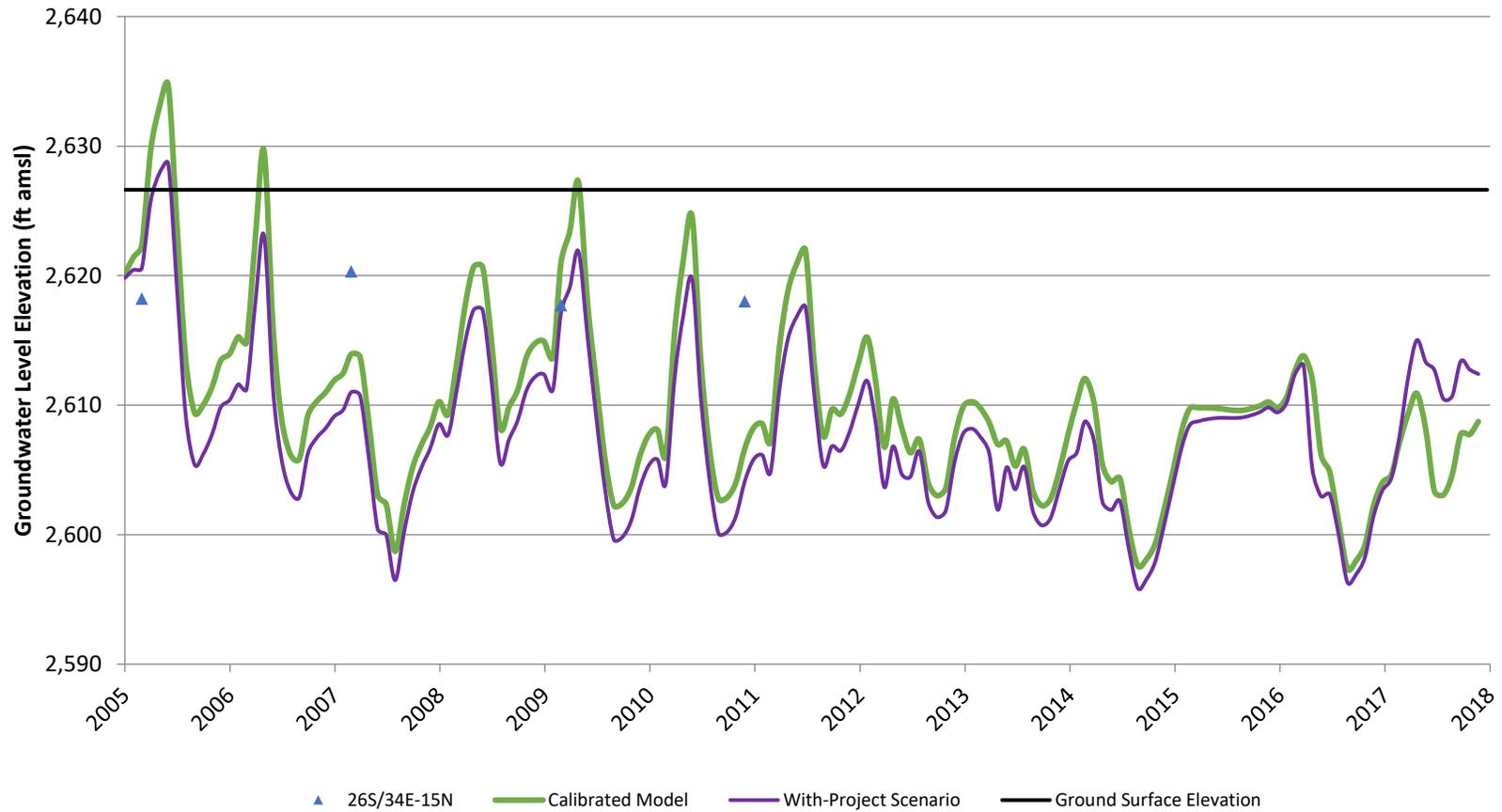
### Calibration vs. Scenario Hydrographs

26S/34E-13J01



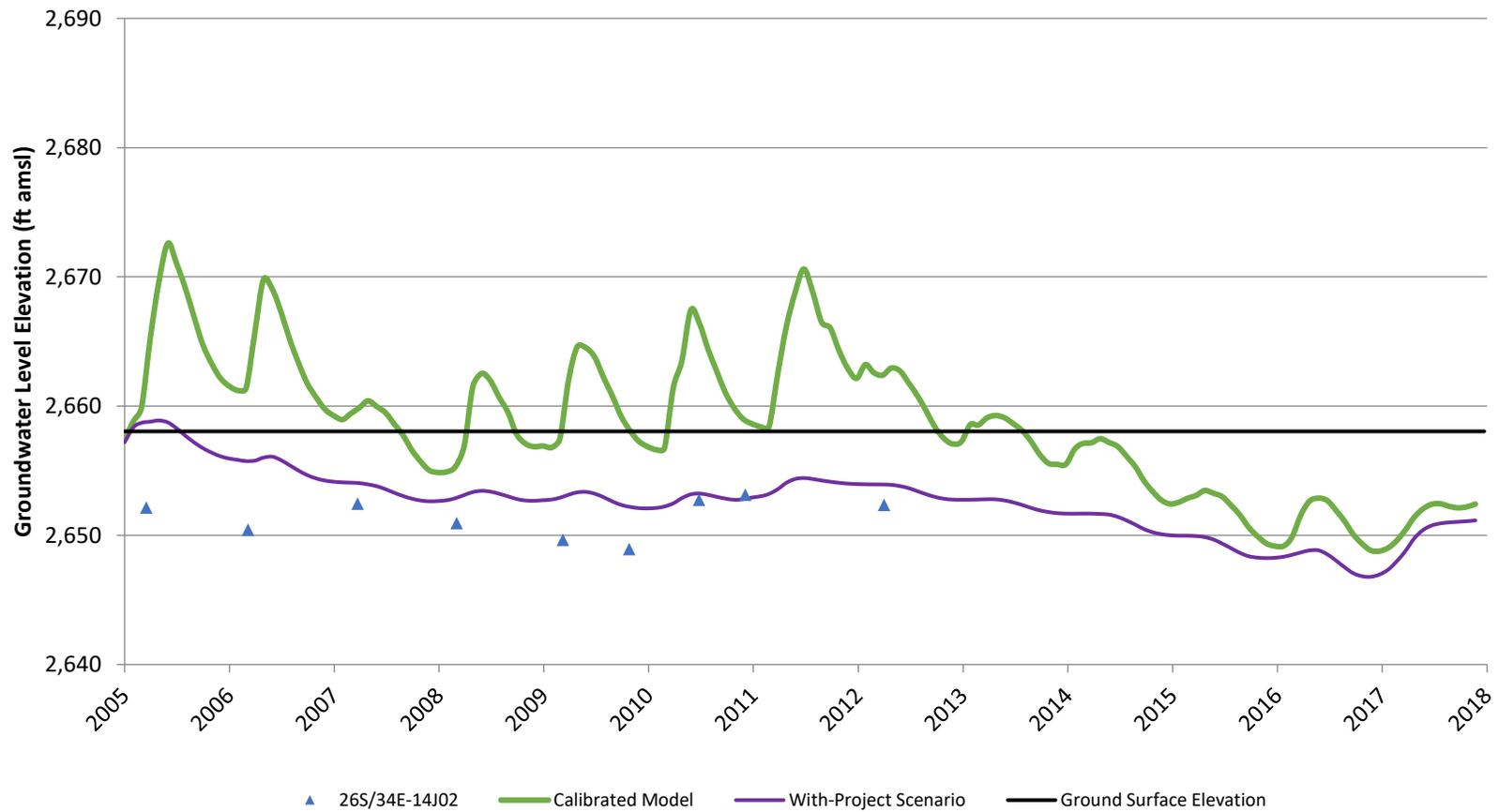
### Calibration vs. Scenario Hydrographs

#### 26S/34E-15N



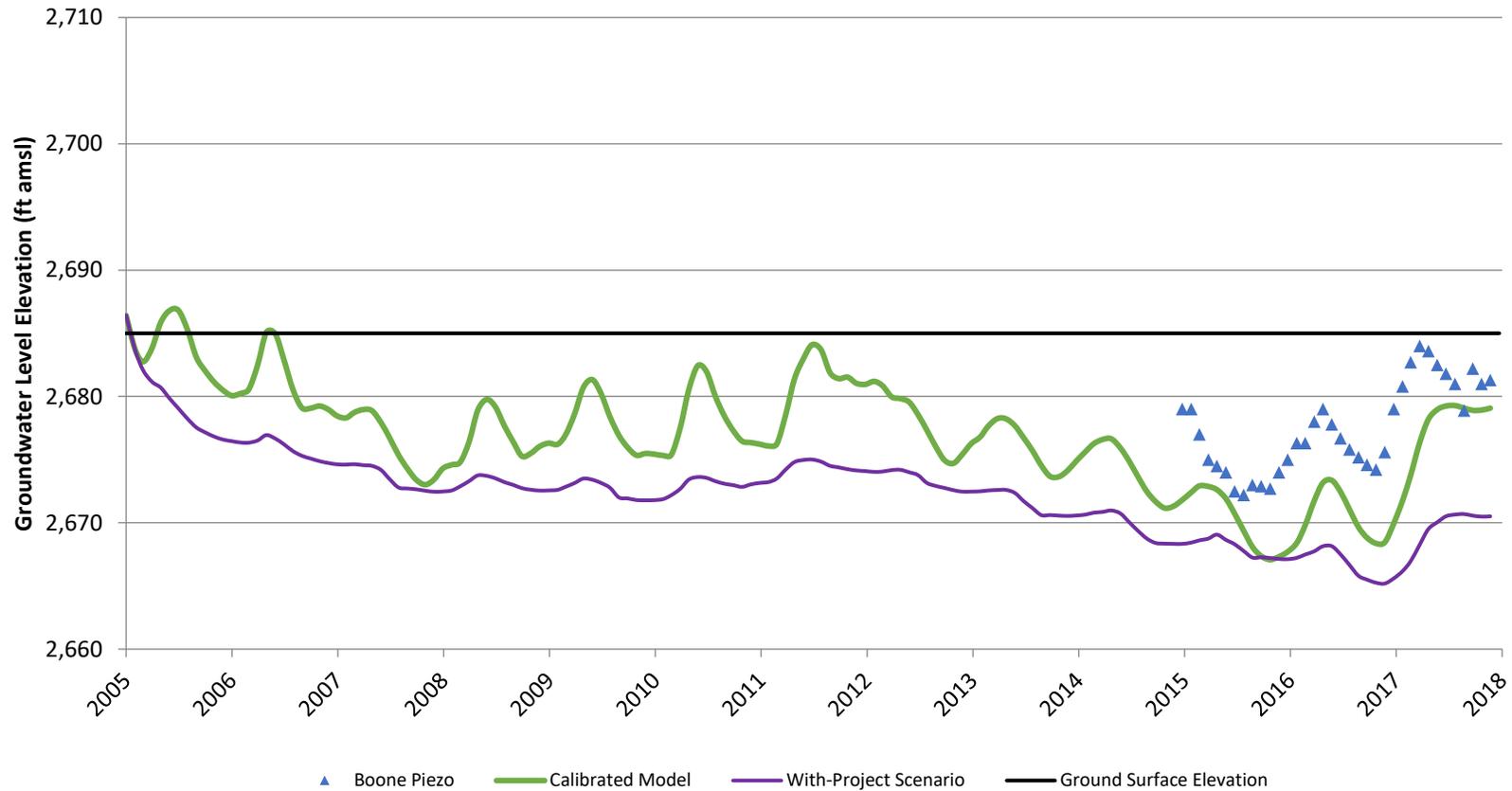
### Calibration vs. Scenario Hydrographs

#### 26S/34E-14J02



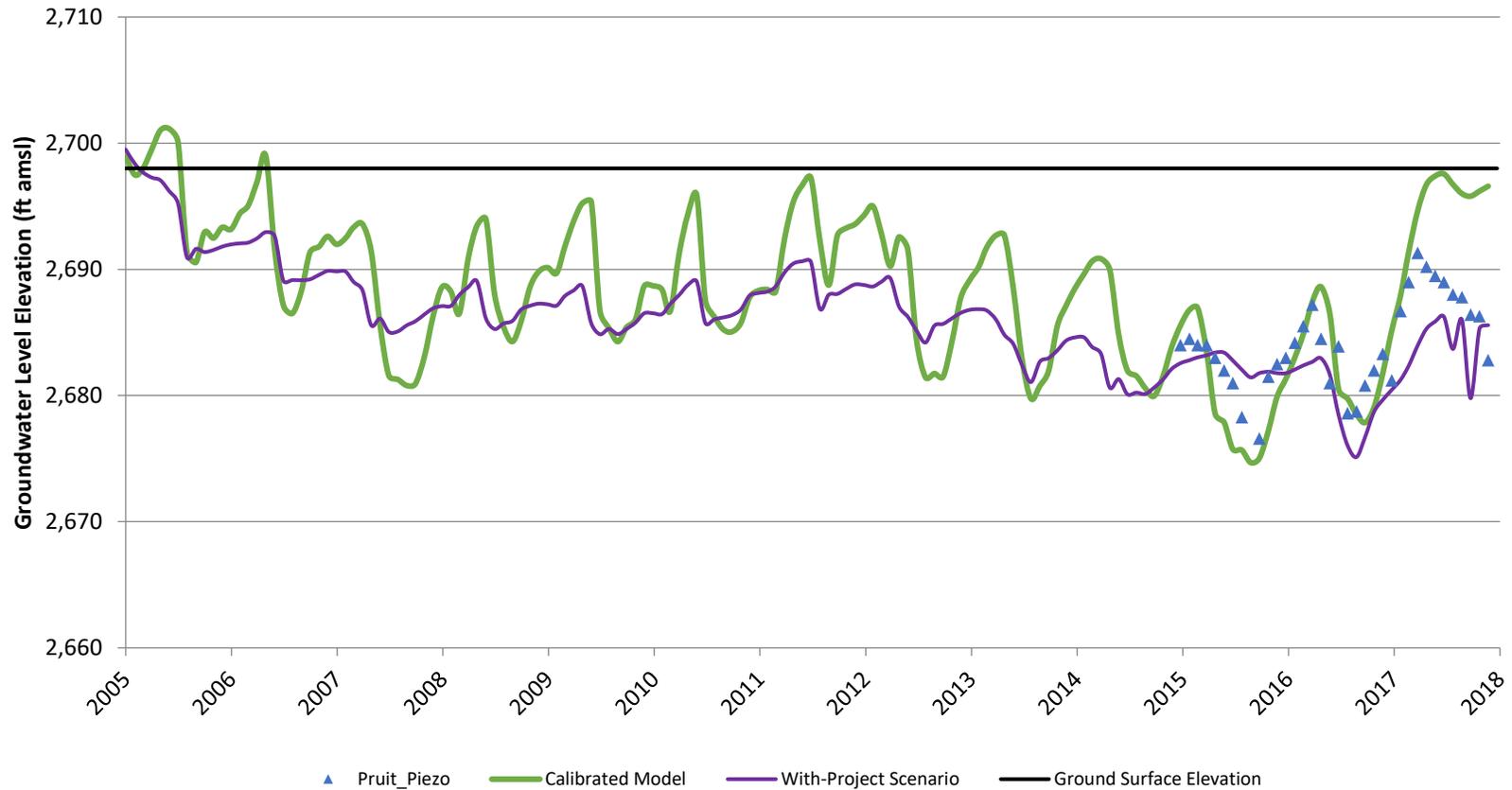
### Calibration vs. Scenario Hydrographs

#### Boone Piezo



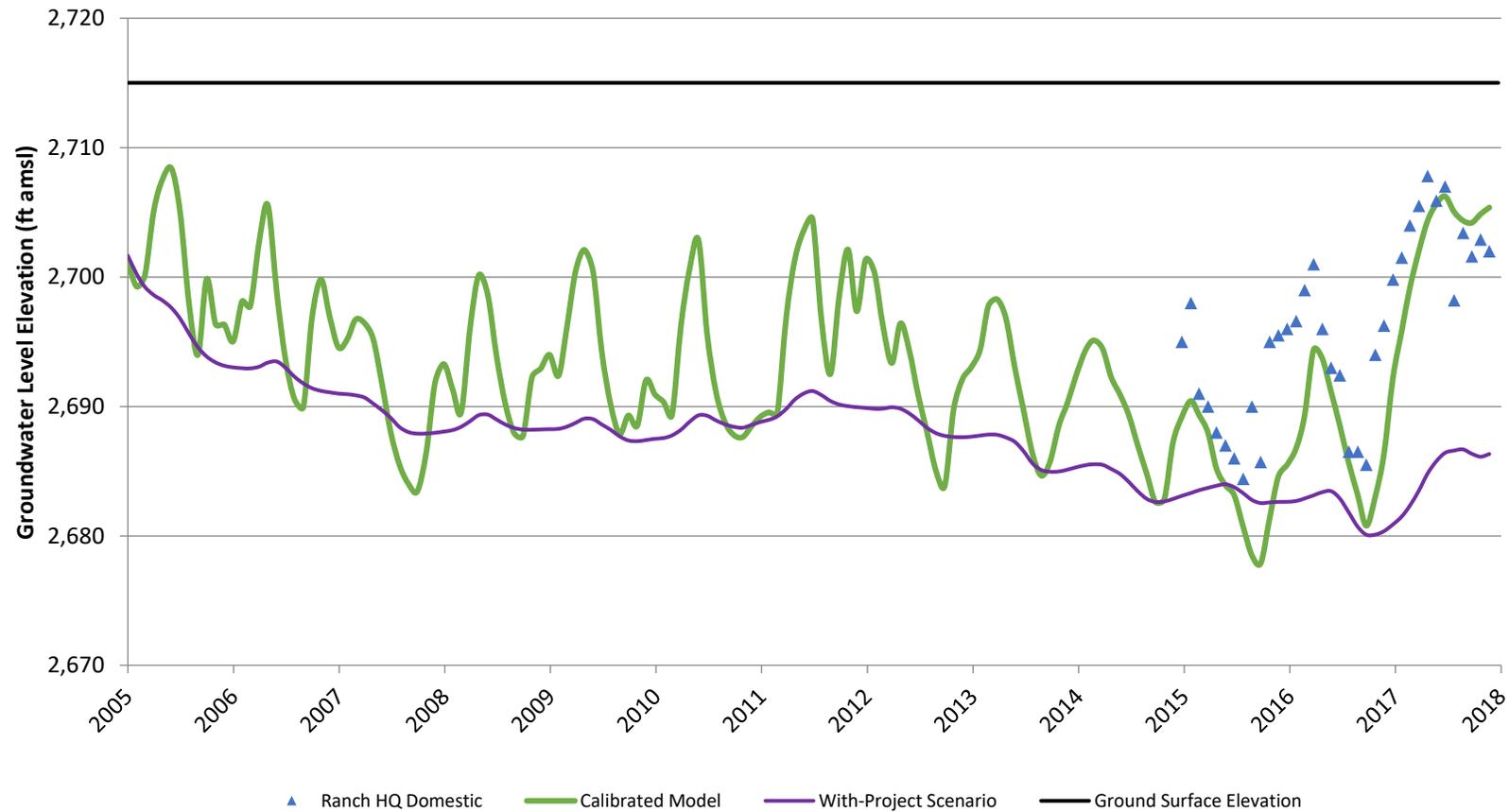
### Calibration vs. Scenario Hydrographs

#### Pruitt Piezo



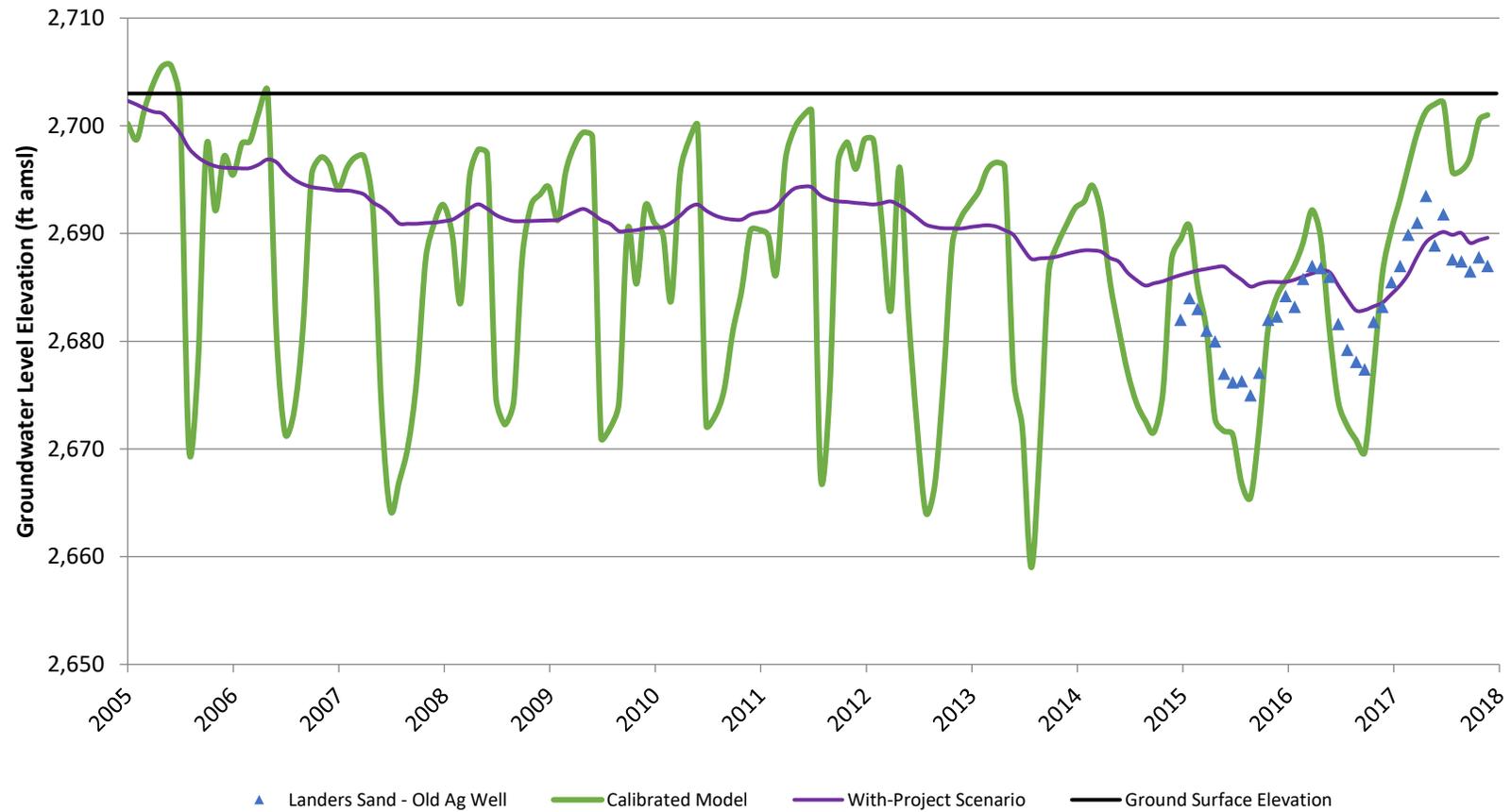
### Calibration vs. Scenario Hydrographs

#### Ranch HQ - Domestic



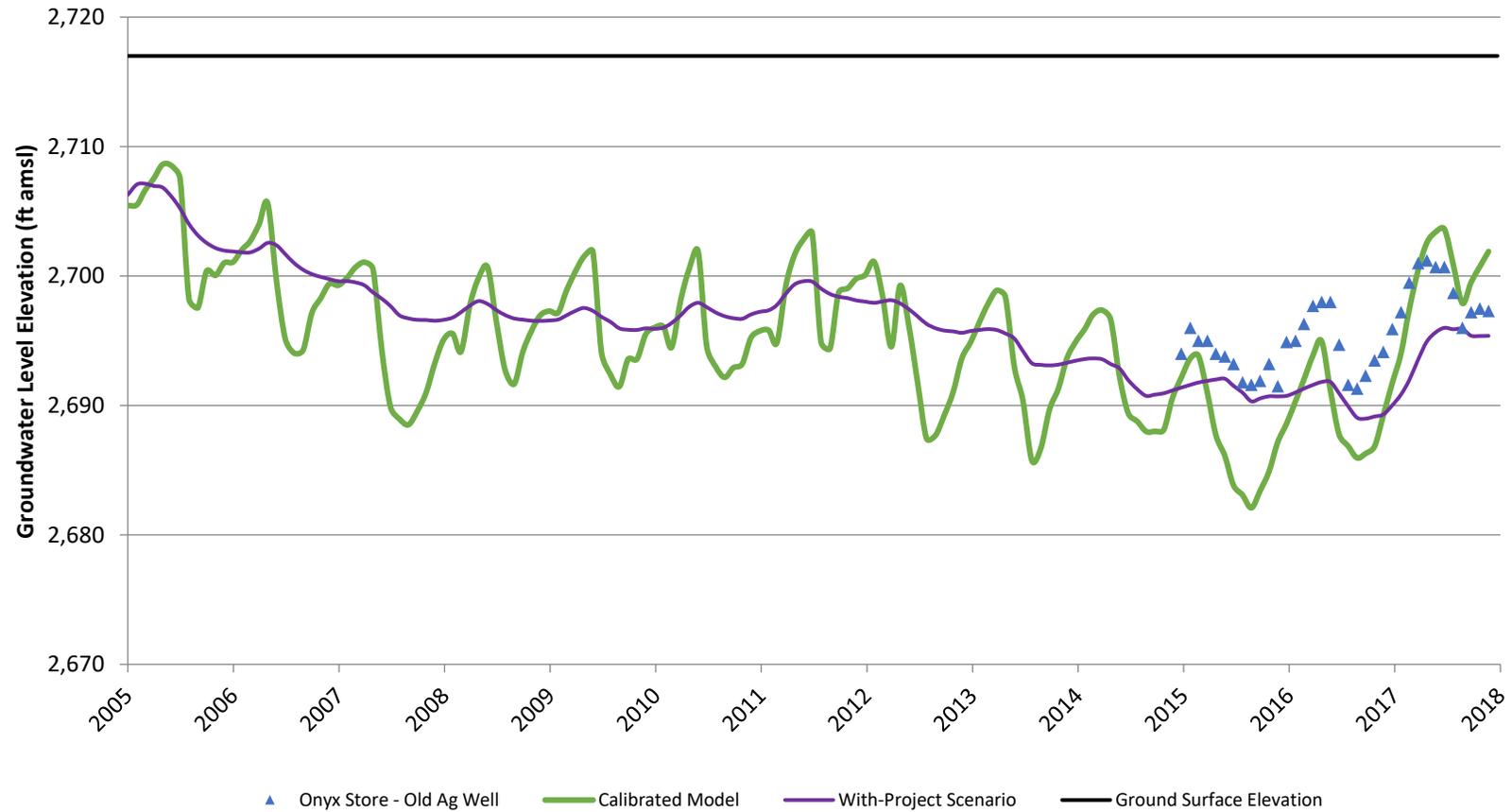
### Calibration vs. Scenario Hydrographs

#### Landers Sand - Old Ag Well



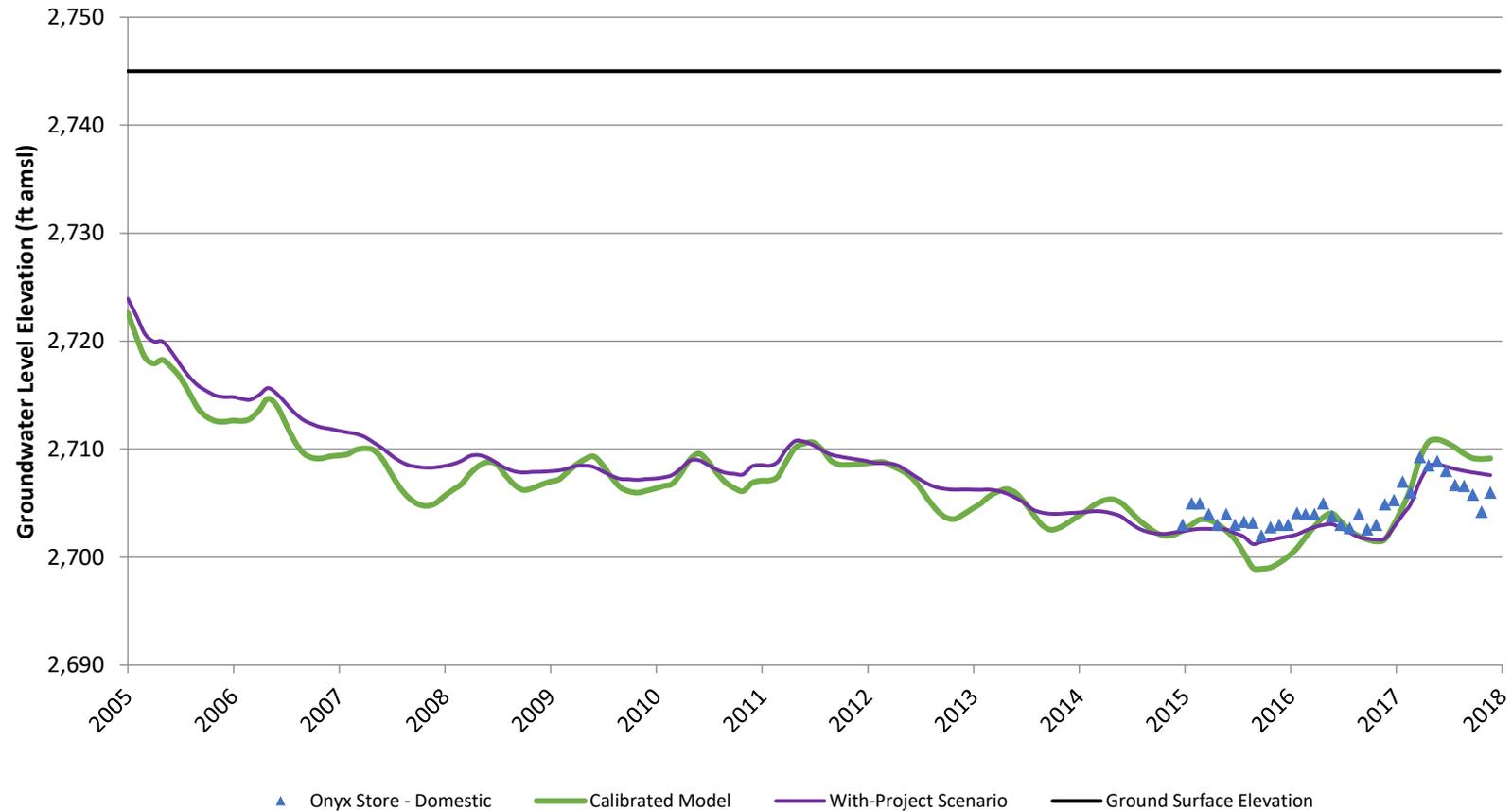
### Calibration vs. Scenario Hydrographs

#### Onyx Store - Old Ag Well



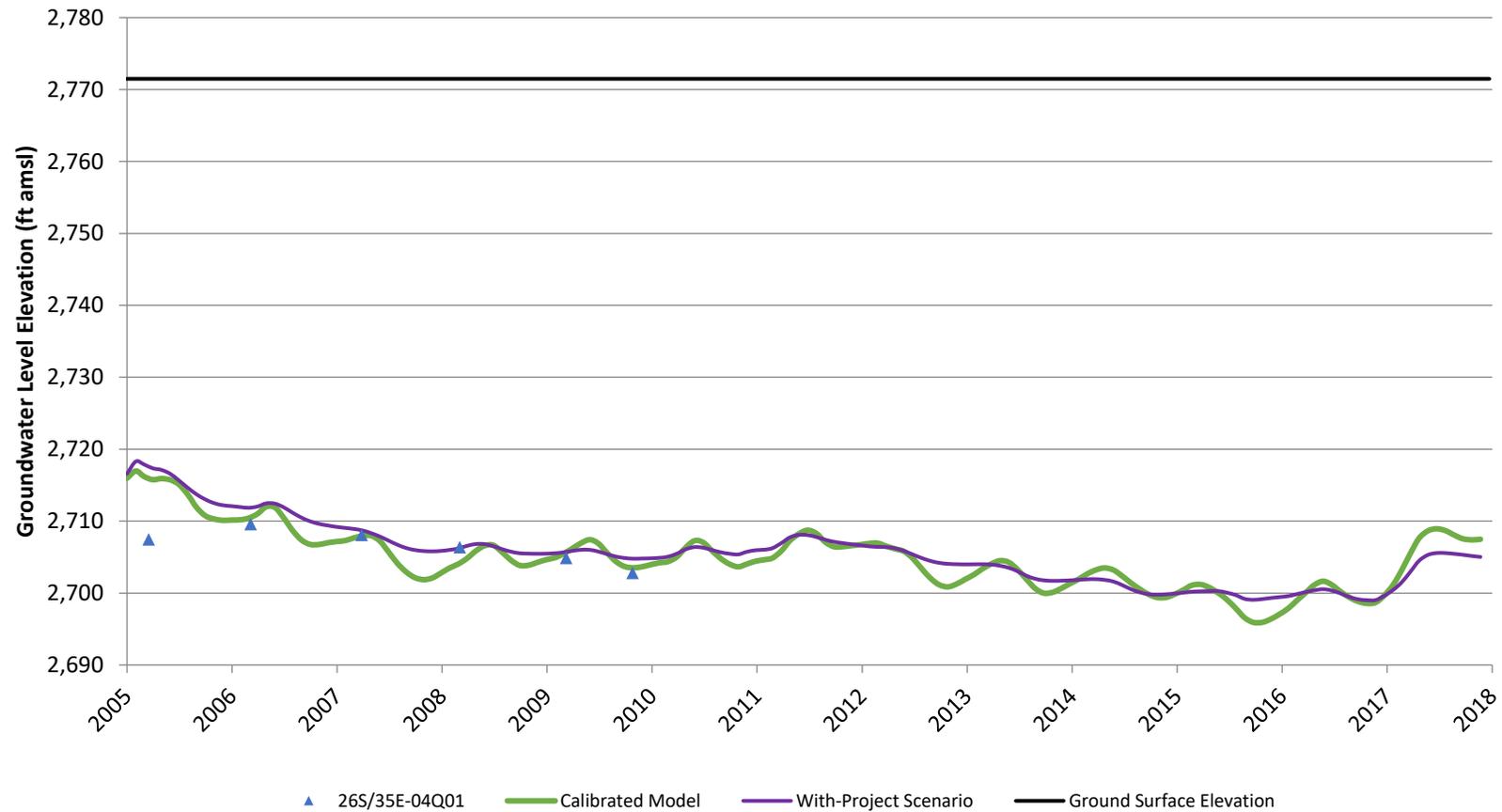
### Calibration vs. Scenario Hydrographs

#### Onyx Store - Domestic



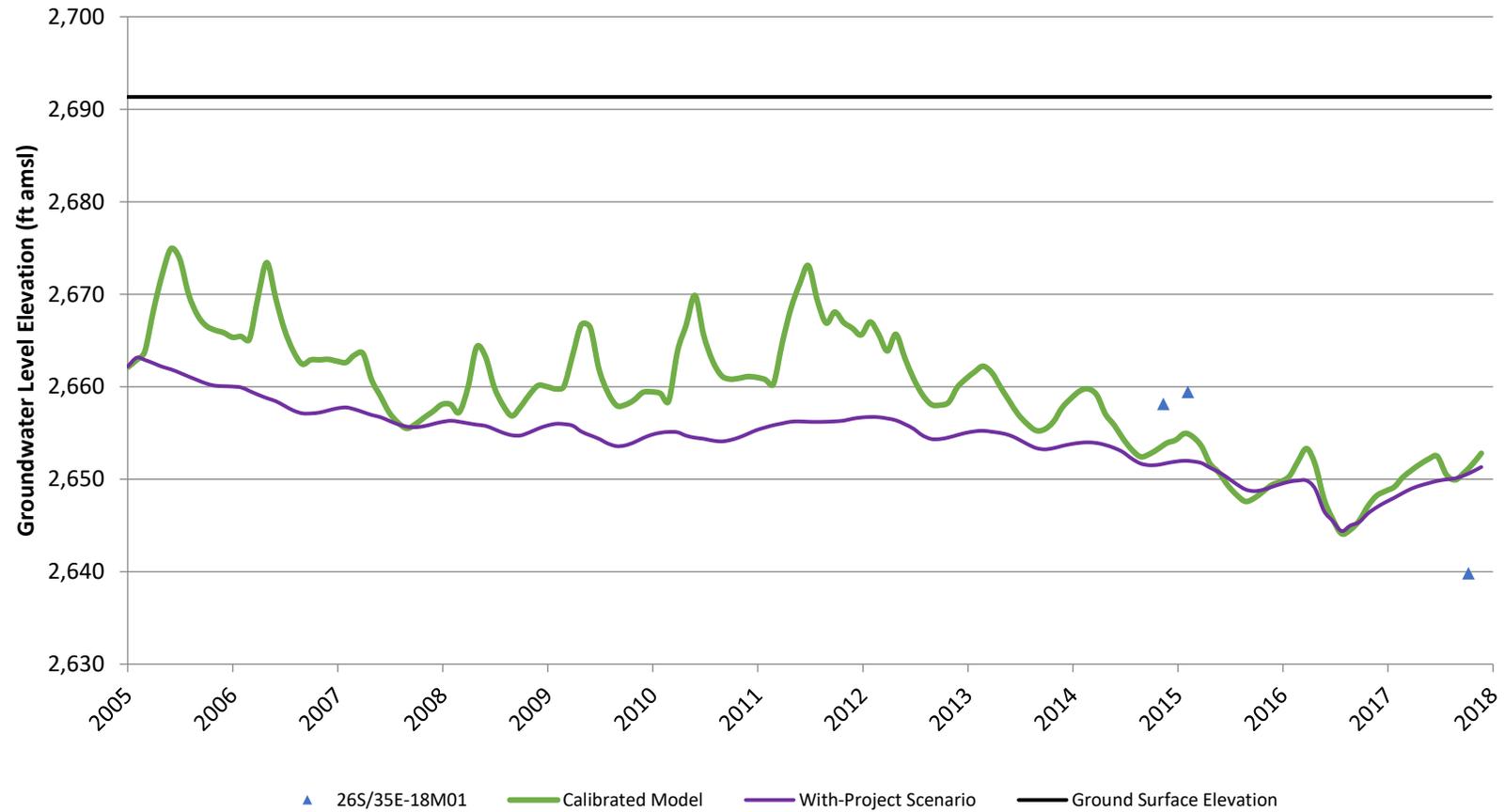
### Calibration vs. Scenario Hydrographs

#### 26S/35E-04Q01



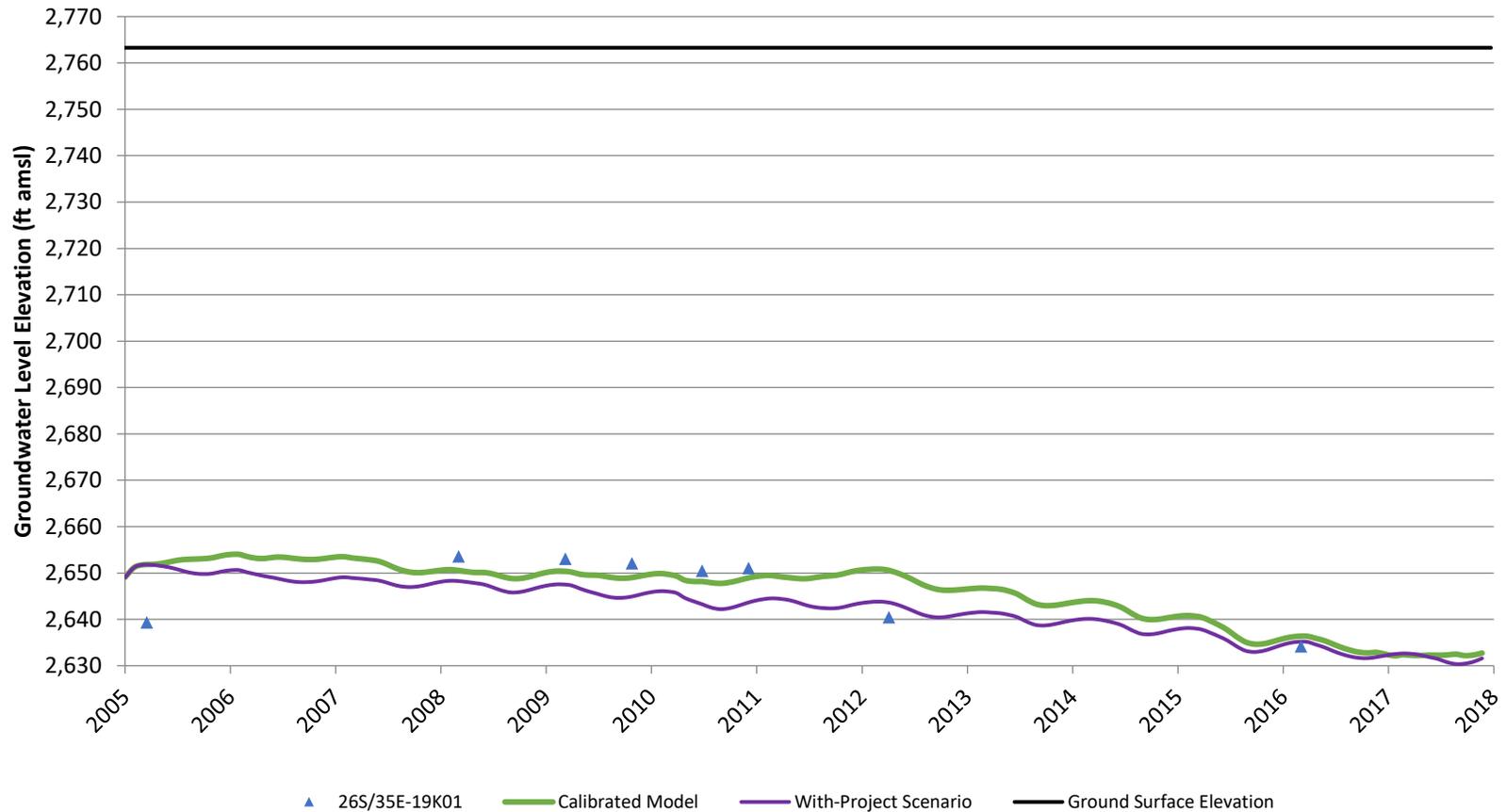
### Calibration vs. Scenario Hydrographs

#### 26S/35E-18M01



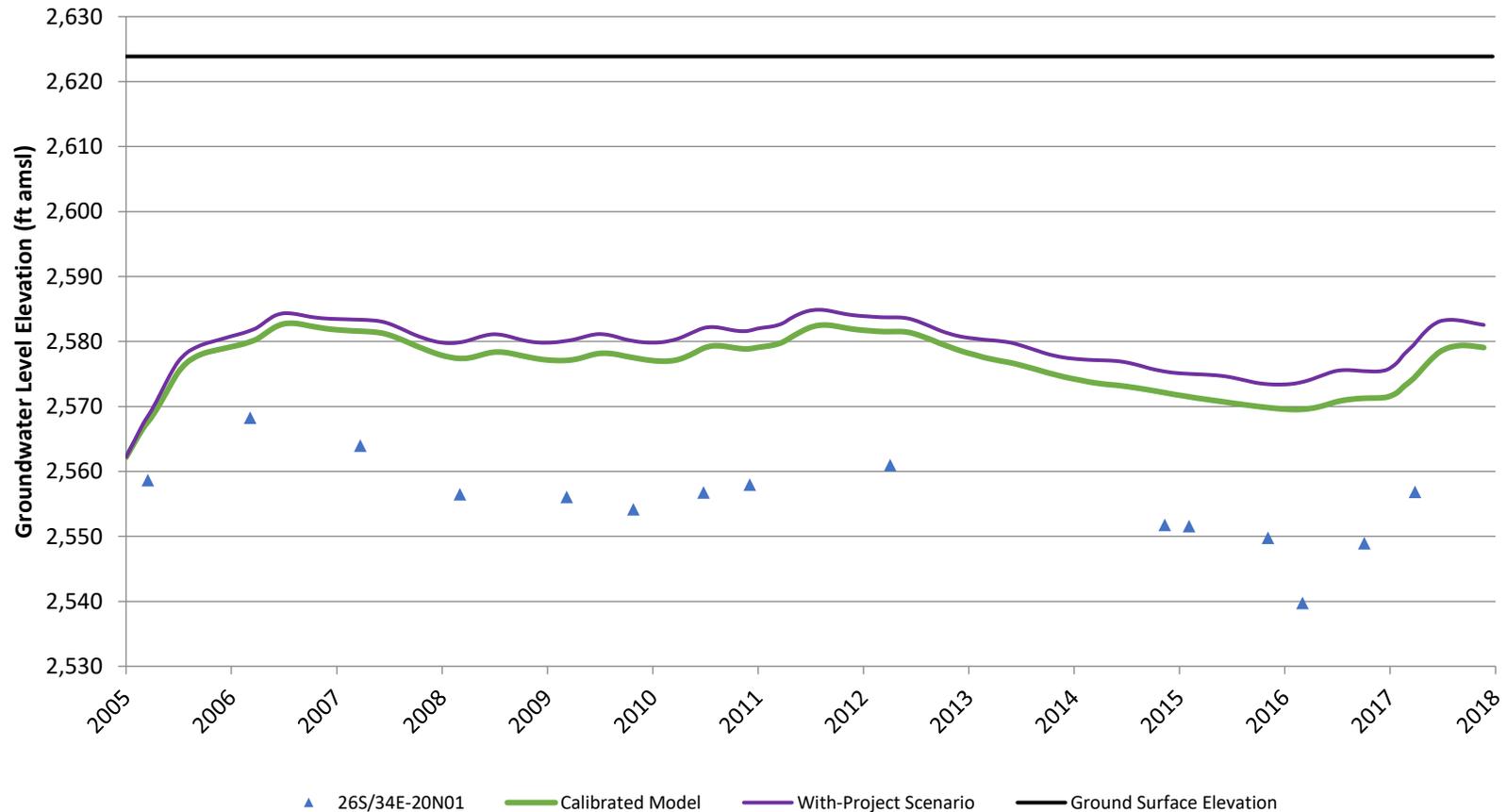
### Calibration vs. Scenario Hydrographs

#### 26S/35E-19K01



### Calibration vs. Scenario Hydrographs

#### 26S/34E-20N01



# Attachment A



**Diversion Comparison (Acre-ft)**

**Original Diversion Summary**

Year	Branson/ Smith Ranch (S001456)	Scodie/Mack <sup>1</sup>	Landers (S021076)	Nicoll/Pruitt (S021077)	Lieb (S021078)	J Nicoll <sup>2</sup>	Audubon	D. Prince (S015309, S015310, S015311)	Hafenfeld (S015312)	Annual Reported Diversion (acre-ft)
2005	4,000	6,000	12,500	17,900	5,000	1,000	0	6,740	2,300	55,440
2006	540	2,000	10,200	11,000	850	800	0	5,000	4,000	34,390
2007	300	500	2,500	500	0	200	0	3,000	2,000	9,000
2008	500	890	9,433	9,961	850	500	0	10,529	3,344	36,007
2009	1,560	2,534	7,070	8,867	909	800	0	10,669	3,604	36,013
2010	540	3,932	11,795	11,054	654	800	0	13,477	5,599	47,851
2011	5,000	7,003	12,524	17,904	3,688	1,000	0	4,790	1,423	53,332
2012	540	2,534	7,070	8,867	909	800	0	3,836	1,910	26,466
2013	540	1,152	4,967	2,074	0	1,077	111	1,533	1,327	12,781
2014	540	1,091	4,028	795	0	892	143	1,107	1,005	9,601
2015	540	234	3,009	164	0	235	52	638	390	5,261
2016	3,433	1,133	5,333	865	0	977	735	2,757	128	15,361
2017	6,039	4,732	8,423	2,836	0	2,358	2,678	5,499	1,480	34,045
Total	24,072	33,735	98,853	92,787	12,860	11,439	3,719	69,575	28,509	375,548

**Final Diversion Summary**

Year	Branson/ Smith Ranch (S001456)	Scodie/Mack <sup>1</sup>	Landers (S021076)	Nicoll/Pruitt (S021077)	Lieb (S021078)	J Nicoll <sup>2</sup>	Audubon	D. Prince (S015309, S015310, S015311)	Hafenfeld (S015312)	Annual Adjusted Diversion (acre-ft)
2005	2,650	3,556	4,525	201	1,196	3,962	0	4,286	1,079	21,456
2006	1,713	2,076	4,023	392	566	3,251	0	3,458	849	16,328
2007	923	917	2,030	197	66	542	0	1,045	128	5,848
2008	1,245	1,814	3,220	1,086	1,013	1,866	0	4,412	1,105	15,759
2009	1,689	2,469	3,676	824	908	1,927	30	4,295	1,040	16,858
2010	2,092	2,587	2,595	446	848	3,249	24	4,414	1,112	17,366
2011	3,039	4,700	5,176	0	1,748	4,719	20	5,095	1,276	25,775
2012	281	1,098	3,012	1,722	261	0	0	1,487	517	8,379
2013	23	1,133	4,726	2,039	0	909	111	541	928	10,410
2014	557	1,091	4,028	795	0	893	142	1,107	1,005	9,618
2015	1,233	234	3,009	164	0	235	52	638	390	5,954
2016	3,433	1,133	5,333	865	0	977	735	2,757	128	15,361
2017	6,039	4,732	8,423	2,836	0	2,358	2,678	5,499	1,480	34,046
Total	24,918	27,540	53,777	11,567	6,605	24,887	3,792	39,034	11,038	203,158

**Notes:**

<sup>1</sup> The Scodie/Mack Diversion occurred upstream of the Landers Diversion through 2010. After the diversion structure was washed out in 2010, the physical diversion occurred at the Nicoll/Pruitt location.

<sup>2</sup> Physical diversion occurred at the Nicoll/Pruitt location.

Original Estimate

Originally reported or estimated values were adjusted based on the following criteria:

- a. In cases where the monthly reported/estimated diversion exceeded the diversion capacity of the structure, the monthly diversion was adjusted to the maximum diversion capacity of the diversion structure. The maximum diversion capacity was based on the maximum diversion measured at that structure in 2017.
- b. If after limiting diversion capacities at individual diversion structures the reported flow at the South Fork River gage minus the total diversions was less than the inferred USACE flow into Lake Isabella in any given month, the diverted water was adjusted proportionally among other diversion points.
- c. In some months, the diverted water exceeded the water demand of the crops. In those cases, it was assumed that 50 percent of the diverted water returned to the South Fork Kern River.

Reported (SWRCB or Rosedale-Rio Bravo Water Storage District reports).

**Estimated Water Losses for the Project Scenario**

Year	Redirected Diversion	Without Project Releases from Lake Isabella Dam <sup>1</sup>	With Project Releases from Lake Isabella Dam <sup>2</sup>	Total Project Releases <sup>3</sup>	Total Water Loss <sup>4</sup>
2005	9,665	915,562	927,918	12,356	-2,691
2006	6,843	999,386	1,007,582	8,196	-1,353
2007	2,732	332,368	334,152	1,784	947
2008	6,825	468,813	475,697	6,884	-58
2009	7,677	442,469	448,917	6,448	1,229
2010	6,412	723,994	732,111	8,117	-1,704
2011	11,961	1,360,276	1,371,888	11,611	349
2012	5,490	398,077	398,238	162	5,328
2013	7,224	215,205	216,215	1,010	6,214
2014	5,332	174,923	176,709	1,786	3,546
2015	3,041	135,465	136,359	894	2,147
2016	7,690	266,750	271,038	4,287	3,402
2017	17,339	1,782,544	1,797,194	14,650	2,690
Average	7,556	631,987	638,001	6,014	1,542
Total	98,230	8,215,834	8,294,017	78,184	20,046

**Notes:**

- <sup>1</sup> Based on USACE records.
- <sup>2</sup> Project releases that result in no change in reservoir storage.
- <sup>3</sup> Difference between Without Project releases and With Project releases.
- <sup>4</sup> Total Water Loss = Redirected Diversion - Total Project Releases.

**South Fork Inflow to Lake Isabella Comparison**

Date	South Fork Inflow (Acre-ft)		Difference
	ACOE <sup>1,2</sup>	Model Estimated	
2005	147,502	185,119	-37,617
2006	111,963	124,060	-12,097
2007	16,272	10,566	5,706
2008	35,033	39,864	-4,830
2009	20,610	22,247	-1,636
2010	108,917	88,176	20,741
2011	132,340	171,563	-39,222
2012	28,033	17,207	10,826
2013	9,912	391	9,521
2014	7,310	0	7,310
2015	8,426	0	8,426
2016	2,287	0	2,287
2017	318,980	247,250	71,730
Average	72,891	69,726	3,165
Total	947,586	906,442	41,144

**Notes:**

<sup>1</sup> Inferred Based on Mean Reservoir Inflow - North Fork Inflow - Precipitation

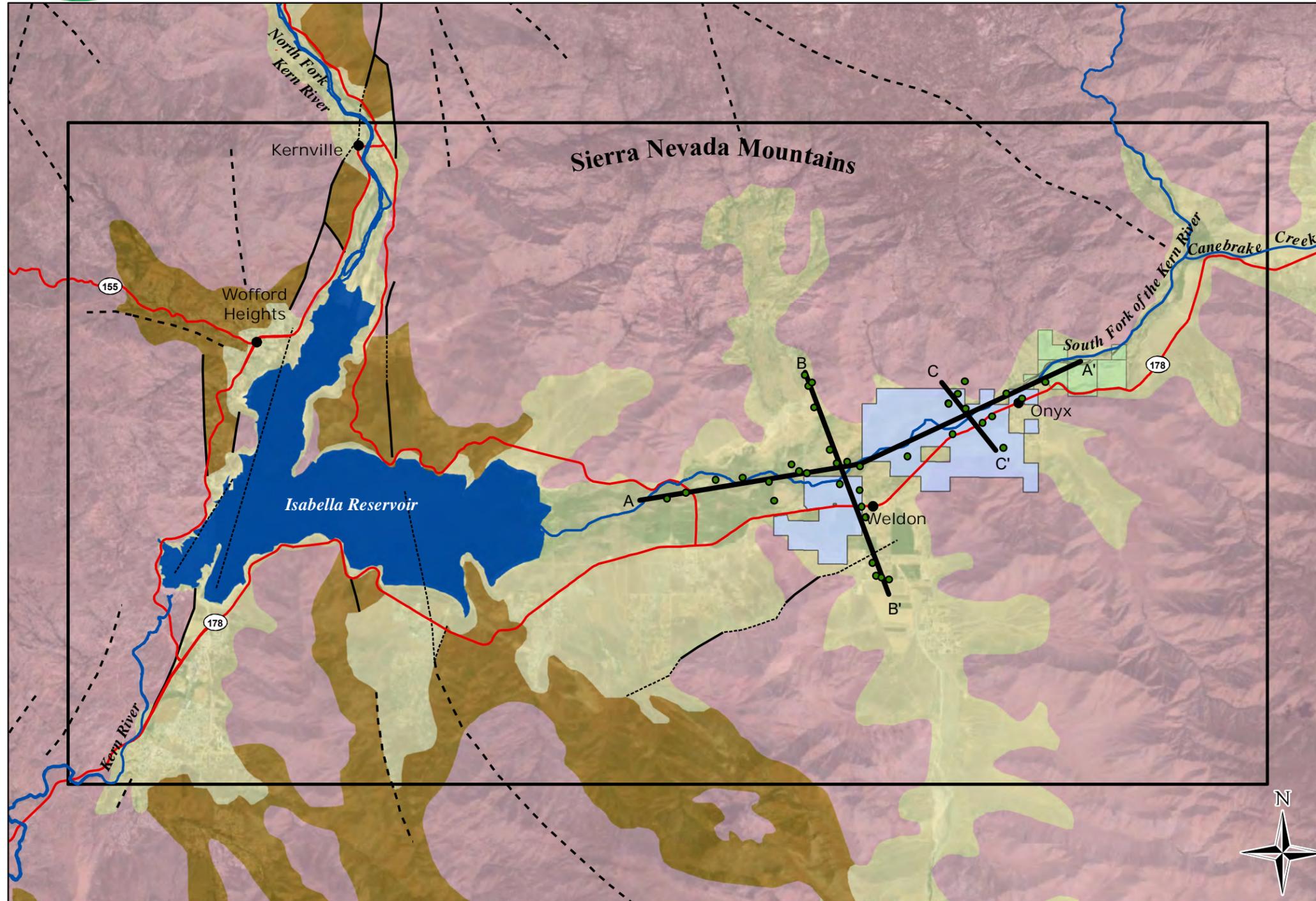
<sup>2</sup> Data from US Army Corps of Engineers





October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

- Wells on Cross Section
- Cross Section
- Alluvium
- Mesozoic Granitic Rocks
- Pre-Cretaceous Metasedimentary Rocks
- Fault, Certain
- - - Fault, Approximately Located
- ⋯ Fault, Concealed
- Study Area
- Onyx Ranch Property
- Smith Ranch Property
- River
- Hydrologic Feature
- Highway/Major Road

Notes: Geology modified from USGS Open-File Report 2005-1305 and Crocker, 1930.



Rosedale-Rio Bravo Water Storage District

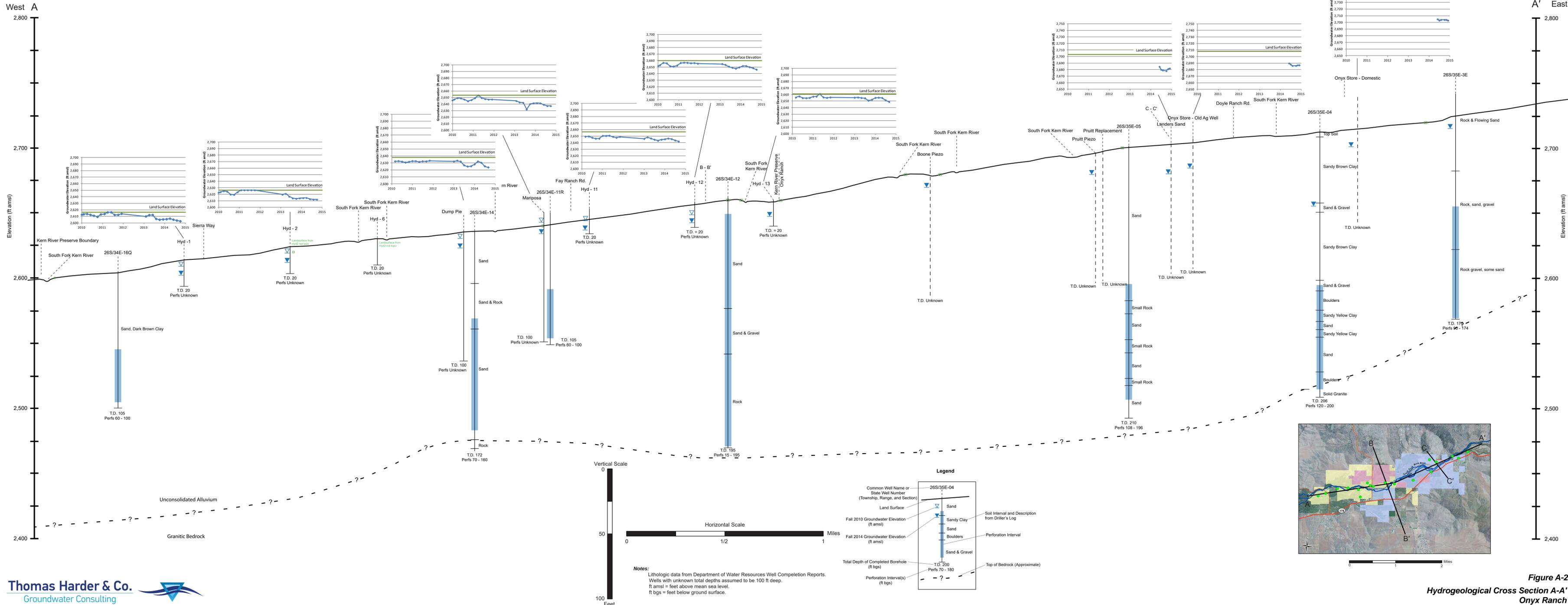


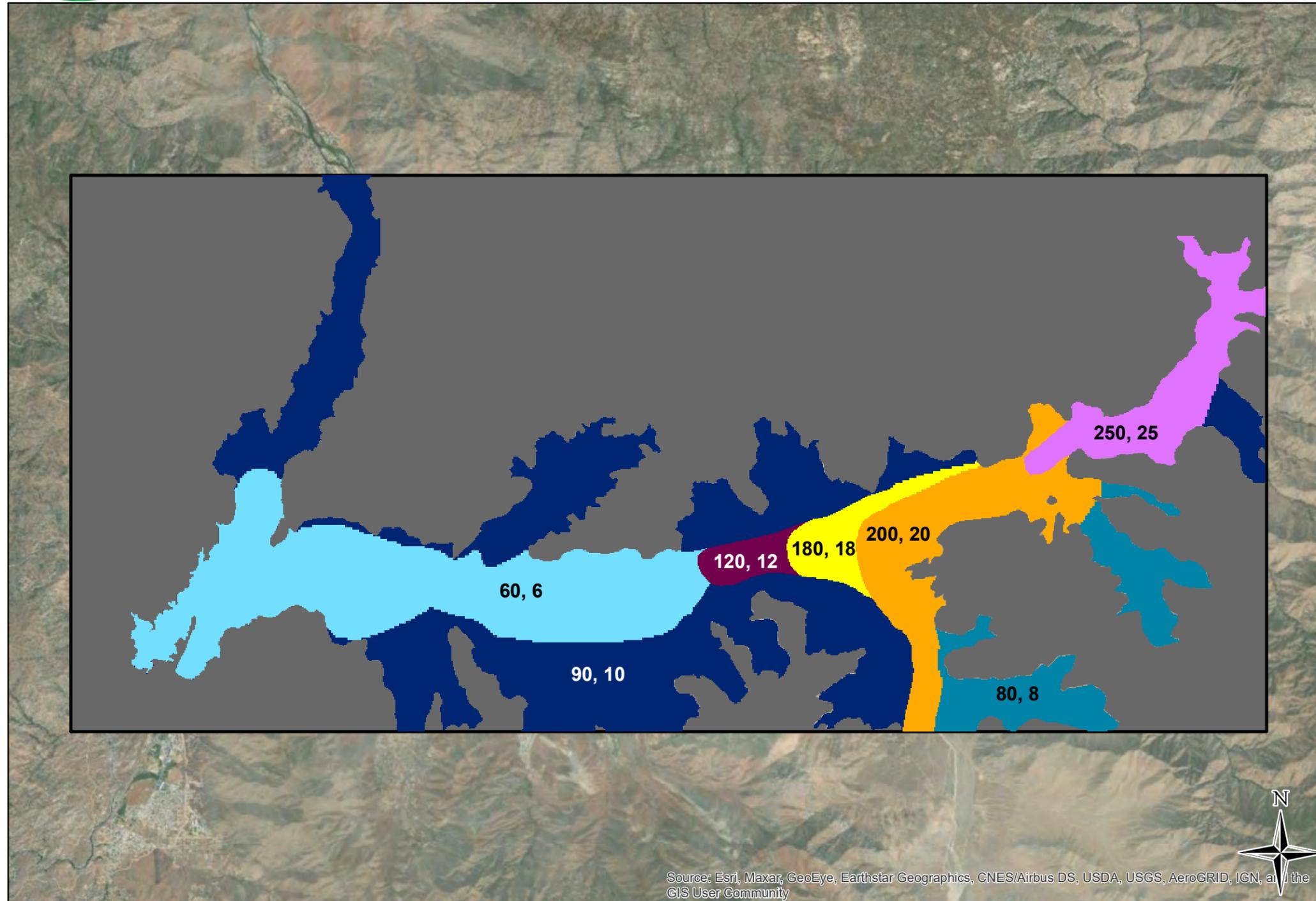
Figure A-2  
Hydrogeological Cross Section A-A'  
Onyx Ranch  
October 2020





October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

Hydraulic Conductivity (ft/day; Kx, Kz)

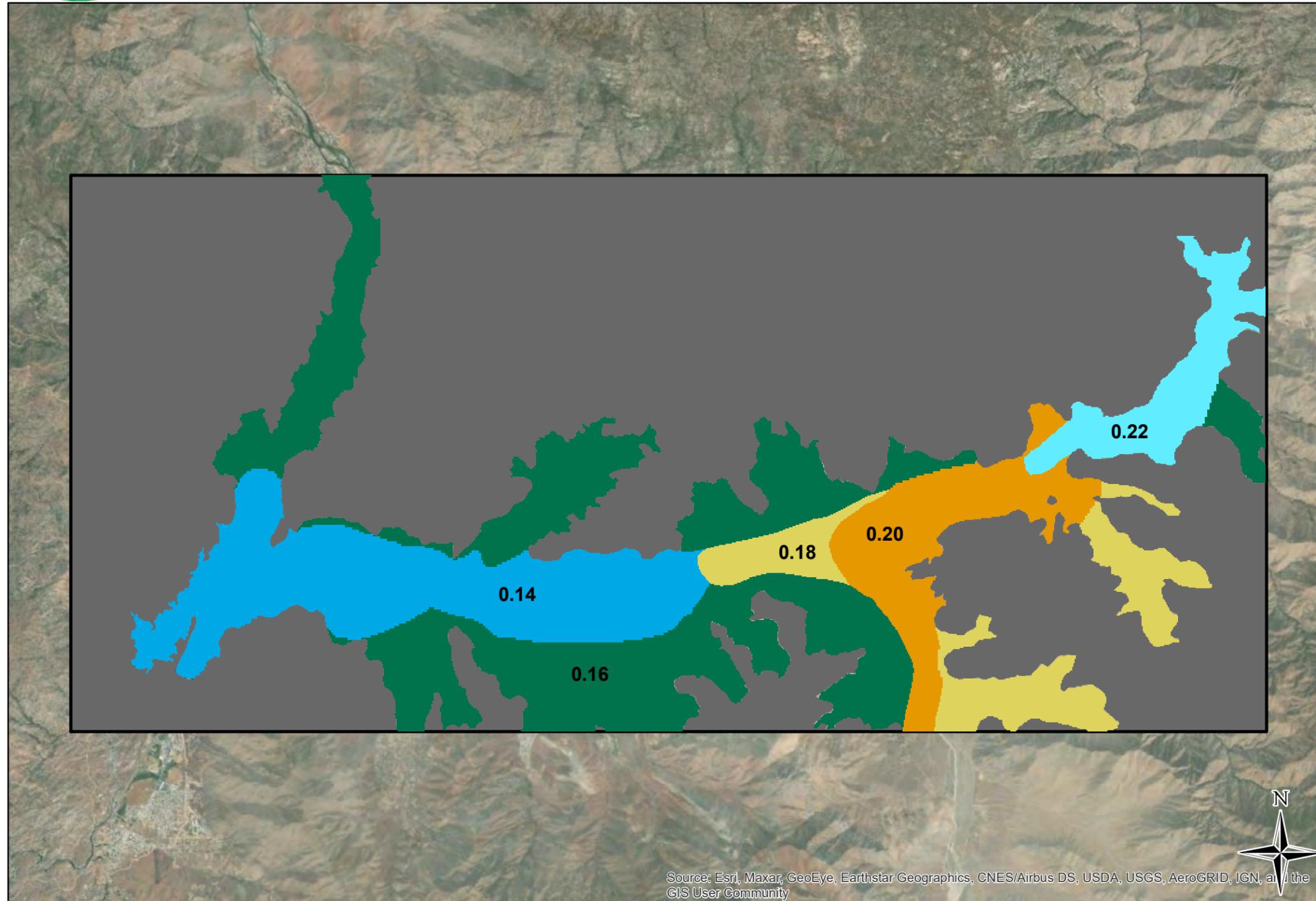
- 60, 6
- 80, 8
- 90, 10
- 120, 12
- 180, 18
- 200, 20
- 250, 25
- No-Flow Cell
- Model Domain

**Hydraulic Conductivity Zones**



October 2020

# Hydrogeological Evaluation of the Onyx Ranch South Fork Valley Water Project



**Map Features**

Specific Yield

- 0.14
- 0.16
- 0.18
- 0.2
- 0.22

No-Flow Cell

Model Domain

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

0 0.5 1 2 Miles  
NAD 83 Stateplane Zone 5

**Specific Yield Zones**

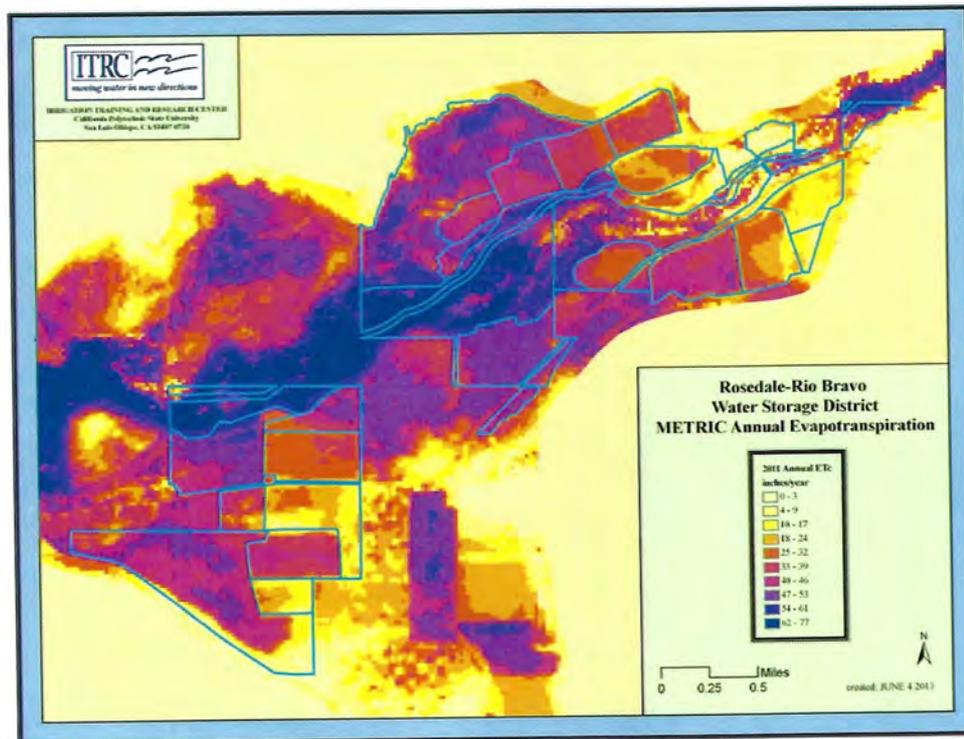
Figure A-5



IRRIGATION  
TRAINING AND  
RESEARCH  
CENTER

## Evapotranspiration from Crops in Onyx Ranch near Weldon, CA

**DRAFT**



Rosedale-Rio Bravo Water Storage District

**CONFIDENTIAL**

June 2013

**IRRIGATION  
TRAINING AND  
RESEARCH  
CENTER**

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Irrigation Training and Research Center  
**DRAFT June 2013**

## EXECUTIVE SUMMARY

This project was conducted by the Irrigation Training and Research Center (ITRC) of California Polytechnic State University, San Luis Obispo, on behalf of Spaletta Law PC and funded by Rosedale-Rio Bravo Water Storage District (RRBWSD).

The objective of this project was to accurately estimate the evapotranspiration of irrigation and subsurface water from fields within Onyx Ranch near Weldon, CA. Onyx Ranch is located on the South Fork of the Kern River just above Lake Isabella. The major crops grown on the Ranch include pasture grass (irrigated, meadow, and riparian pastures), alfalfa, winter grain hay (oats and three way mix), potatoes, and sudan hay. The primary water source is the South Fork of the Kern River where water is diverted into an open channel distribution system where it is delivered to fields. The diversions from the river are based on "run of the river" meaning there is no storage of surface water upstream other than snow melt and base flow from the groundwater. Irrigation is dependent on the amount and timing of runoff and snow melt.

Secondary water supplies come from a groundwater well that can provide approximately 4,000 GPM (there are actually two wells but only one is utilized according to personal communications with Dale Creighton, land lessee, 760-378-2417) and subsurface water in the lower floodplain near the river.

In order to accurately estimate the evapotranspiration of irrigation water, the project was split into two main tasks. The first task involved using satellite images from LandSAT 5 for two years to compute actual evapotranspiration on a pixel by pixel basis (with 30 meter pixel resolution) throughout the area. The procedure that was used to conduct this analysis is called the ITRC METRIC (Mapping Evapotranspiration at High Resolution with Internal Calibration) procedure. Approximately 15-16 images from September through October were examined from each year. To examine different irrigation water availability conditions 2009 and 2011 were examined to represent a low diversion and high diversion year, respectively.

The second task involved using a daily soil water balance model to estimate the daily evapotranspiration for major crop types in Onyx Ranch. The evapotranspiration information (actually crop coefficients from each field) from the first task was used to setup the model. The setup adjustments included planting and harvest dates, approximate killing frost dates, crop development, and peak evapotranspiration. There were several reasons for conducting the soil water balance modeling. The soil water balance provides us with an accurate estimate of the source of evapotranspiration, either irrigation or precipitation. This breakdown is not possible with METRIC. Another issue considered was the fact that LandSAT 5 images are only taken every 16 days and if there are clouds, the image is unusable. Therefore, there can be large gaps between usable images. The soil water balance allows us to assess the evapotranspiration between image dates

As will be discussed in the main body of this report, the evapotranspiration analysis requires local weather data such as solar radiation, temperature, wind speed, relative humidity, and dew point temperature. Hourly weather data was obtained from four local weather stations near Onyx Ranch (Wofford, North Fork of the Kern River, Walker Pass, and Lake Isabella). These were not standardized reference evapotranspiration weather stations which are typically used for this type of analysis. There were no reference evapotranspiration stations available in the region. Since grass reference ETo is a necessary input, it was computed from the weather data collected at each site after extensive weather data quality control and correction procedures were implemented.

The following table shows the results of the evapotranspiration evaluation from both the METRIC and soil water balance evaluations. Figure ES-1 shows a comparison of the total evapotranspiration and evapotranspiration of irrigation water values to the recorded diversions to Onyx Ranch and to fields.

Table ES-1. Total evapotranspiration (ETc) and evapotranspiration of irrigation water (ETiw) volumes from fields within Onyx Ranch.

Category	Volume of Evapotranspiration (Acre-feet)			
	2009	2010	2011	2012
<i>Total Excluding Riparian</i>				
Soil Water Balance ETc	4,994	5,401	5,463	5,280
Soil Water Balance ETiw	4,642	4,798	4,528	4,691
METRIC ETc	4,385		5,195	
<i>Riparian Pasture*</i>				
Soil Water Balance ETc	1,866	2,294	2,093	2,207
METRIC ETc	1,677		2,201	
<i>Total with Riparian</i>				
Soil Water Balance ETc	6,860	7,695	7,556	7,487
Soil Water Balance ETiw*	4,642	4,798	4,528	4,691
METRIC ETc	6,062		7,396	

\*Riparian pasture is not irrigated. Primary water supply is shallow groundwater table. It was not possible to distinguish between ET originating from the shallow groundwater and that from precipitation

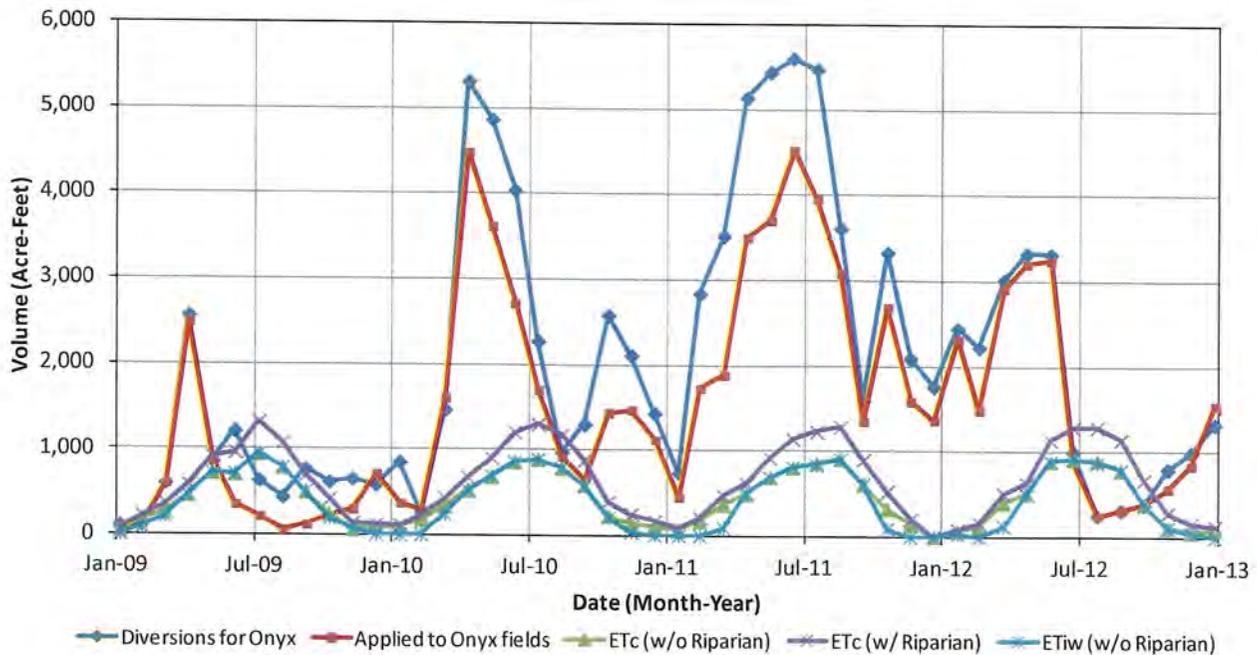


Figure ES-1. Estimated volume of irrigation water consumed by crops within Onyx Ranch excluding the riparian pasture.

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- Attachment C.**       **METRIC Monthly ET<sub>c</sub> Images**

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# INTRODUCTION

Onyx Ranch is located near Weldon, CA which is along the South Fork of the Kern River several miles upstream of the inflow point of the south fork to Lake Isabella in Kern County. The major crops grown on the Ranch include pasture grass (irrigated, meadow, and riparian pastures), alfalfa, winter grain hay (oats and three way mix), potatoes, and sudan hay. The primary water source is the South Fork of the Kern River where water is diverted into an open channel distribution system where it is delivered to fields. The diversions from the river are based on “run of the river” meaning there is no storage of surface water upstream other than snow melt and base flow from the groundwater. Irrigation is dependent on the amount and timing of runoff and snow melt.

The following figure shows the layout of the fields in Onyx Ranch. The South Fork of the Kern River runs from the northeast corner, in a southwest direction between the fields shown. Lake Isabella is not shown but is located west of this location several miles. The field boundaries are shown with the field names and colored by crop type.

The major crop is pasture. The reason is related to the variability in surface irrigation water due to the lack of upstream storage. During dry years the limited available water is focused on the alfalfa and potato fields to ensure a valued crop harvest. If water is not available, the pastures are not irrigated or receive limited irrigation. The native grasses that make up the pasture will re-grow in the following spring after winter rains and spring irrigations are applied (personal communication with Dale Creighton, land lessee, 760-378-2417).

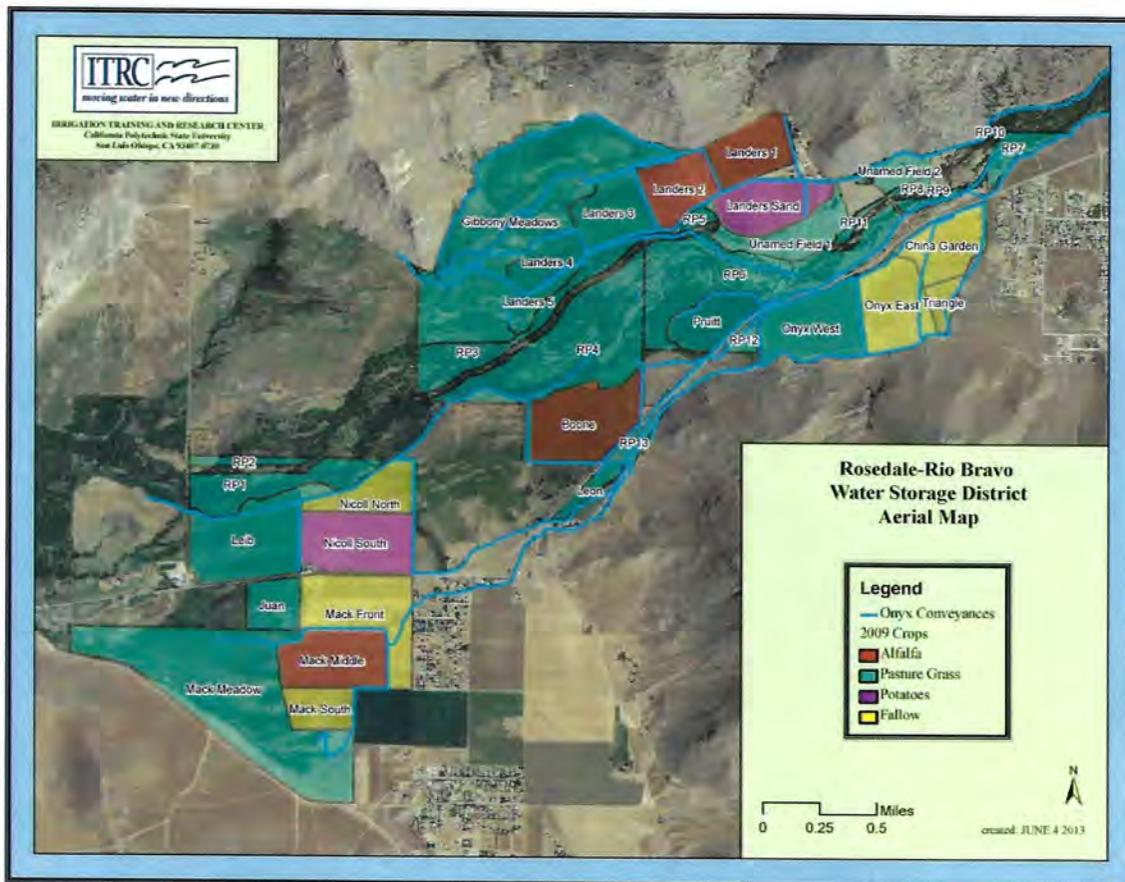


Figure 1. Onyx Ranch Fields.

## ***Purpose***

The objective of this project was to provide the most accurate estimate of evapotranspiration of irrigation water (ET<sub>iw</sub>) and total crop evapotranspiration (ET<sub>c</sub>) during previous crop year possible. Utilizing traditional approaches of estimating ET<sub>c</sub> unless very detailed information on irrigation schedules, planting and harvest dates, crop development lengths, etc. are known. Even then there are a number of unknown factors such as crop health and vigor which will have a negative impact on the results.

To improve the level of accuracy in estimating evapotranspiration, ITRC uses a new approach to compute evapotranspiration from special satellite images that collect information on surface temperature as well as other critical data. This information is used in the ITRC METRIC procedure to compute actual ET<sub>c</sub> for every pixel in the image at the instant the image was taken. The LandSAT project provides these special images to users for every region in the world on a 16 day cycle up until November 2011 (LandSAT 5 ended transmissions at that time). Data is available as far back as the mid-1980's. Starting in May 2013, LandSAT 8 will be providing complete images again.

In order to partition the sources of ET<sub>c</sub>, ITRC combined the results from METRIC with an advanced soil water balance model. The modeling inputs are based on published information on crops and regions as well as experience in cropping and irrigation systems. Then these inputs are adjusted based on the results from the METRIC evaluation until the results match.

# PROCEDURE AND RESULTS

As noted in the previous section, work was divided into two steps. The first step was to develop an understanding of the cropping strategies and develop accurate actual crop evapotranspiration (and crop coefficient) values with a high degree of spatial resolution (throughout each field in Onyx Ranch) for two different water years. The second step was to utilize these estimates to set up a daily soil water balance model that could be run over the study period. This daily water balance model provides an estimate of the partitioning of evapotranspiration (*ET*) from irrigation water and precipitation.

## *Step 1. Using LandsAT Images to Compute Crop Evapotranspiration (ETc)*

It was decided that 2009 and 2011 would be examined in this step to examine two different water year types (2009 was a relatively dry year with low diversion and 2011 followed a very wet Fall/Early Winter with significant snow pack and South Fork River flow).

### ITRC METRIC Model

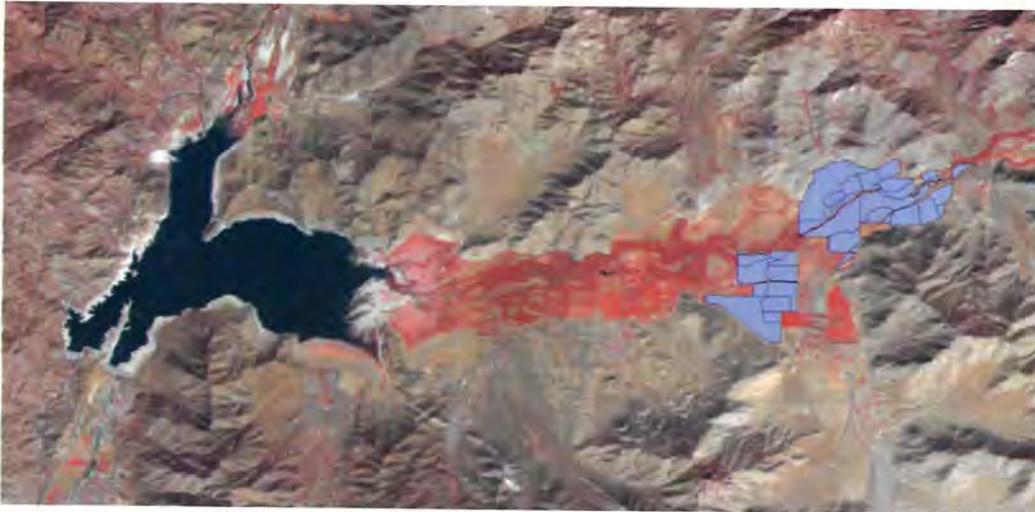
The Mapping Evapotranspiration at High Resolution (METRIC) process is based on a surface energy balance. It depends upon both accurate and frequent LandsAT satellite thermal images (available only once per 16 days and less frequently if clouds are covering the area) and understanding of the cropping systems within a region. The METRIC programs have gradually evolved from research in the US and other countries with the objective of being able to directly estimate actual *ET* over large areas with limited data availability (such as irrigation method, irrigation practices). The image processing can be relatively fast; however, the collection of significant background data (besides the satellite images) that are necessary for each image is time-consuming. Proper use of METRIC also requires expert input/interpretation by those who run the program.

LandsAT 5 image pixel resolution is 30 meters by 30 meters for all but the thermal band. The thermal band pixel resolution is 120 meters by 120 meters. The thermal band is sharpened to 30 meter by 30 meter resolution by ITRC, using a special process that is much more accurate than the nominal cubic spline which is provided by USGS. Inputs into the METRIC model included:

- LandsAT imagery
- Digital elevation maps
- Weather station data (hourly and daily data)
- Spreadsheet calculated values
- Tabulated constants

### *Satellite Images*

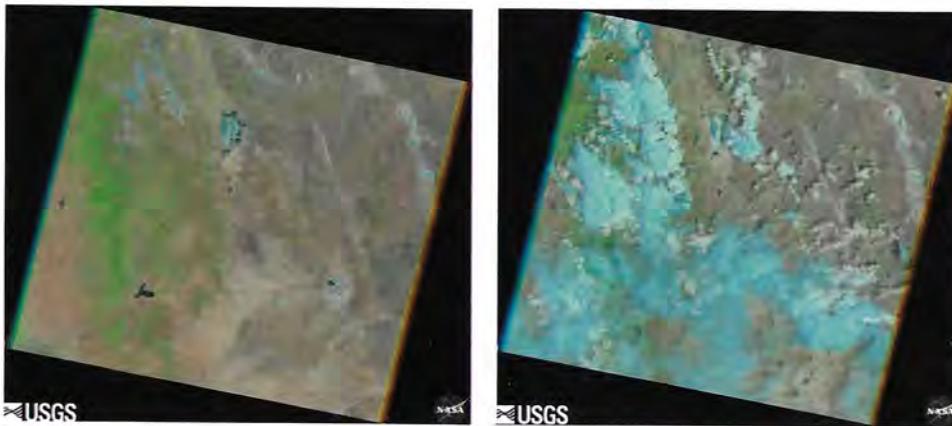
LandsAT 5 images available from the United States Geological Survey (USGS) on sixteen-day intervals were used for the METRIC process. The LandsAT 5 image that encompassed the area of interest was located in Path 41 and in Row 35. **Figure 2** shows a close-up view of the area of interest for this project from the LandsAT 5 image.



**Figure 2. Area of interest with infrared image in the background**

Two separate years, 2009 and 2011, were examined for the project. 2009 was chosen because it resembled a relatively dry year and 2011 was chosen because it resembled a relatively wet year. The month of October of the previous year was considered the start of the modeling year with September of the current year being the ending modeling month (e.g. October 2008 through September 2009). The reason for this offset was a lack of available images from late October through December 2009 and 2011.

In order to obtain reliable results from the modeling process, daily images need to be free of cloud coverage in the area of interest. **Figure 3** shows the difference between a usable and unusable image for METRIC modeling.



**Figure 3. Usable LandSAT image (left image) and an unusable LandSAT image (right image)**

All available cloud-free images were used for the modeling process as seen in **Table 1**. A total of 12 images for 2009 and 12 images for 2011 were processed using METRIC. These 24 images were processed using thermal sharpening, a technique that improves the accuracy of field level evapotranspiration estimates. Additional images prior to October (2008 and 2010) and after September (2009 and 2011) were processed using METRIC without thermal sharpening in order to accurately interpolate ETc between image dates. A total of 31 images were processed as part of the project.

Table 1. Chosen image dates for METRIC Process

Image Dates Selected for METRIC Process	
2008-2009	2010-2011
October 6 <sup>th</sup> 2008	October 12 <sup>th</sup> 2010
October 22 <sup>nd</sup> 2008	November 13 <sup>th</sup> 2010
January 10 <sup>th</sup> 2009	December 31 <sup>st</sup> 2010
March 31 <sup>st</sup> 2009	February 17 <sup>th</sup> 2011
April 16 <sup>th</sup> 2009	March 5 <sup>th</sup> 2011
May 2 <sup>nd</sup> 2009	April 22 <sup>nd</sup> 2011
June 19 <sup>th</sup> 2009	May 24 <sup>th</sup> 2011
July 5 <sup>th</sup> 2009	June 25 <sup>th</sup> 2011
July 21 <sup>st</sup> 2009	July 11 <sup>th</sup> 2011
August 6 <sup>th</sup> 2009	July 27 <sup>th</sup> 2011
September 7 <sup>th</sup> 2009	August 28 <sup>th</sup> 2011
September 23 <sup>rd</sup> 2009	September 29 <sup>th</sup> 2011

### Weather Data

Hourly weather data was collected from several weather stations near Onyx Ranch. A detailed quality control procedure was conducted on key weather data used to compute **grass reference evapotranspiration (ET<sub>o</sub>)**.

The weather station used where not specifically in place to provide ET<sub>o</sub>. Specialized weather stations for ET<sub>o</sub> computations, such as the California Irrigation Management Information System (CIMIS), were not available in that region. The weather station data was downloaded from MesoWest ([mesowest.utah.edu](http://mesowest.utah.edu)), which provides access to long-term hourly or sub-hourly weather data for a number of weather station networks. Each station may be maintained by other agencies (U.S. Army Corp of Engineers, Bureau of Land Management, etc.). Each station network may also collect different types of information as well.

Weather stations were chosen based on their location to the ranch and the availability of key data such as solar radiation, air temperature, wind speed, relative humidity, dew point, and precipitation. The following table lists the weather station examined during this investigation.

Table 2. Weather stations used to compute grass reference evapotranspiration.

ID	KRNC1	WFHC1	TR174	ISLC1
NAME	RIVERKERN NEAR KERVILLE	WOFFORD HEIGHTS	WALKER PASS EAST	ISABELLA WEATHER STATION NEAR LAKE ISABELLA
LATITUDE (DD)	35.7772	35.721667	35.662611	35.64583
LONGITUDE (DD)	-118.433739	-118.498889	-118.025472	-118.47722
ELEVATION	3044 ft	3150 ft	5217 ft	2680
MNET	RAWS	RAWS	RAWS	HADS

Hourly weather data for the project time frame were collected from the MesoWest weather stations located near the project area of interest as seen in **Figure 4**.



Figure 4. Location of MesoWest weather stations used for historical weather data.

The four weather stations comprised to make up the weather data to be used for the METRIC modeling process are as follows:

1. River Kern (Station ID: KRNC1)
2. Walker Pass (Station ID: ONYC1)
3. Wofford Heights (Station ID: WFHC1)
4. Lake Isabella (Station ID: ISLC1)

The River Kern weather station was chosen to be the primary weather station. When weather data from the River Kern weather station was missing for a particular date due to station failure or corrupted due to external factors, the data from the other weather stations were used instead. The order of priority for which the weather data was chosen for missing or corrupted data is show in the weather station list above. **Figure 5** shows the comparison of precipitation for each weather station during the study time frame. The Lake Isabella weather station is not shown because the significant errors in the precipitation data history.

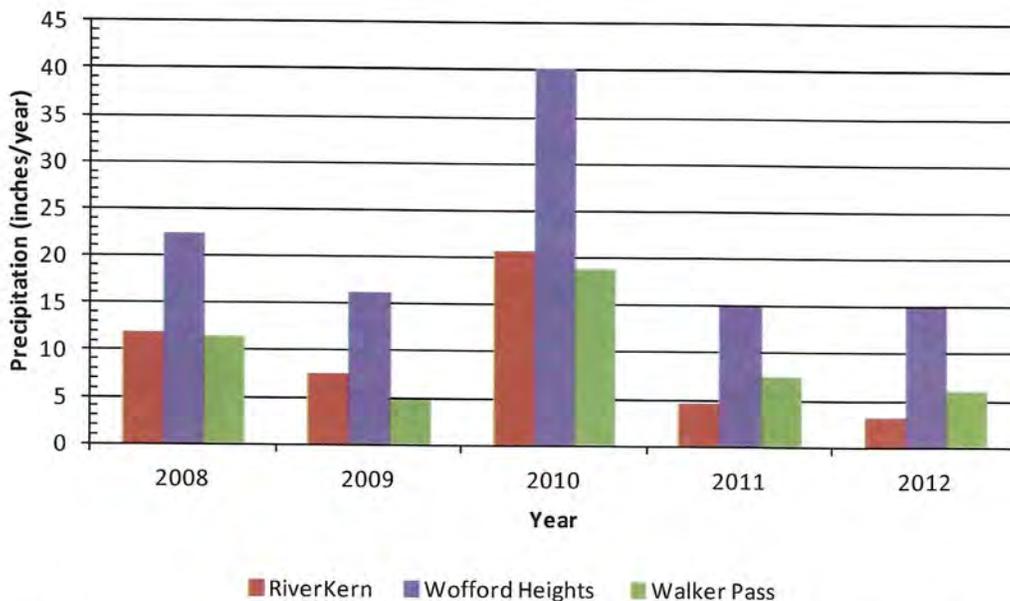


Figure 5. Comparison of precipitation for each weather station. Lake Isabella weather station is not included due the significant errors in the precipitation historical data.

The collected weather data went through a quality control check based FAO procedures. A detailed procedure on the quality control conducted can be found in FAO Irrigation and Drainage paper No. 56 (Allen et al. 1998) along with correction procedures.

The main correction needed to compute the hourly  $ET_o$  is to the solar radiation. Errors in solar radiation data are common because the sensors commonly go out of calibration or need cleaning. It is relatively easy to determine if there are issues with solar radiation data by comparing the measured values to the maximum potential solar radiation at the station. Maximum potential solar radiation is a function of Latitude and elevation of the station where the measurement is being taken. Clouds, smog, dust, and fog prevent solar radiation from reaching the sensor (and leaf surfaces) so actual solar radiation is often below the maximum potential solar radiation. However, over a period of several weeks the actual measured solar radiations should approach or be equal to the maximum potential radiation. Measured values should never be above the maximum potential values or below the maximum potential for long periods of time (more than several weeks or a month) especially during the summer.

Figure 6 contains a graph of the original and corrected solar radiation over the project time frame compared to the maximum potential. For the data used in this project, the solar radiation was significantly greater than the maximum potential for nearly the entire duration of the study period (and much higher in 2008). This indicates improper calibration of the sensor. The corrected solar radiation data was used to compute  $ET_o$  for this project.

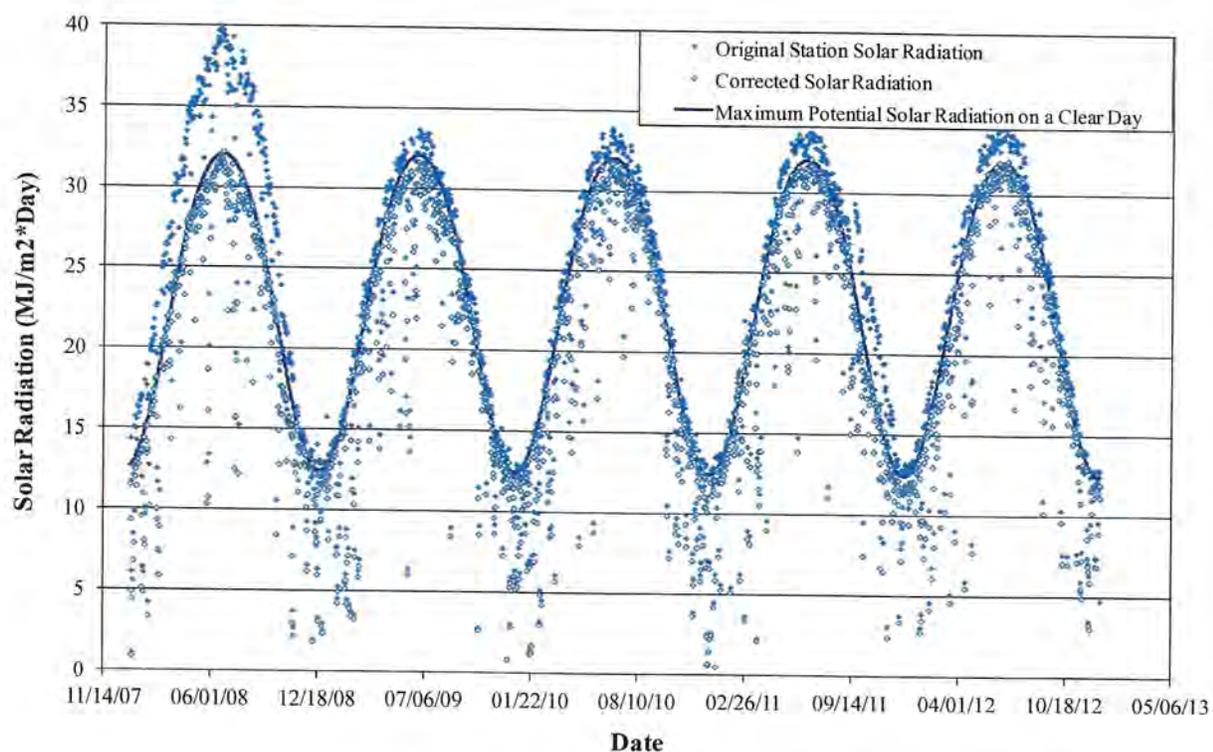


Figure 6. Adjusted solar radiation using procedures from FAO 56 (Allen et al, 1998).  
(Hourly Data -KRNC1 2008-2012b.xlsx)

Once the solar radiation and any other errors were corrected using the FAO procedures, the  $ET_o$  was computed using the ASCE 2005 Standardized Penman Monteith  $ET_o$  equation. Even though the weather stations were not setup using the standards typical for reference evapotranspiration, key weather parameters needed to compute  $ET_o$  was available. The concern is the “fetch” or vegetation surrounding

the weather station where this data is collected. Since none of the station had the standard fetch which is recommended for ETo weather station, temperature and relative humidity measurements could be different than under a standard condition. However, since Onyx Ranch is not within a vast agricultural region, the weather conditions measured at the stations such as RiverKern is likely consistent with the relative humidity and temperature around and within the agricultural fields in Onyx Ranch.

In order to improve the confidence in the ETo computed from weather data at RiverKern, ETo information computed independently from Spatial CIMIS ([www.cimis.water.ca.gov/cimis/cimiSatSpatialCimis.jsp](http://www.cimis.water.ca.gov/cimis/cimiSatSpatialCimis.jsp)) was used as a comparison. The reason Spatial CIMIS was not used as the primary source of data is that it only provides daily ETo information and hourly data is required for the METRIC process. In addition, Spatial CIMIS is relatively new and ITRC is still in the process of checking the spatial results against station measurements. Nevertheless, Spatial CIMIS ETo values are computed completely independent from the weather parameters used for this evaluation so if the values are close, our confidence is improved. The following chart shows the comparison between the ETo computed for this project and the ETo from Spatial CIMIS. The results show very good agreement with the only significant difference (~6%) in 2012.

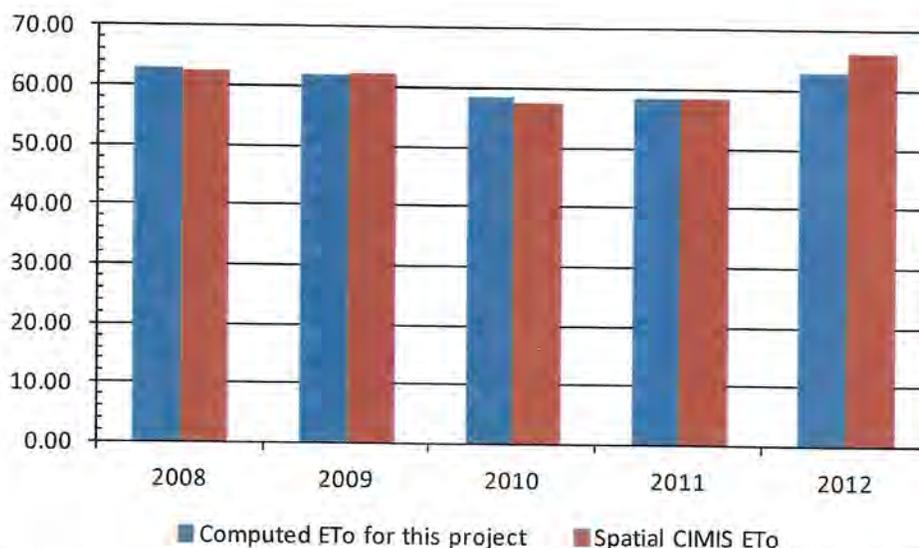


Figure 7. Comparison of annual ETo computed from hourly weather data for this project and that from Spatial CIMIS.  
(*spatial CIMIS ETo check.xlsx*)

ETo and individual weather data are used within the METRIC process to compute inputs into the software. METRIC computes the instantaneous  $ET_c$  for every pixel within the LandsAT image at the instant the image is taken. Knowing the  $ETo$  at that instant from the local weather station, a **crop coefficient ( $K_c$ )** can be computed ( $K_c = ET_c/ETo$ ). It has been shown that this instantaneous  $K_c$  at the time of image acquisition (approximately 11 a.m.) is a very good representation of the  $K_c$  for that entire day.

### Elevation Data

A Digital Elevation Model (DEM) provided by the USGS was used to adjust the model outputs based on the surface elevation through the area of interest. The DEM used had a resolution of 10m (1/3 arc second) which was then re-projected into a 30m x 30m pixel size to match the resolution of the LandsAT 5 images.

**Landuse Map**

A Landuse map provided by the National Resources Conservation Service (NRCS) was collected to be used for the model process. The Landuse map was modified to assume that the area of interest was comprised on an alfalfa/pasture crop. The original Landuse map had distinguished certain parts of the area of interest to be crops or woodlands that were not plausible for the area (e.g. evergreen trees). The only use of this map in METRIC is to establish the crop height for surface resistance related to wind. Since the crops are primarily pasture and alfalfa with some row crops which have similar heights it is reasonable to assume a consistent height throughout the analysis area.

**METRIC Kc Results**

Crop coefficients (*Kc*) values provide a good indication of potential evapotranspiration in a field without the influence of *ET<sub>o</sub>* ( $Kc = ETc/ETo$ ). *Kc* values for grass reference based *ET<sub>o</sub>* typically range from 0 to a maximum of approximately 1.25 depending on crop type, development, health and vigor, etc. **Figures 8, 9, and 10** show the *Kc* results from three different months and their ranges of *Kc* values. The lighter the pixel color, such as yellow, the lower the *Kc* value. Conversely, the darker the pixel color, such as blue, the higher the *Kc* value.

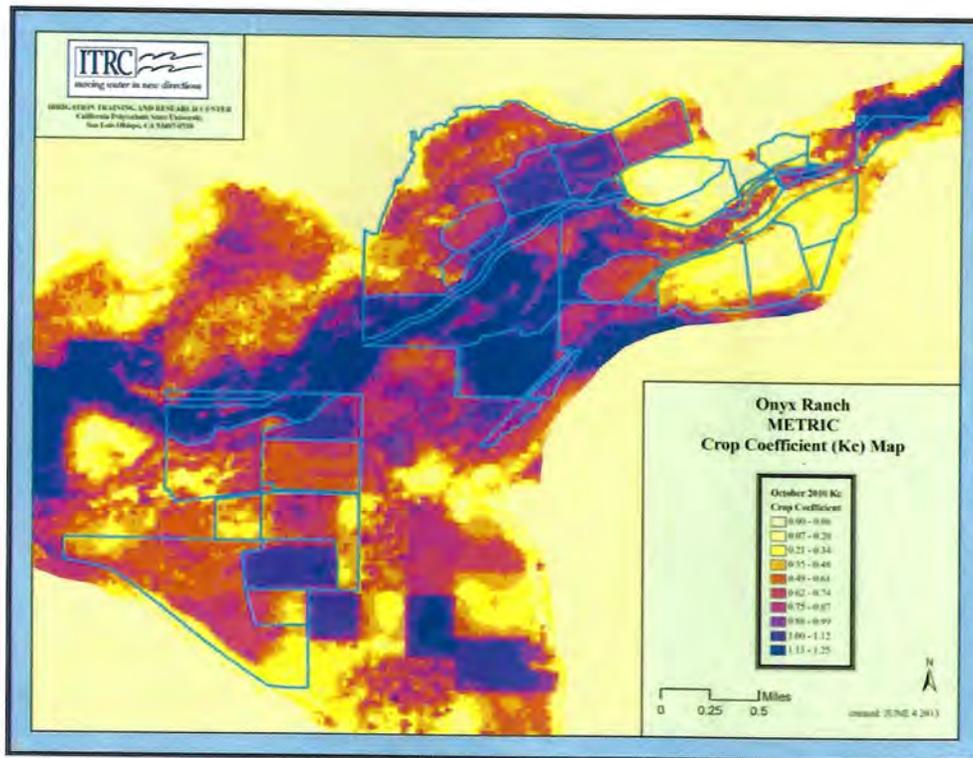


Figure 8. METRIC Kc Results for October 2010

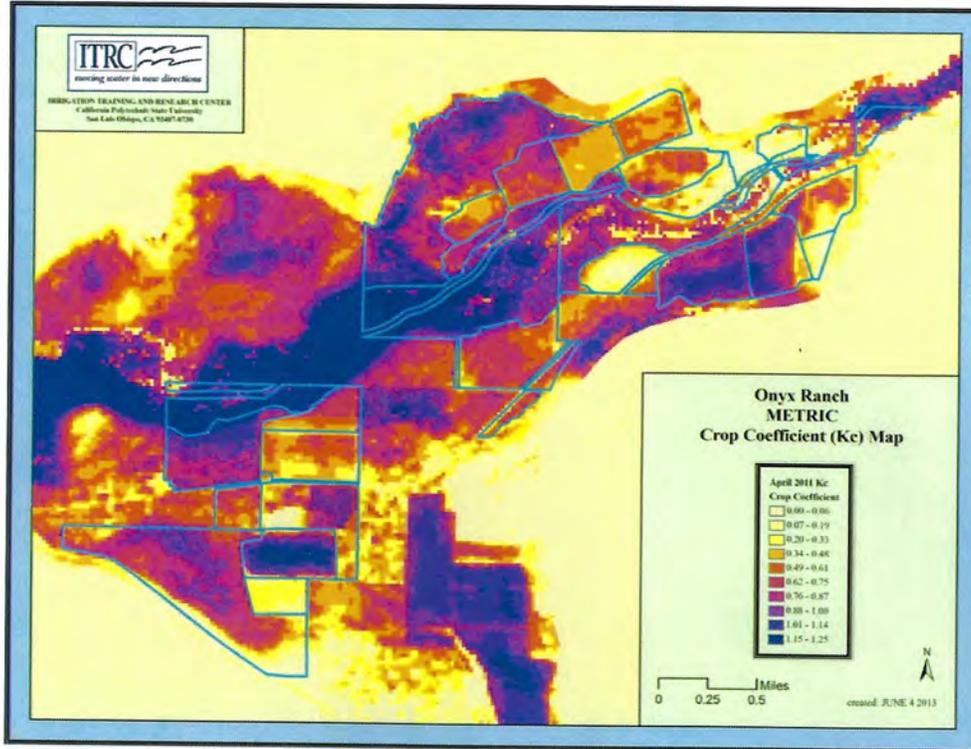


Figure 9. METRIC Kc Results for April 2011

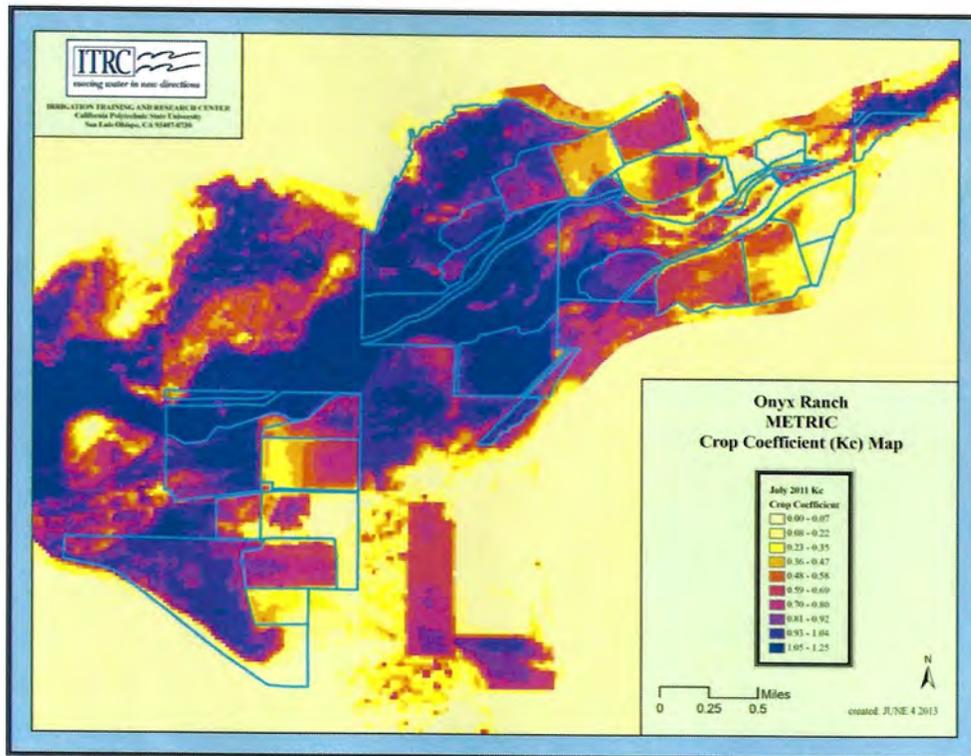
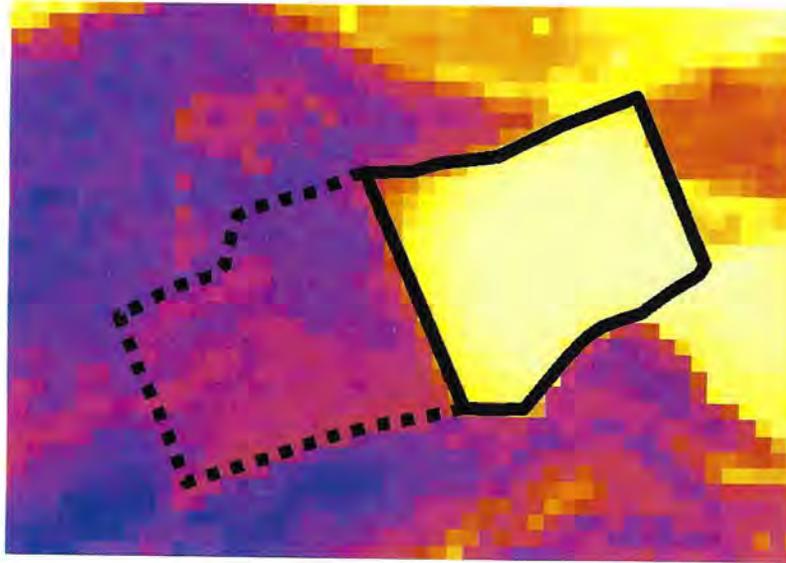


Figure 10. METRIC Kc Results for July 2011

**Figure 11** compares the  $K_c$  values found in Landers 2 field prior to planting potatoes and in Landers 3 field with irrigated pasture for July 11, 2011. The Landers 2 field, outlined in solid black, had  $K_c$  values that ranged from 0 to 0.21. The Landers 3 field, outlined with a black dashed line, had  $K_c$  values that ranged from 0.69 to 0.98.



**Figure 11.**  $K_c$  color indexing for Landers 2 (solid black border) prior to planting potatoes and Landers 3 (dashed black border) with irrigated pasture on July 11, 2011

From the METRIC results, average monthly weighted  $K_c$  for each field was extracted using GIS with the crop maps for 2009 and 2011. Using ArcGIS, each monthly  $K_c$  pixel within each field boundary was averaged to provide an average monthly field crop coefficient. The METRIC  $K_c$  images for each month are shown in **Appendix B**.

The final process in METRIC involves combining the monthly images into a total water year  $ET_c$  image. This is completed using interpolation between monthly images to estimate the daily  $K_c$  for each pixel. The daily  $K_c$  is then multiplied by the daily corrected  $ET_o$  from the weather station data to compute the daily  $ET_c$  for each pixel. These values are summed over the year to estimate the annual  $ET_c$  image as shown in **Figures 12 and 13**.

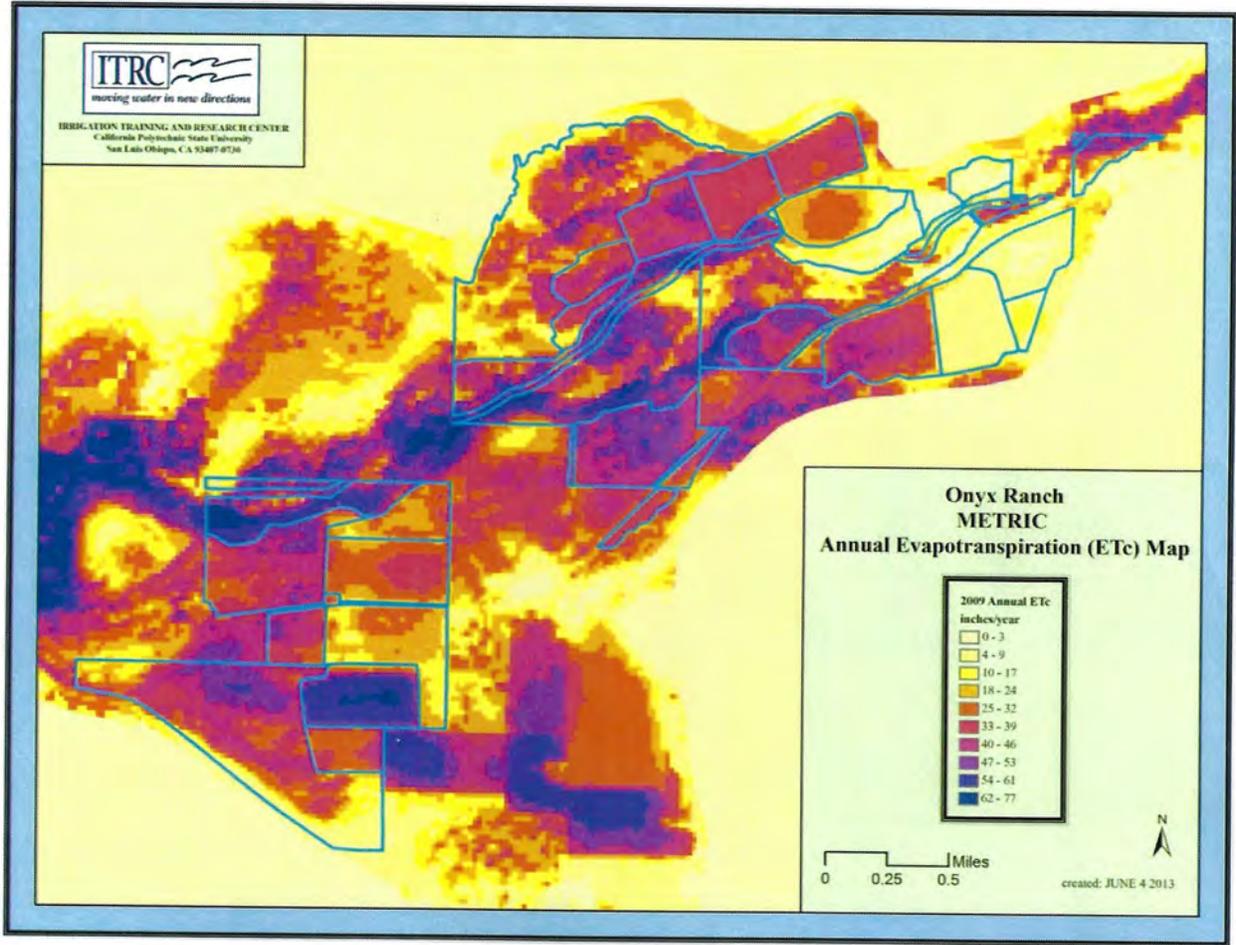


Figure 12. 2009 Total ETc from ITRC METRIC for the evaluation area

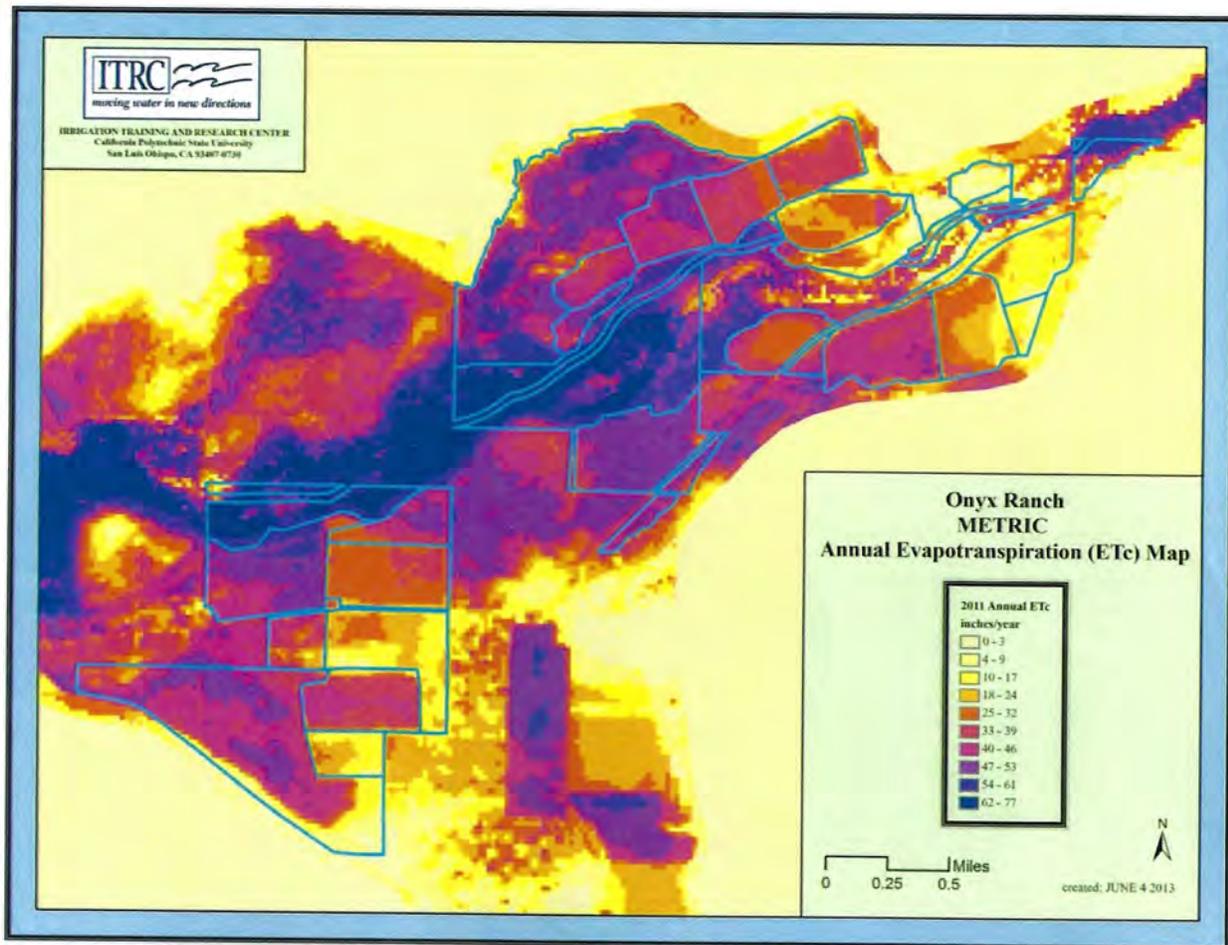


Figure 13. 2010 Annual ETc from ITRC METRIC for the evaluation area

## Step 2. Soil Water Balance Modeling

METRIC outputs the total  $ET_c$  while for this project it is necessary to estimate the  $ET_c$  that specifically came from irrigation water ( $ET_{iw}$ ). For the long-term assessment, a daily soil water balance model (ITRC/FAO 56 dual crop coefficient model) was used to estimate the daily  $ET_c$  and  $ET_{iw}$ . The model is built in Visual Basic.Net (VB.NET) and is based on the FAO 56 dual crop coefficient procedure described in detail in Allen et al. 1998 and Burt et al. 2002.

The process for estimating  $ET_c$  and  $ET_{iw}$  from 2009-2012 required a number of key steps which will be described in more detail, including:

- Using the daily  $ET_o$  for the study period (described earlier)
- Examining soil types in the region.
- Using the  $K_c$  values developed from the METRIC evaluation to set up the crop inputs including planting and harvest dates, periods of crop development
- Conduct the daily soil water balance modeling for key crops
- Utilizing reported cropping acreages provided by RRBWSD
- Computing the volume of irrigation water consumption by crops in Onyx Ranch

Soil types were obtained from the NRCS soil survey maps. The major soil type in the region was a sandy loam. This is a relatively coarse soil with a moderate available water holding capacity (1.25-1.4 inches of water per foot of soil).

### **Using METRIC $K_c$ to Develop Model Inputs**

The drawbacks to the traditional soil water balance model to assess crop water use are the assumptions on planting and harvest dates, start of senescence, crop development timing, general crop health (including stress), etc., which can vary by region. With METRIC, these assumptions do not need to be made because an image provides the crop cover and health at that time point.

Therefore, the METRIC  $K_c$  values were used to develop the cropping inputs into the daily soil water balance model. The procedure involved an iterative process where an initial estimate of the cropping inputs was made and the model was run for 2008-2012 (2008 was modeled, but because of the lack of crop acreage the  $ET_c$  and  $ET_{iw}$  volume could not be computed). The daily crop coefficients from the model ( $K_c$ ) was overlaid graphically with the monthly METRIC  $K_c$  values.

**Figures 14-16** shows Model  $K_c$  and METRIC  $K_c$  comparisons for three crops. The METRIC  $K_c$ , shown as the red squares, are the monthly average  $K_c$  values. The daily  $K_c$  is the blue line, which varies depending on soil moisture. The highest Model  $K_c$  values occur just after precipitation and irrigation, indicating a high rate of evaporation because the soil surface is wet. The green line is called the Basal Crop Coefficient ( $K_{cb}$ ). This indicates the crop's potential to transpire water assuming a dry soil surface (no evaporation) and a moist soil (no water stress). The  $K_{cb}$  is a published value and is used as the basis of the daily  $K_c$  development. The daily  $K_c$  is computed based on the  $K_{cb}$  but is corrected to account for evaporation and water stress.

When the  $K_c$  (blue line) drops below the  $K_{cb}$ , this indicates that water stress is occurring. The level of assumed water stress between irrigations is set as the model input, which reduces the  $K_c$  so it matches more closely the METRIC  $K_c$ .

The alfalfa graph shown in **Figure 16** differs from the others because on any given day that a LandsAT image is taken, some fields will be cut, while others will be partially developing after a recent cutting, and others will be at full cover. METRIC  $K_c$  values are instantaneous and it is unknown where in the cutting cycle the field is on that particular day. The daily soil water balance model for alfalfa is a representative field whose monthly crop coefficient should match the METRIC  $K_c$ . Alfalfa in Onyx Ranch gets approximately 5 to 6 cuttings per year. These cuttings can be seen by the drop in both  $K_c$  and  $K_{cb}$  throughout the late spring through the fall.

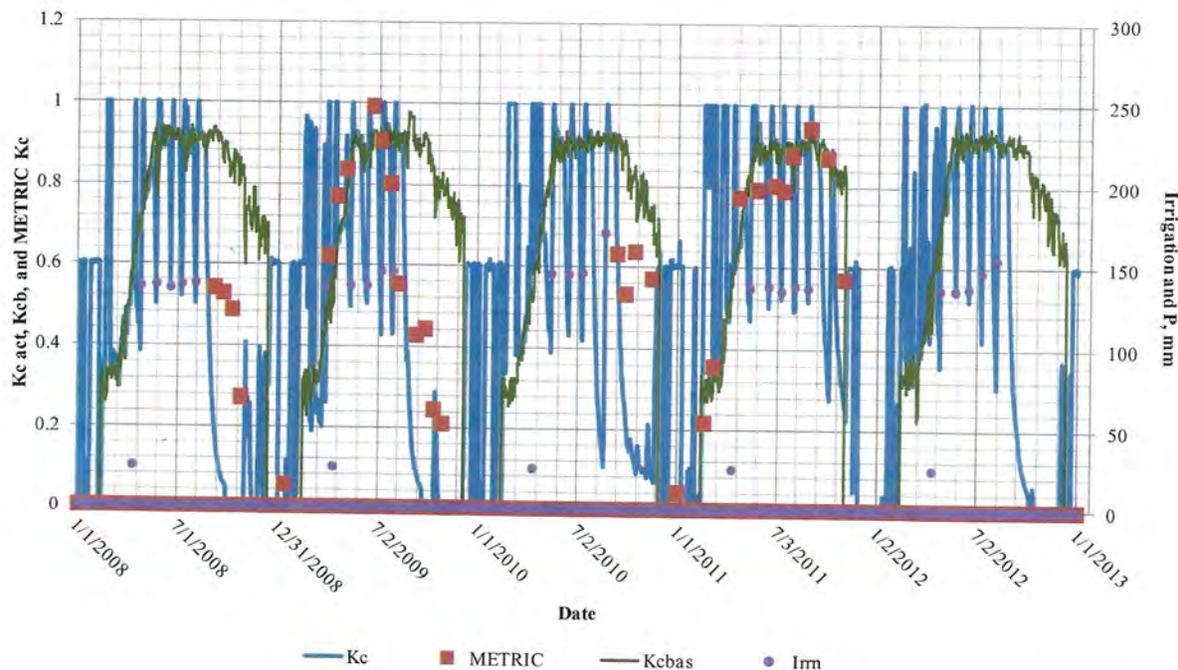


Figure 14. Irrigated pasture crop coefficient comparison from the soil water balance model ( $K_c$  and  $K_{cb}$ ) and METRIC  $K_c$  (METRIC)

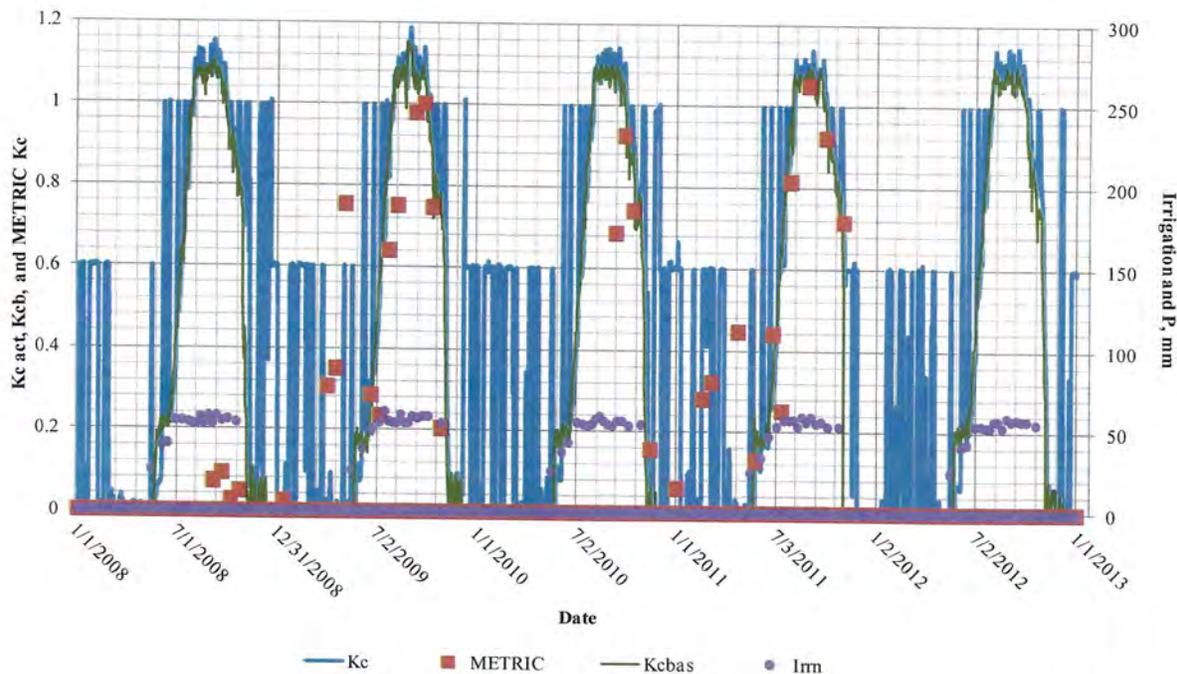


Figure 15. Potato crop coefficient comparison from the soil water balance model ( $K_c$  and  $K_{cb}$ ) and METRIC  $K_c$  (METRIC)

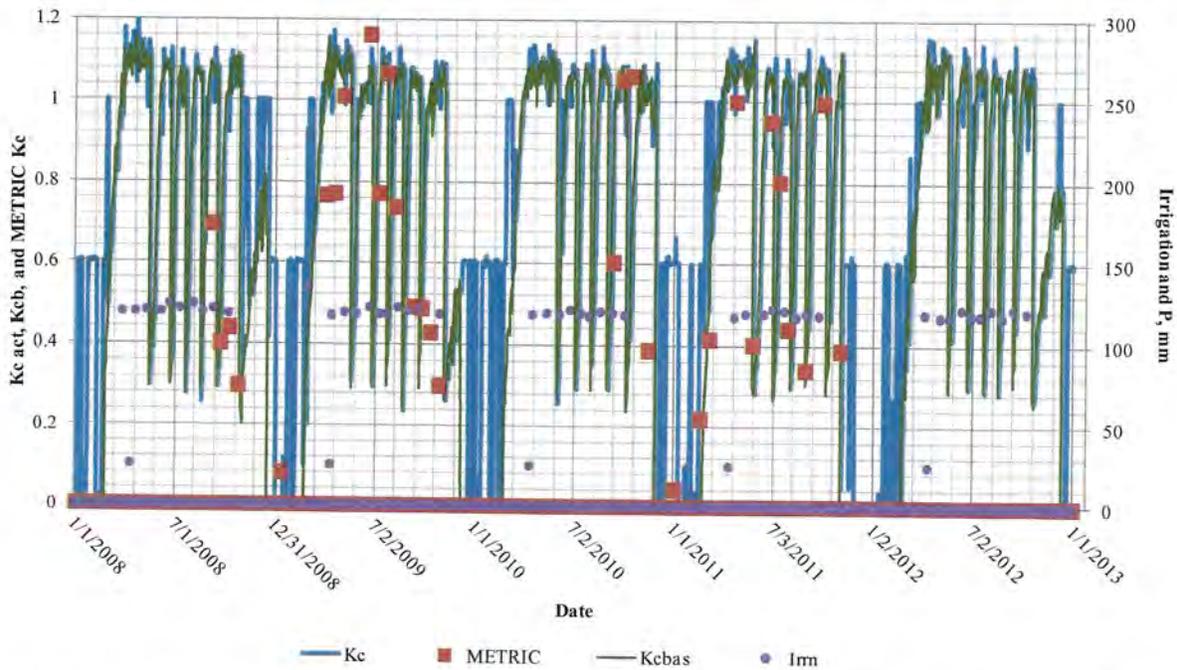


Figure 16. Alfalfa crop coefficient comparison from the soil water balance model ( $K_c$  and  $K_{cb}$ ) and METRIC  $K_c$  (METRIC)

Table 4 lists the crops that were modeled for this project.

Table 4. Crops modeled using the Daily Soil Water Balance model

Potatoes
Alfalfa Hay
Sudan Hay
Winter Oat Hay
Irrigated Pasture
Meadow Pasture
Riparian Pasture

**Daily Soil Water Balance Modeling**

The daily soil water balance model was used to compute  $ET_c$  and  $ET_{iw}$  for each crop. The modeling is conducted for representative crops in a single dimension, meaning that the acreage is not put into the model and outputs are on a depth basis (i.e., millimeters, inches, etc.). The crop acreage was incorporated in a later stage to estimate volumes of  $ET_{iw}$  and  $ET_c$  throughout Onyx Ranch.

Tables 5 and 6 show the modeled depth of total  $ET_{iw}$  and  $ET_c$  on a monthly basis from the crop categories found in Onyx Ranch. Also shown in the tables is the crop acreage provided to ITRC by field and year. The field areas were verified in GIS from shapefiles provided by RRBWSD. The field acreages by field name and crop are shown in Appendix A. These acreages were used to compute the volume of evapotranspiration in acre-feet per month shown in Tables 7 and 8.

Table 5.  $ET_{iw}$  depth estimates for crops in Onyx Ranch

Year	Crop	Acreage	ET of Irrigation Water (inches)													
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	
2009	Alfalfa	170	0.0	1.0	2.7	5.8	6.5	6.5	9.1	7.7	6.3	4.1	1.6	0.0	0.0	51.4
2009	Alfalfa\May Potatoes	53	0.0	1.0	2.7	5.8	6.5	2.8	8.0	9.5	7.2	3.7	0.6	0.0	0.0	47.9
2009	Irrigated pasture	511	0.0	0.0	1.8	3.7	6.1	5.9	7.9	5.3	0.4	0.0	0.0	0.0	0.0	31.2
2009	Meadow Pasture	579	0.0	1.3	1.4	3.5	5.6	5.0	5.4	4.8	5.0	1.0	0.5	0.0	0.0	33.6
2009	None	256	0.0	0.0	0.4	0.7	2.7	2.6	1.6	1.1	0.1	0.0	0.0	0.0	0.0	9.2
2009	Potatoes	142	0.0	0.0	0.0	0.0	0.7	2.8	8.0	9.5	7.2	3.7	0.6	0.0	0.0	32.6
2009	Sudan Grass	60	0.0	0.0	0.0	0.4	0.0	4.1	9.8	7.6	5.9	3.5	1.9	0.8	0.0	34.1
2010	Alfalfa	170	0.0	0.0	2.9	5.1	6.9	7.1	8.1	7.4	5.6	3.0	1.1	0.0	0.0	47.1
2010	Irrigated pasture	722	0.0	0.0	1.5	3.6	4.8	6.5	7.0	4.2	3.6	0.2	0.0	0.0	0.0	31.3
2010	Meadow Pasture	579	0.0	0.0	1.5	3.7	4.5	6.0	4.2	6.0	3.8	2.0	0.0	0.0	0.0	31.6
2010	None	105	0.0	0.0	0.3	0.7	2.1	2.9	1.4	0.8	0.7	0.0	0.0	0.0	0.0	9.0
2010	Oats / Sudan Grass	135	0.0	0.0	2.9	4.4	5.3	3.7	8.6	7.6	6.0	3.1	2.1	0.0	0.0	43.6
2010	Potatoes	60	0.0	0.0	0.0	0.0	0.6	2.8	7.2	9.2	7.1	3.3	0.0	0.0	0.0	30.2
2011	Alfalfa	170	0.0	0.0	1.2	5.5	6.2	6.7	7.3	7.2	5.6	1.9	0.0	0.0	0.0	41.6
2011	Irrigated pasture	571	0.0	0.0	0.4	3.3	5.2	6.5	6.6	6.9	4.6	0.2	0.0	0.0	0.0	33.7
2011	Meadow Pasture	579	0.0	0.0	0.4	3.6	5.3	6.5	6.6	7.1	4.1	0.0	0.0	0.0	0.0	33.7
2011	None	105	0.0	0.0	0.1	0.7	2.3	2.9	1.3	1.4	0.9	0.0	0.0	0.0	0.0	9.6
2011	Oats	116	0.0	0.0	2.2	4.8	3.9	2.9	1.3	1.4	0.9	0.0	0.0	0.0	0.5	18.0
2011	Oats/Oct. Alfalfa	60	0.0	0.0	2.2	4.8	3.9	0.0	0.0	0.0	2.8	1.9	0.0	0.0	0.0	15.6
2011	Potatoes	135	0.0	0.0	0.0	0.0	0.8	2.7	6.3	8.9	6.8	3.9	0.0	0.0	0.0	29.4
2011	Sept. Alfalfa	35	0.0	0.0	0.4	1.7	1.7	3.2	2.2	1.2	2.8	1.9	0.0	0.0	0.0	15.1
2012	Alfalfa	191	0.0	0.0	1.2	5.6	7.2	7.8	8.1	7.5	6.1	3.4	1.6	0.0	0.0	48.4
2012	Irrigated pasture	615	0.0	0.0	0.3	3.3	6.6	7.5	7.0	6.2	1.2	0.0	0.0	0.0	0.0	32.1
2012	Meadow Pasture	579	0.0	0.0	0.4	2.7	6.0	6.3	7.0	6.4	4.7	0.7	0.1	0.0	0.0	34.4
2012	None	105	0.0	0.0	0.1	0.7	2.9	3.3	1.4	1.2	0.2	0.0	0.0	0.0	0.0	9.9
2012	Oats	281	1.4	0.0	3.1	4.7	5.2	3.3	1.4	1.2	0.2	0.9	1.0	0.0	0.0	22.6

Table 6. ETc depth estimates for crops in Onyx Ranch

Year	Crop	Acreage	Total Crop Evapotranspiration and Soil Evaporation (ETc) (Inches)												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2009	Alfalfa	170	0.3	1.0	3.5	5.8	6.5	6.5	9.1	7.7	6.3	4.1	1.6	0.7	53.2
2009	Alfalfa \May Potatoes	53	0.3	1.0	3.5	5.8	6.5	2.8	8.0	9.5	7.2	3.7	0.6	0.5	49.5
2009	Irrigated pasture	511	0.3	1.2	1.8	3.7	6.1	5.9	7.9	5.3	0.4	0.1	0.0	0.5	33.3
2009	Meadow / Pasture	579	0.3	1.3	2.1	3.5	5.6	5.0	5.4	4.8	5.0	1.8	0.5	0.6	36.0
2009	None	256	0.5	1.3	0.8	0.7	2.7	2.6	1.6	1.1	0.1	0.6	0.0	0.9	12.9
2009	Potatoes	142	0.3	0.8	0.5	0.1	0.7	2.8	8.0	9.5	7.2	3.7	0.6	0.5	34.8
2009	Sudan Grass	60	0.3	0.8	0.5	0.4	0.2	4.1	9.8	7.6	5.9	3.5	1.9	0.8	35.9
2010	Alfalfa	170	0.5	0.9	3.5	5.1	6.9	7.1	8.1	7.4	5.6	3.0	2.4	0.7	51.1
2010	Irrigated pasture	722	0.5	1.2	2.1	3.6	4.8	6.5	7.0	4.2	3.6	0.5	0.5	0.7	35.0
2010	Meadow Pasture	579	0.5	1.2	2.2	3.7	4.5	6.0	4.2	6.0	3.8	2.2	1.0	0.7	35.9
2010	None	105	0.9	1.3	0.9	1.4	2.1	2.9	1.4	0.8	0.7	0.1	0.7	1.1	14.3
2010	Oats / Sudan Grass	135	1.2	1.7	3.5	4.4	5.3	3.7	8.6	7.6	6.0	3.1	2.1	0.7	47.9
2010	Potatoes	60	0.5	0.7	0.6	0.8	0.6	2.8	7.2	9.2	7.1	3.3	1.1	0.7	34.6
2011	Alfalfa	170	0.3	0.8	3.0	5.5	6.2	6.7	7.3	7.2	5.6	3.7	1.2	0.0	47.5
2011	Irrigated pasture	571	0.3	1.1	2.2	3.3	5.2	6.5	6.6	6.9	4.6	2.0	0.9	0.0	39.7
2011	Meadow Pasture	579	0.3	1.1	2.2	3.6	5.3	6.5	6.6	7.1	4.1	1.8	0.9	0.0	39.6
2011	None	105	0.5	1.1	1.4	1.7	2.3	2.9	2.2	1.4	0.9	0.6	1.4	0.0	16.4
2011	Oats	116	1.2	1.9	6.2	4.6	4.8	2.9	2.2	1.4	0.9	1.6	1.6	0.5	29.9
2011	Oats/Oct. Alfalfa	60	1.2	1.9	6.2	4.6	4.8	0.0	0.0	0.0	2.8	3.7	0.6	0.0	26.0
2011	Potatoes	135	0.3	0.7	0.9	0.1	0.8	2.7	6.3	8.9	6.8	3.9	1.1	0.0	32.5
2011	Sept. Alfalfa	35	0.5	1.1	1.4	0.2	0.6	3.2	3.2	3.0	2.8	3.7	0.6	0.0	20.3
2012	Alfalfa	191	0.3	0.5	3.0	5.6	7.2	7.8	8.1	7.5	6.1	3.4	1.6	0.9	52.0
2012	Irrigated pasture	615	0.3	0.8	2.2	3.3	6.6	7.5	7.0	6.2	1.2	0.1	0.0	0.4	35.5
2012	Meadow Pasture	579	0.3	0.8	2.2	2.7	6.0	6.3	7.0	6.4	4.7	0.8	0.2	0.5	38.0
2012	None	105	0.5	0.6	1.1	1.7	2.9	3.3	2.3	1.2	0.2	0.1	0.0	0.8	14.8
2012	Oats	281	1.4	1.4	5.6	4.7	5.2	3.3	2.3	1.2	0.2	0.9	1.0	1.1	28.6
Riparian Pasture is NOT Irrigated															
2009	Riparian pasture	541	0.3	1.0	1.9	2.8	4.3	5.6	8.2	6.6	4.5	4.0	1.6	0.7	41.4
2010	Riparian pasture	541	0.5	1.2	2.0	3.1	4.7	7.6	9.1	8.5	6.7	3.6	2.3	1.5	50.9
2011	Riparian pasture	541	0.3	0.9	2.1	2.5	4.8	7.3	8.1	8.3	6.4	4.4	1.2	0.0	46.4
2012	Riparian pasture	541	0.3	0.8	2.1	2.5	5.5	8.1	8.5	8.0	6.3	3.8	2.3	0.8	49.0

Table 7. Volume of evapotranspiration of irrigation water (ET<sub>iw</sub>) from Onyx Ranch by month and annual total.

Year	Crop	Acreage	Volume of ET <sub>iw</sub> (Acre-Feet)												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2009	Alfalfa	170	0	14	39	83	92	92	109	109	90	58	23	0	729
2009	Alfalfa\May Potatoes	53	0	4	12	26	29	12	36	42	32	16	3	0	212
2009	Irrigated pasture	511	0	0	78	156	262	250	338	227	18	0	0	0	1,328
2009	Meadow Pasture	579	0	61	67	171	269	243	262	234	243	48	25	0	1,623
2009	None	256	0	0	8	16	58	56	34	23	2	0	0	0	196
2009	Potatoes	142	0	0	0	0	9	33	95	112	86	44	7	0	386
2009	Sudan Grass	60	0	0	0	2	0	21	49	38	30	18	9	4	170
<b>2009</b>	<b>Total</b>	<b>1,771</b>	<b>0</b>	<b>79</b>	<b>203</b>	<b>453</b>	<b>718</b>	<b>707</b>	<b>943</b>	<b>784</b>	<b>500</b>	<b>184</b>	<b>67</b>	<b>4</b>	<b>4,642</b>
2010	Alfalfa	170	0	0	41	72	98	101	115	105	79	42	16	0	668
2010	Irrigated pasture	722	0	0	88	214	287	388	423	255	214	15	0	0	1,884
2010	Meadow Pasture	579	0	0	74	177	216	287	202	289	182	97	0	0	1,525
2010	None	105	0	0	3	6	19	25	12	7	6	0	0	0	79
2010	Oats / Sudan Grass	135	0	0	32	50	60	42	97	85	67	35	24	0	491
2010	Potatoes	60	0	0	0	0	3	14	36	46	35	16	0	0	151
<b>2010</b>	<b>Total</b>	<b>1,771</b>	<b>0</b>	<b>0</b>	<b>238</b>	<b>519</b>	<b>683</b>	<b>858</b>	<b>885</b>	<b>787</b>	<b>584</b>	<b>206</b>	<b>40</b>	<b>0</b>	<b>4,798</b>
2011	Alfalfa	170	0	0	17	77	88	96	103	102	80	26	0	0	589
2011	Irrigated pasture	571	0	0	19	159	246	307	316	330	219	8	0	0	1,605
2011	Meadow Pasture	579	0	0	21	173	257	312	319	344	198	0	0	0	1,624
2011	None	105	0	0	1	6	20	25	12	12	8	0	0	0	84
2011	Oats	116	0	0	21	47	38	28	13	13	9	0	0	5	174
2011	Oats/Oct. Alfalfa	60	0	0	11	24	20	0	0	0	14	9	0	0	78
2011	Potatoes	135	0	0	0	0	9	31	71	100	76	44	0	0	331
2011	Sept. Alfalfa	35	0	0	1	5	5	9	6	3	8	5	0	0	44
<b>2011</b>	<b>Total</b>	<b>1,771</b>	<b>0</b>	<b>0</b>	<b>90</b>	<b>491</b>	<b>682</b>	<b>807</b>	<b>840</b>	<b>906</b>	<b>613</b>	<b>94</b>	<b>0</b>	<b>5</b>	<b>4,528</b>
2012	Alfalfa	191	0	0	18	88	115	124	129	120	96	55	25	0	771
2012	Irrigated pasture	615	0	0	18	170	338	385	359	316	60	0	0	0	1,646
2012	Meadow Pasture	579	0	0	19	132	290	304	340	309	227	33	5	0	1,658
2012	None	105	0	0	1	6	26	29	12	11	2	0	0	0	86
2012	Oats	281	33	0	73	110	122	78	33	29	6	22	24	0	529
<b>2012</b>	<b>Total</b>	<b>1,771</b>	<b>33</b>	<b>0</b>	<b>129</b>	<b>506</b>	<b>890</b>	<b>921</b>	<b>873</b>	<b>784</b>	<b>391</b>	<b>110</b>	<b>54</b>	<b>0</b>	<b>4,691</b>

Table 8. Volume of total evapotranspiration (ETc) from Onyx Ranch by month and annual excluding Riparian Pasture.

Year	Crop	Acreage	Volume of ETc (Acre-Feet)												Annual
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
2009	Alfalfa	170	4	14	49	83	92	92	129	109	90	58	23	11	754
2009	Alfalfa\May Potatoes	53	1	4	15	26	29	12	36	42	32	16	3	2	219
2009	Irrigated pasture	511	13	49	78	156	262	250	338	227	18	6	0	22	1,418
2009	Meadow Pasture	579	14	61	103	171	269	243	262	234	243	85	25	27	1,737
2009	None	256	11	29	18	16	58	56	34	23	2	12	0	18	276
2009	Potatoes	142	4	9	6	1	9	33	95	112	86	44	7	6	412
2009	Sudan Grass	60	1	4	2	2	1	21	49	38	30	18	9	4	179
<b>2009</b>	<b>Total</b>	<b>1,771</b>	<b>48</b>	<b>170</b>	<b>271</b>	<b>454</b>	<b>719</b>	<b>707</b>	<b>943</b>	<b>784</b>	<b>500</b>	<b>239</b>	<b>67</b>	<b>91</b>	<b>4,994</b>
2010	Alfalfa	170	7	12	49	72	98	101	115	105	79	42	35	10	724
2010	Irrigated pasture	722	31	70	129	214	287	388	423	255	214	29	28	41	2,109
2010	Meadow Pasture	579	25	56	107	177	216	287	202	289	182	109	49	33	1,731
2010	None	105	8	11	8	12	19	25	12	7	6	1	6	10	125
2010	Oats / Sudan Grass	135	14	19	39	50	60	42	97	85	67	35	24	8	539
2010	Potatoes	60	3	4	3	4	3	14	36	46	35	16	6	3	173
<b>2010</b>	<b>Total</b>	<b>1,771</b>	<b>87</b>	<b>173</b>	<b>335</b>	<b>529</b>	<b>683</b>	<b>858</b>	<b>885</b>	<b>787</b>	<b>584</b>	<b>231</b>	<b>147</b>	<b>103</b>	<b>5,401</b>
2011	Alfalfa	170	5	11	42	77	88	96	103	102	80	52	17	0	673
2011	Irrigated pasture	571	15	53	104	159	246	307	316	330	220	96	43	0	1,891
2011	Meadow Pasture	579	16	54	107	173	257	312	319	344	199	87	44	0	1,912
2011	None	105	5	10	12	15	20	25	19	12	8	5	12	0	144
2011	Oats	116	12	19	60	45	47	28	21	13	9	15	15	5	289
2011	Oats/Oct. Alfalfa	60	6	10	31	23	24	0	0	0	14	19	3	0	130
2011	Potatoes	135	4	8	10	1	9	31	71	100	76	44	12	0	365
2011	Sept. Alfalfa	35	2	3	4	0	2	9	9	9	8	11	2	0	59
<b>2011</b>	<b>Total</b>	<b>1,771</b>	<b>64</b>	<b>168</b>	<b>370</b>	<b>493</b>	<b>693</b>	<b>807</b>	<b>860</b>	<b>911</b>	<b>614</b>	<b>329</b>	<b>149</b>	<b>5</b>	<b>5,463</b>
2012	Alfalfa	191	5	8	47	88	115	124	129	120	96	55	26	15	828
2012	Irrigated pasture	615	15	42	111	170	338	385	359	316	60	3	0	20	1,820
2012	Meadow Pasture	579	14	40	107	132	290	304	340	309	227	38	9	24	1,834
2012	None	105	4	5	10	15	26	29	20	11	2	0	0	7	129
2012	Oats	281	33	32	132	110	122	78	55	29	6	22	24	26	669
<b>2012</b>	<b>Total</b>	<b>1,771</b>	<b>70</b>	<b>127</b>	<b>408</b>	<b>515</b>	<b>890</b>	<b>921</b>	<b>903</b>	<b>784</b>	<b>391</b>	<b>118</b>	<b>60</b>	<b>92</b>	<b>5,280</b>

Table 8. Volume of total evapotranspiration (ETc) from Onyx Ranch by month and annual for Riparian Pasture.

Year	Crop	Acreage	Volume of ETc of Irrigation Water (Acre-Feet)												
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2009	Riparian pasture	541	14	46	85	125	193	252	371	297	203	179	73	29	1,866
2010	Riparian pasture	541	23	52	91	139	213	343	410	385	300	162	106	68	2,294
2011	Riparian pasture	541	15	40	96	115	218	331	366	374	286	197	55	0	2,093
2012	Riparian pasture	541	13	37	95	113	248	363	383	359	282	170	105	37	2,207

## **REFERENCES**

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- Burt, C.M., A. Mutziger, D. Howes, and K. Solomon. 2002. Evaporation from Irrigated Agricultural Land in California. Irrigation Training and Research Center, California Polytechnic State University, San Luis Obispo, California, USA,

**ATTACHMENT A**  
*Crop Acreage*

### Appendix A. Crop Acreage

Year	Name	Crop	Acres
2012	Nicoll South	Oats	82
2012	Boone	Alfalfa	96
2012	Landers 2	Irrigated pasture	53
2012	Landers 1	Irrigated pasture	55
2012	Pruitt	Irrigated pasture	44
2012	Landers Sand 1	Oats	45
2012	Landers Sand 2	Irrigated pasture	15
2012	Landers 3	Irrigated pasture	54
2012	Landers 4	Irrigated pasture	33
2012	Landers 5	Irrigated pasture	19
2012	Onyx West	Oats	83
2012	Leib	Irrigated pasture	107
2012	Gibbony Meadows	Meadow Pasture	312
2012	Unnamed Field 2	Irrigated pasture	20
2012	Unnamed Field 1	Irrigated pasture	50
2012	Onyx East	Oats	71
2012	China Garden	None	56
2012	Triangle	None	15
2012	Nicoll North	Irrigated pasture	45
2012	Mack Front 1	None	34
2012	Mack Front 2	Alfalfa	60
2012	Mack Middle 1	Irrigated pasture	30
2012	Mack Middle 2	Irrigated pasture	44
2012	Mack South	Alfalfa	35
2012	Mack Meadow	Meadow Pasture	267
2012	RP1	Riparian pasture	64
2012	RP2	Riparian pasture	13
2012	RP3	Riparian pasture	65
2012	RP4	Riparian pasture	173
2012	RP5	Riparian pasture	8
2012	RP6	Riparian pasture	154
2012	RP7	Riparian pasture	30
2012	RP8	Riparian pasture	5
2012	RP9	Riparian pasture	0
2012	RP10	Riparian pasture	1
2012	RP11	Riparian pasture	6
2012	RP12	Riparian pasture	10
2012	RP13	Riparian pasture	12
2012	Leon	Irrigated pasture	13
2012	Juan	Irrigated pasture	33
<b>2012 Total</b>			<b>2312</b>

Year	Name	Crop	Acres
2011	Nicoll South	Potatoes	82
2011	Boone	Alfalfa	96
2011	Landers 2	Potatoes	53
2011	Landers 1	Irrigated pasture	55
2011	Pruitt	Irrigated pasture	44
2011	Landers Sand 1	Oats	45
2011	Landers Sand 2	Irrigated pasture	15
2011	Landers 3	Irrigated pasture	54
2011	Landers 4	Irrigated pasture	33
2011	Landers 5	Irrigated pasture	19
2011	Onyx West	Irrigated pasture	83
2011	Leib	Irrigated pasture	107
2011	Gibbony Meadows	Meadow Pasture	312
2011	Unnamed Field 2	Irrigated pasture	20
2011	Unnamed Field 1	Irrigated pasture	50
2011	Onyx East	Oats	71
2011	China Garden	None	56
2011	Triangle	None	15
2011	Nicoll North	Irrigated pasture	45
2011	Mack Front 1	None	34
2011	Mack Front 2	Oats/Oct. Alfalfa	60
2011	Mack Middle	Alfalfa	74
2011	Mack South	Sept. Alfalfa	35
2011	Mack Meadow	Meadow Pasture	267
2011	RP1	Riparian pasture	64
2011	RP2	Riparian pasture	13
2011	RP3	Riparian pasture	65
2011	RP4	Riparian pasture	173
2011	RP5	Riparian pasture	8
2011	RP6	Riparian pasture	154
2011	RP7	Riparian pasture	30
2011	RP8	Riparian pasture	5
2011	RP9	Riparian pasture	0
2011	RP10	Riparian pasture	1
2011	RP11	Riparian pasture	6
2011	RP12	Riparian pasture	10
2011	RP13	Riparian pasture	12
2011	Leon	Irrigated pasture	13
2011	Juan	Irrigated pasture	33
<b>2011 Total</b>			<b>2312</b>

Year	Name	Crop	Acres
2010	Nicoll South	Oats / Sudan Grass	82
2010	Boone	Alfalfa	96
2010	Landers 2	Oats / Sudan Grass	53
2010	Landers 1	Irrigated pasture	55
2010	Pruitt	Irrigated pasture	44
2010	Landers Sand 1	Irrigated pasture	45
2010	Landers Sand 2	Irrigated pasture	15
2010	Landers 3	Irrigated pasture	54
2010	Landers 4	Irrigated pasture	33
2010	Landers 5	Irrigated pasture	19
2010	Onyx West	Irrigated pasture	83
2010	Leib	Irrigated pasture	107
2010	Gibbony Meadows	Meadow Pasture	312
2010	Unnamed Field 2	Irrigated pasture	20
2010	Unnamed Field 1	Irrigated pasture	50
2010	Onyx East	Irrigated pasture	71
2010	China Garden	None	56
2010	Triangle	None	15
2010	Nicoll North	Irrigated pasture	45
2010	Mack Front 1	None	34
2010	Mack Front 2	Potatoes	60
2010	Mack Middle	Alfalfa	74
2010	Mack South	Irrigated pasture	35
2010	Mack Meadow	Meadow Pasture	267
2010	RP1	Riparian pasture	64
2010	RP2	Riparian pasture	13
2010	RP3	Riparian pasture	65
2010	RP4	Riparian pasture	173
2010	RP5	Riparian pasture	8
2010	RP6	Riparian pasture	154
2010	RP7	Riparian pasture	30
2010	RP8	Riparian pasture	5
2010	RP9	Riparian pasture	0
2010	RP10	Riparian pasture	1
2010	RP11	Riparian pasture	6
2010	RP12	Riparian pasture	10
2010	RP13	Riparian pasture	12
2010	Leon	Irrigated pasture	13
2010	Juan	Irrigated pasture	33

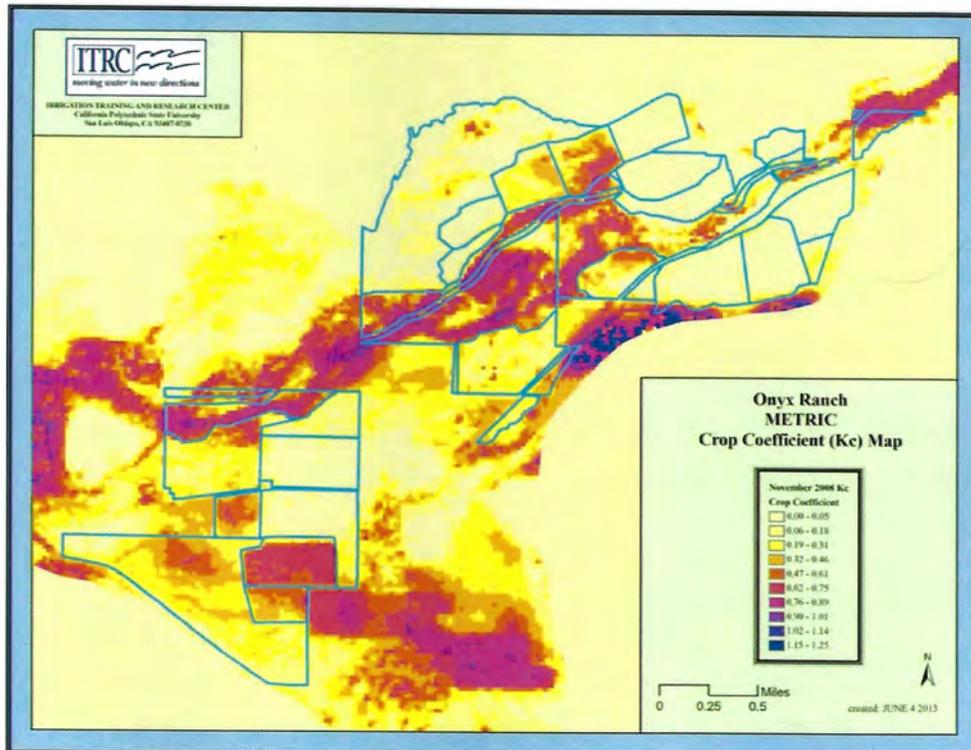
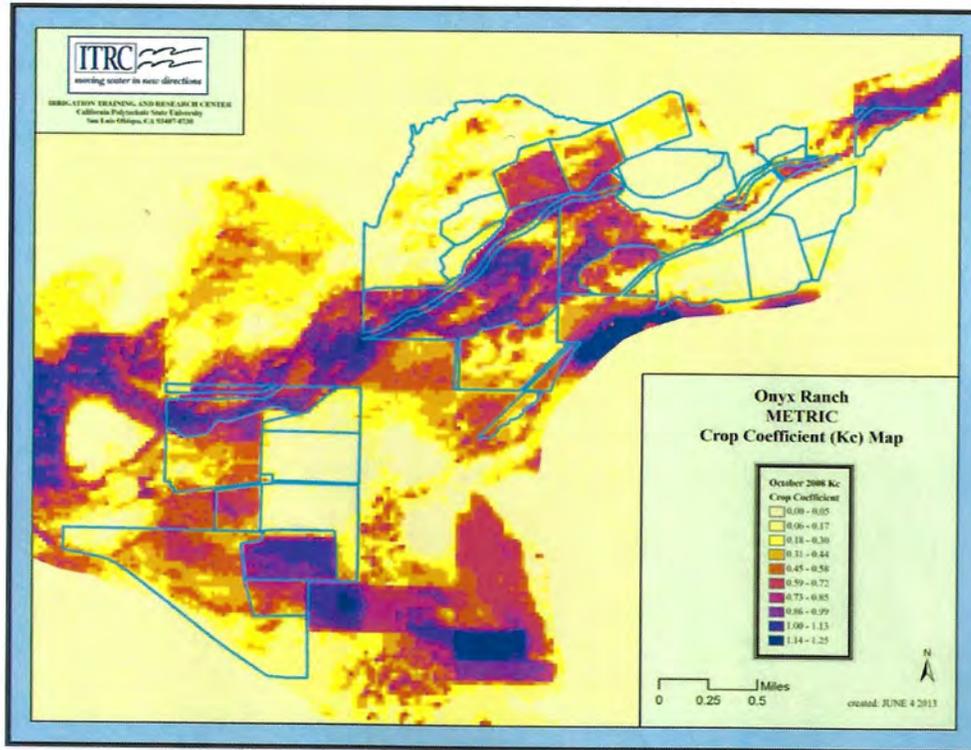
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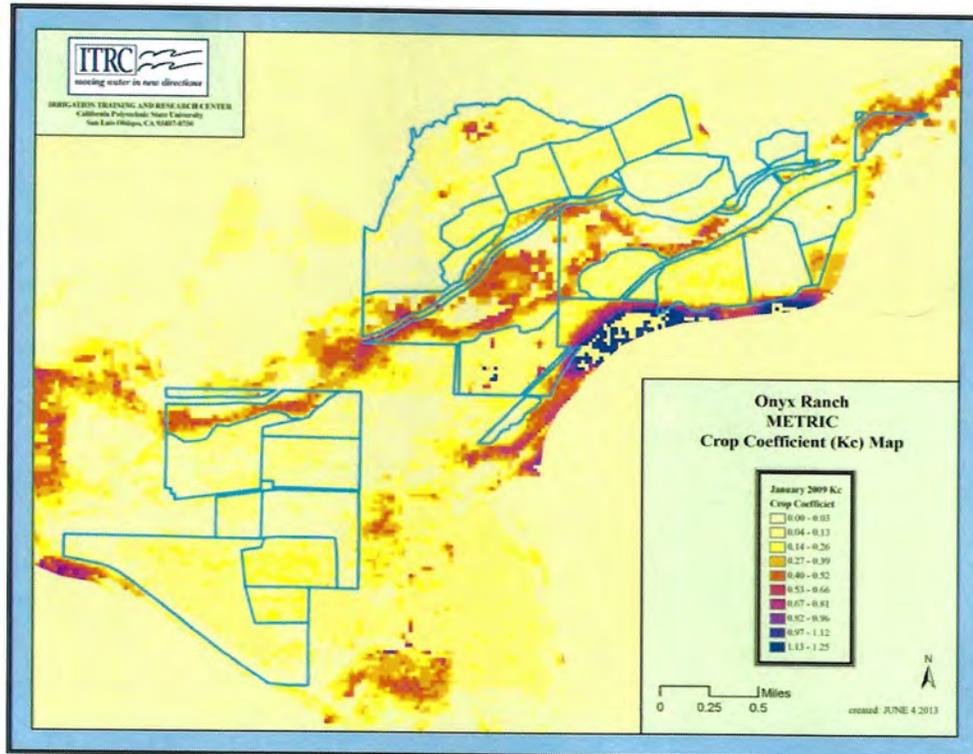
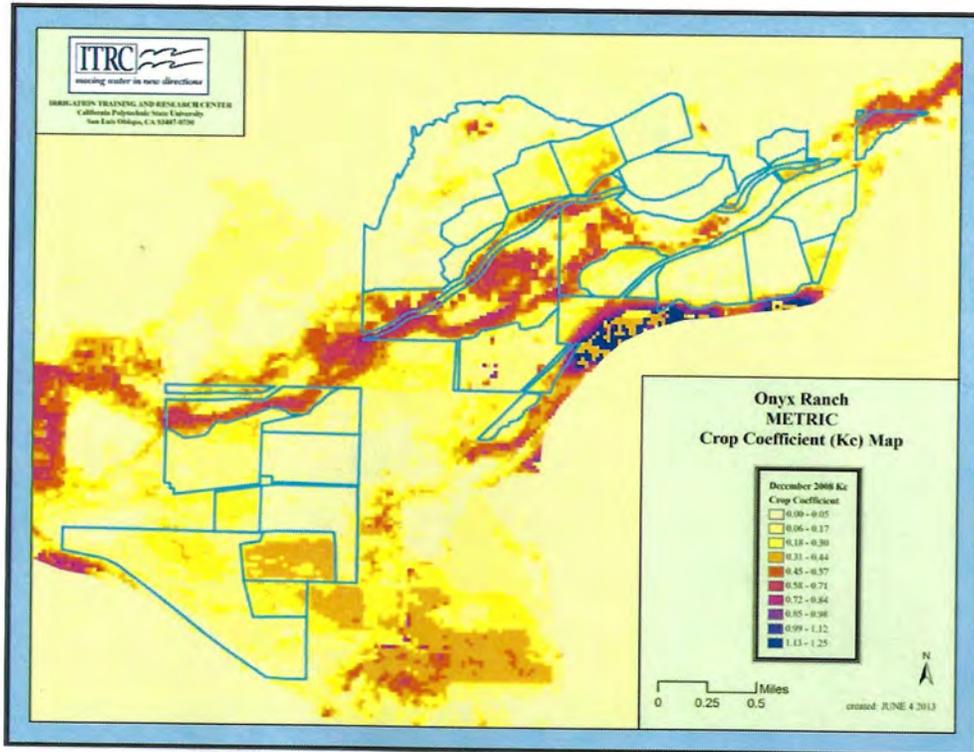
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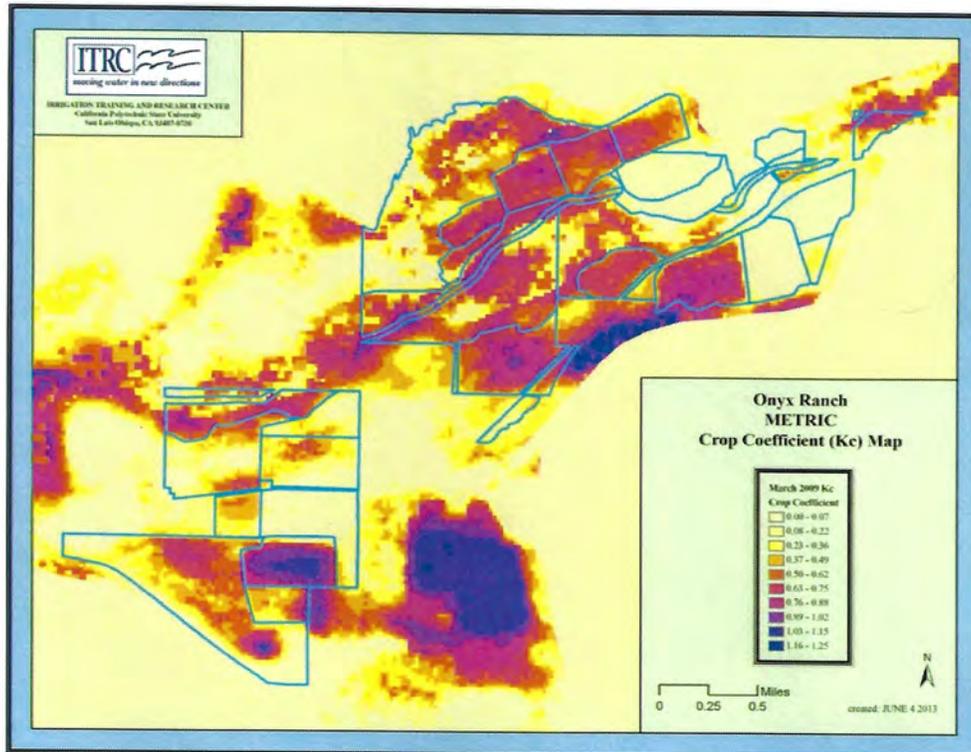
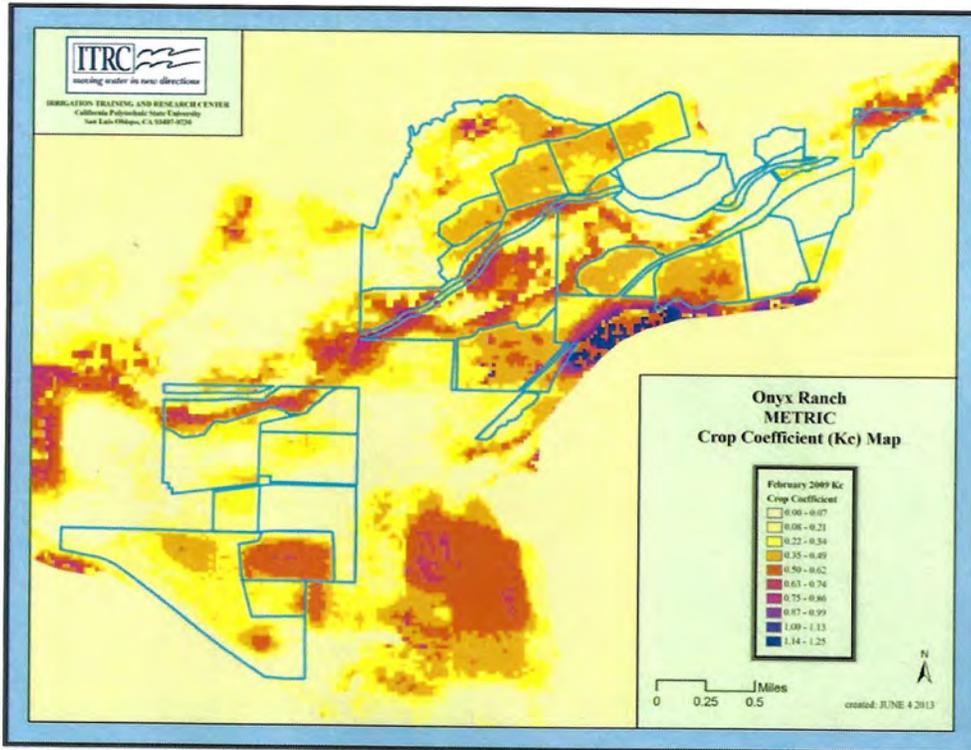
Year	Name	Crop	Acres
2009	Nicoll South	Potatoes	82
2009	Boone	Alfalfa	96
2009	Landers 2	Alfalfa\May Potatoes	53
2009	Landers 1	Irrigated pasture	55
2009	Pruitt	Irrigated pasture	44
2009	Landers Sand 1	Potatoes	60
2009	Landers Sand 2		
2009	Landers 3	Irrigated pasture	54
2009	Landers 4	Irrigated pasture	33
2009	Landers 5	Irrigated pasture	19
2009	Onyx West	Irrigated pasture	83
2009	Leib	Irrigated pasture	107
2009	Gibbony Meadows	Meadow Pasture	312
2009	Unnamed Field 2	Irrigated pasture	20
2009	Unnamed Field 1	Irrigated pasture	50
2009	Onyx East	None	71
2009	China Garden	None	56
2009	Triangle	None	15
2009	Nicoll North	None	45
2009	Mack Front 1	None	34
2009	Mack Front 2	Sudan Grass	60
2009	Mack Middle	Alfalfa	74
2009	Mack South	None	35
2009	Mack Meadow	Meadow Pasture	267
2009	RP1	Riparian pasture	64
2009	RP2	Riparian pasture	13
2009	RP3	Riparian pasture	65
2009	RP4	Riparian pasture	173
2009	RP5	Riparian pasture	8
2009	RP6	Riparian pasture	154
2009	RP7	Riparian pasture	30
2009	RP8	Riparian pasture	5
2009	RP9	Riparian pasture	0
2009	RP10	Riparian pasture	1
2009	RP11	Riparian pasture	6
2009	RP12	Riparian pasture	10
2009	RP13	Riparian pasture	12
2009	Leon	Irrigated pasture	13
2009	Juan	Irrigated pasture	33
<b>2009 Total</b>			<b>2312</b>

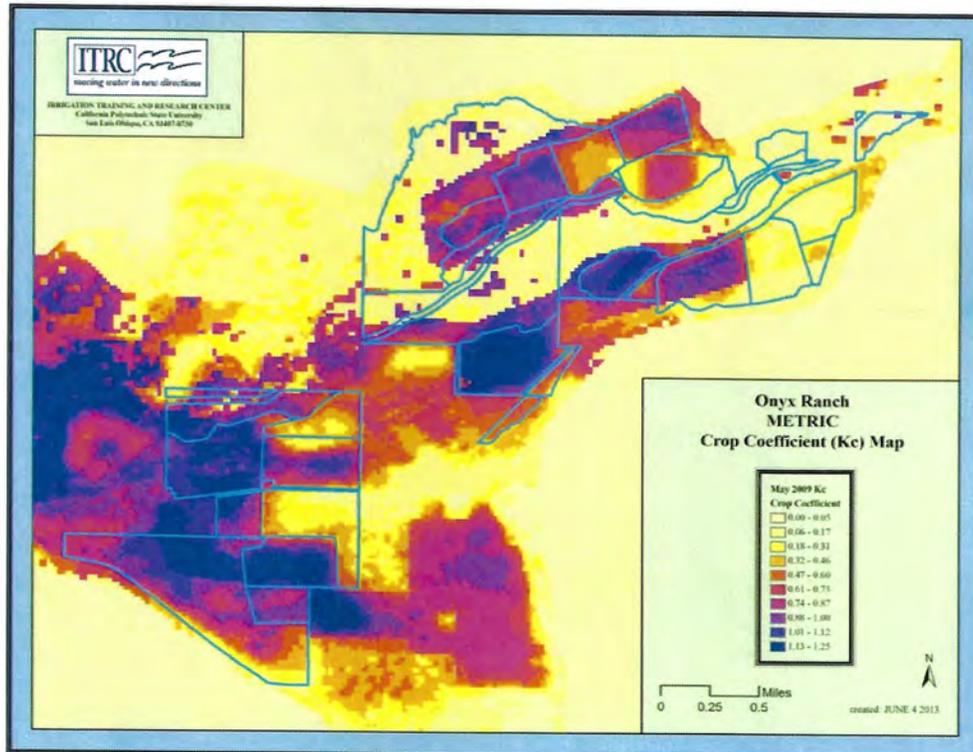
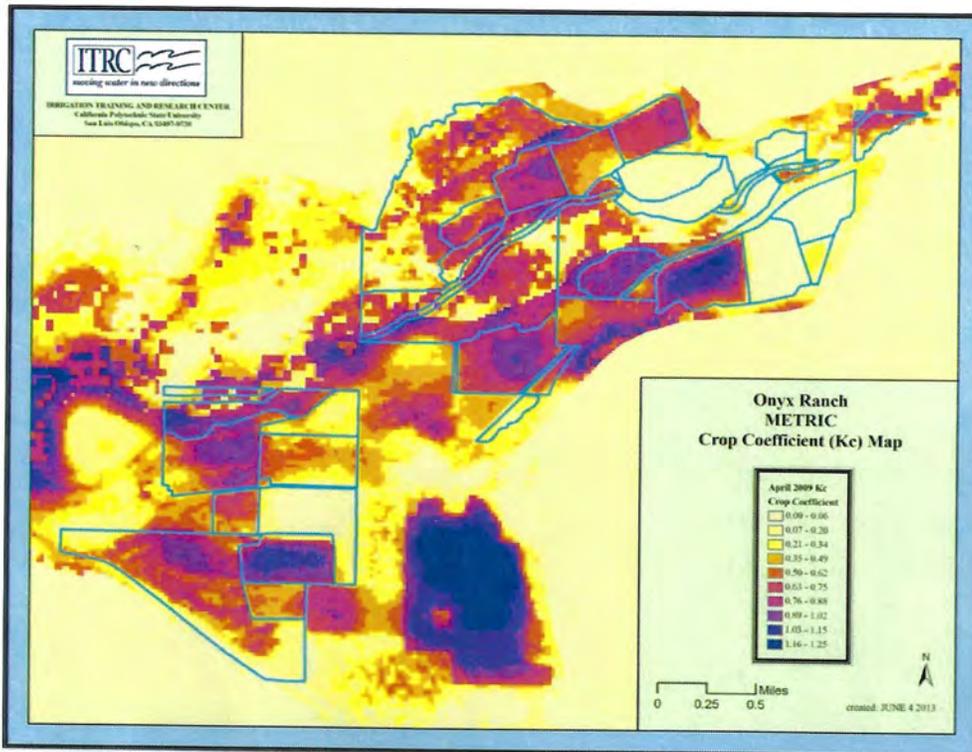
**ATTACHMENT B**  
***METRIC Monthly Kc Images***

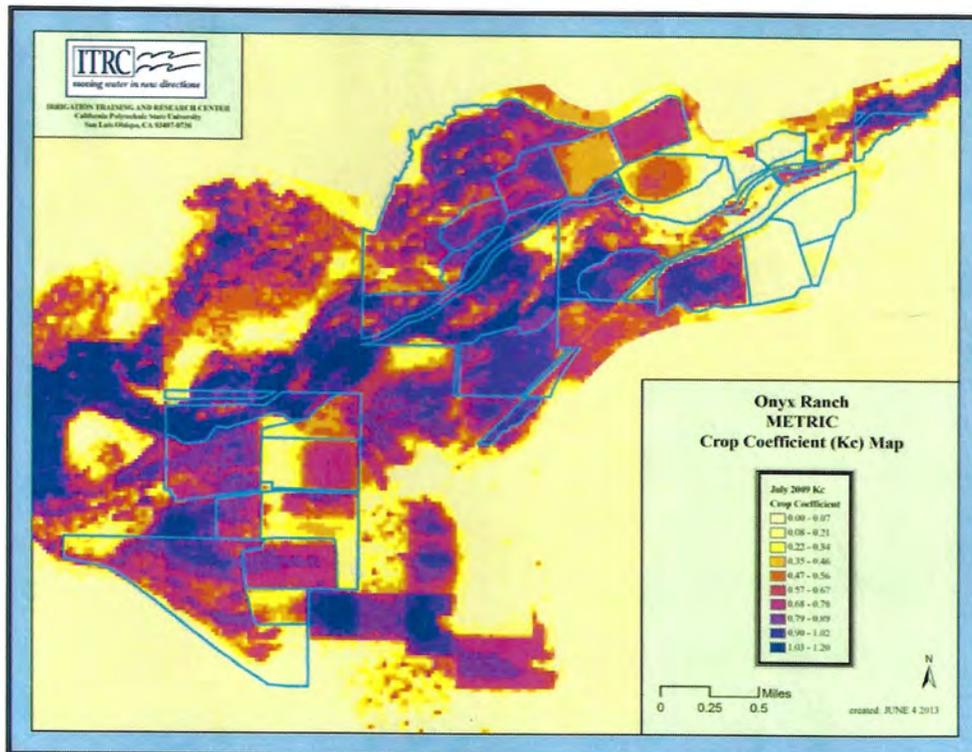
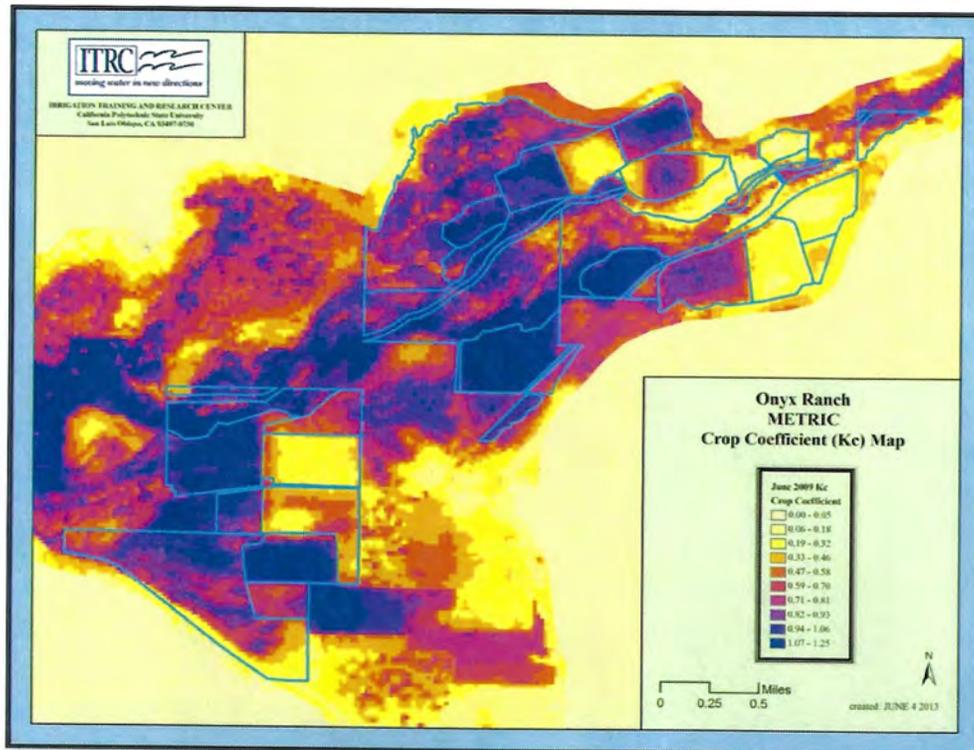
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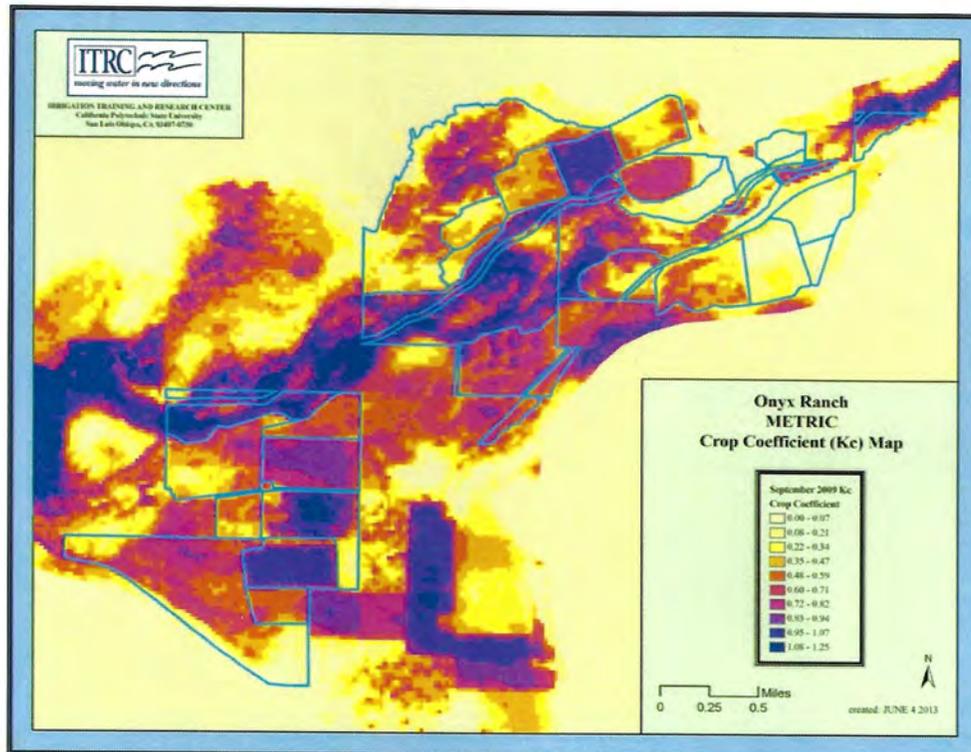
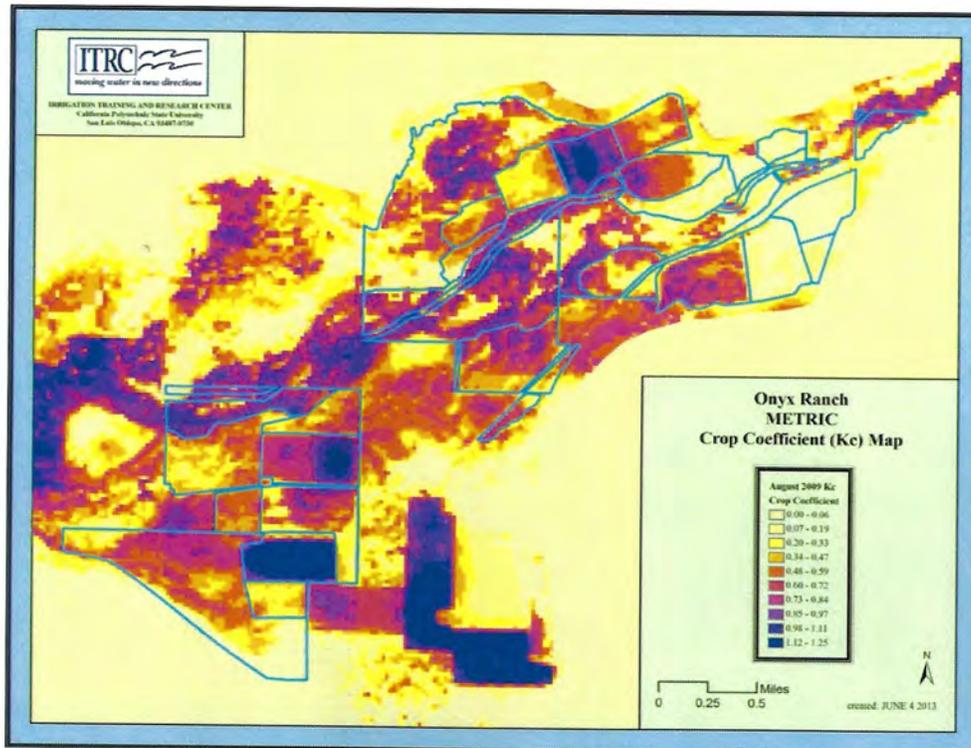


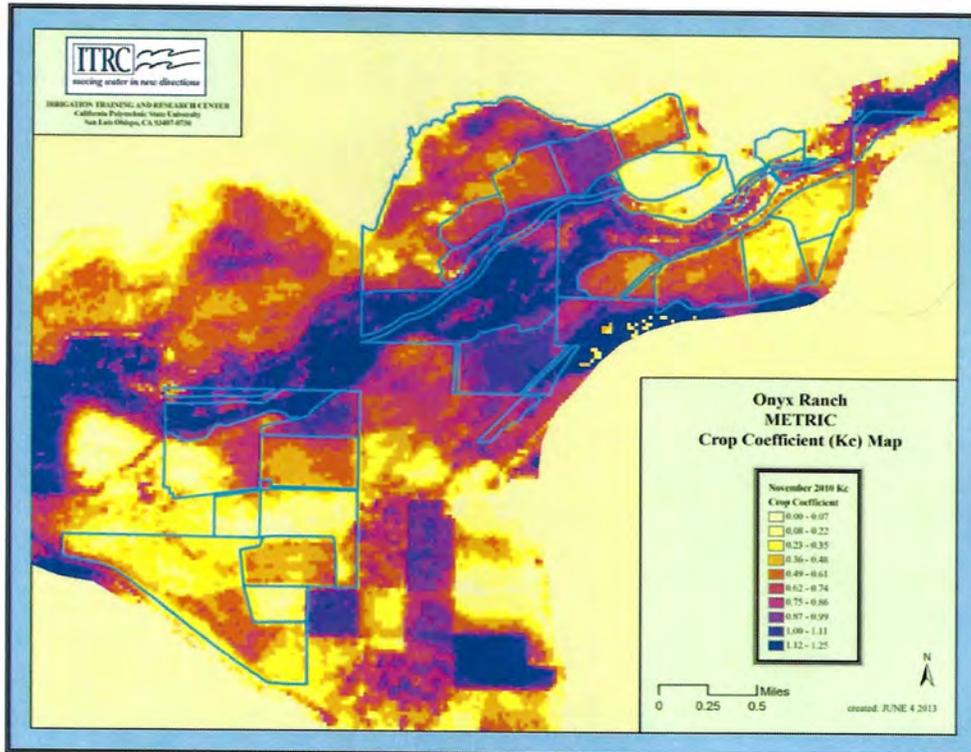
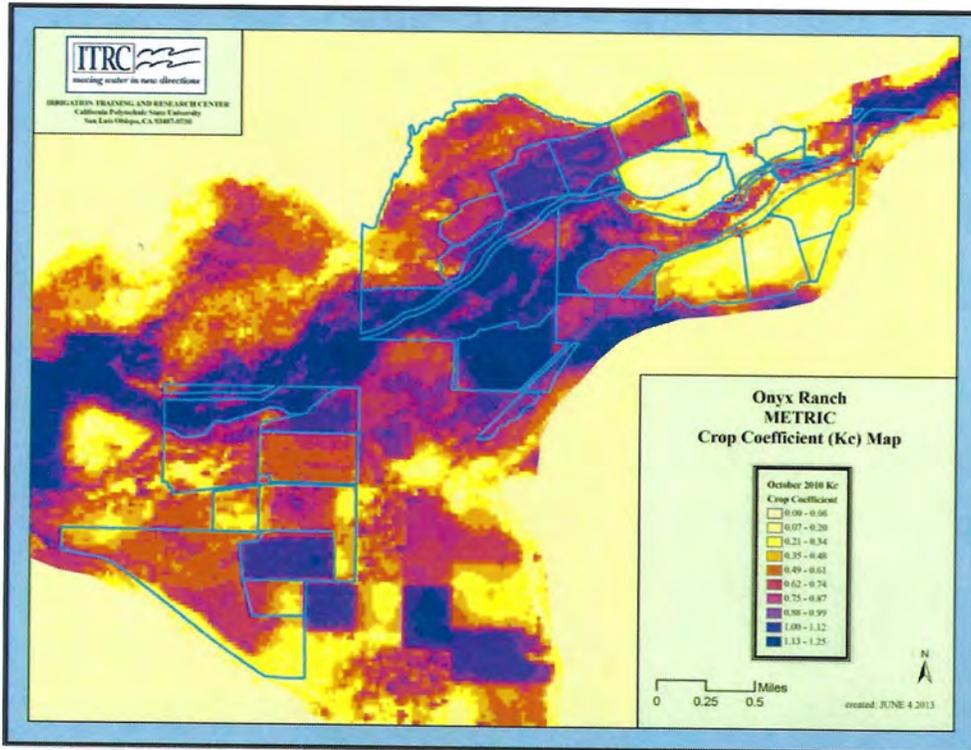


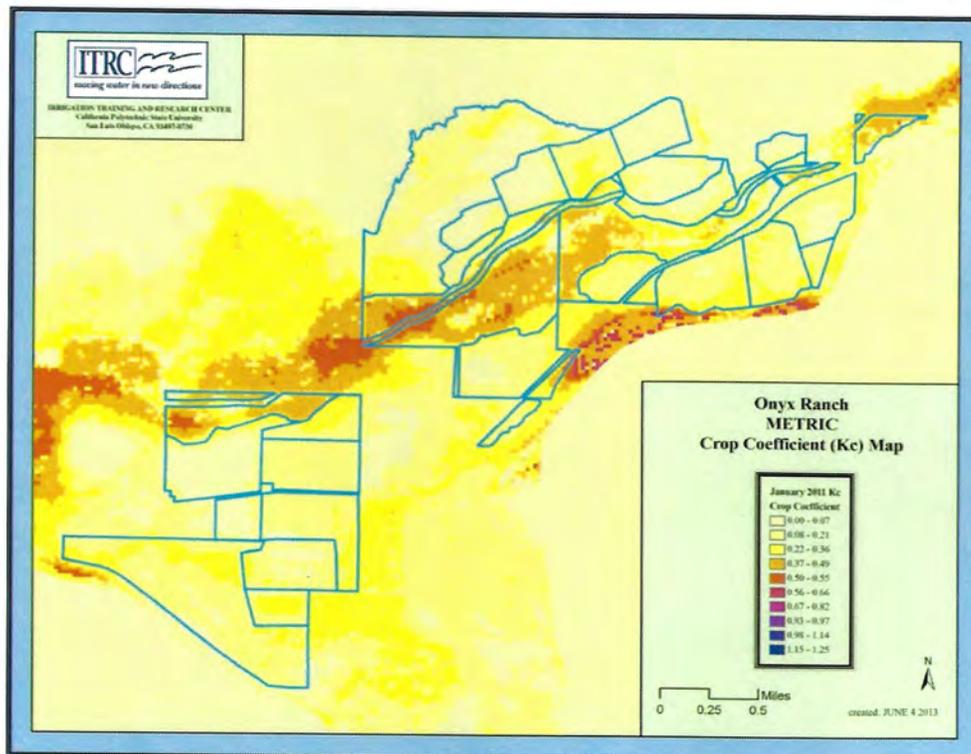
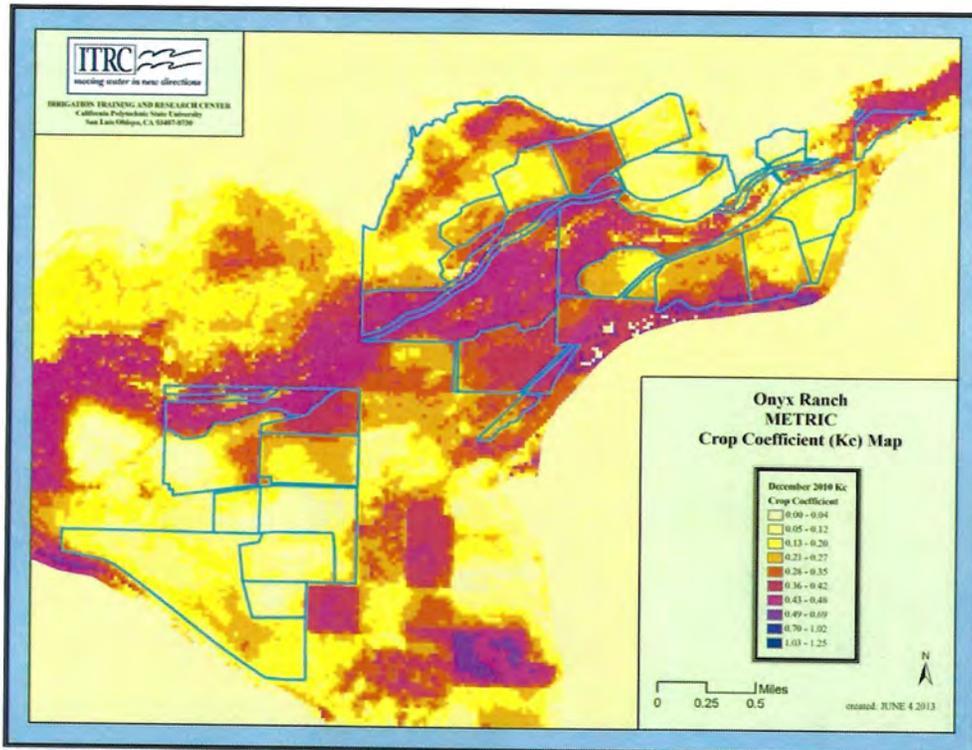


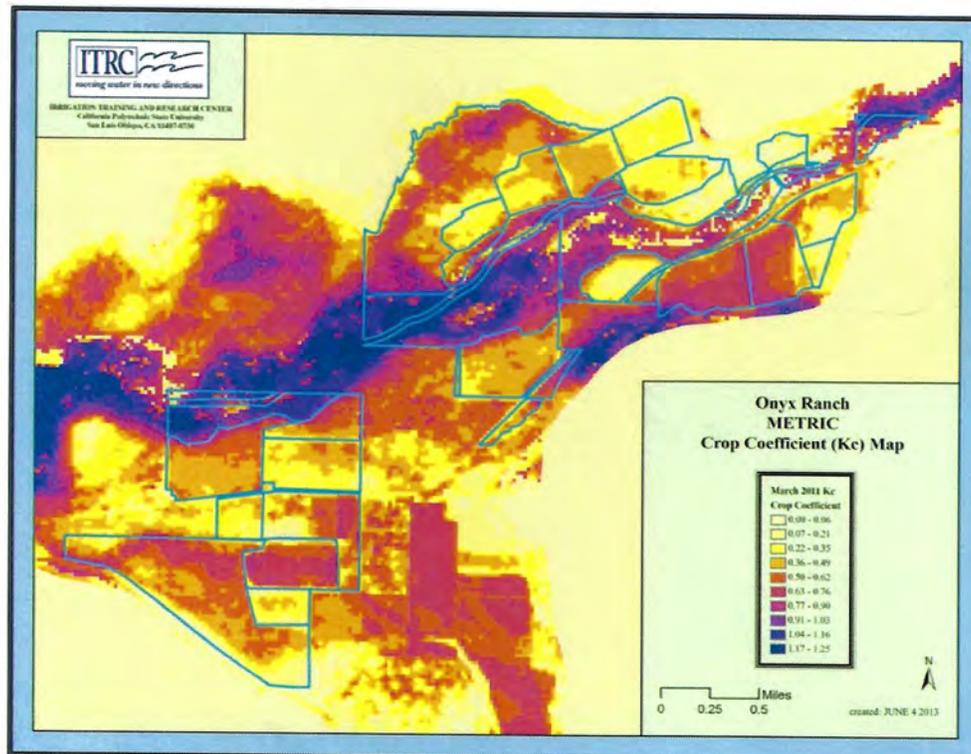
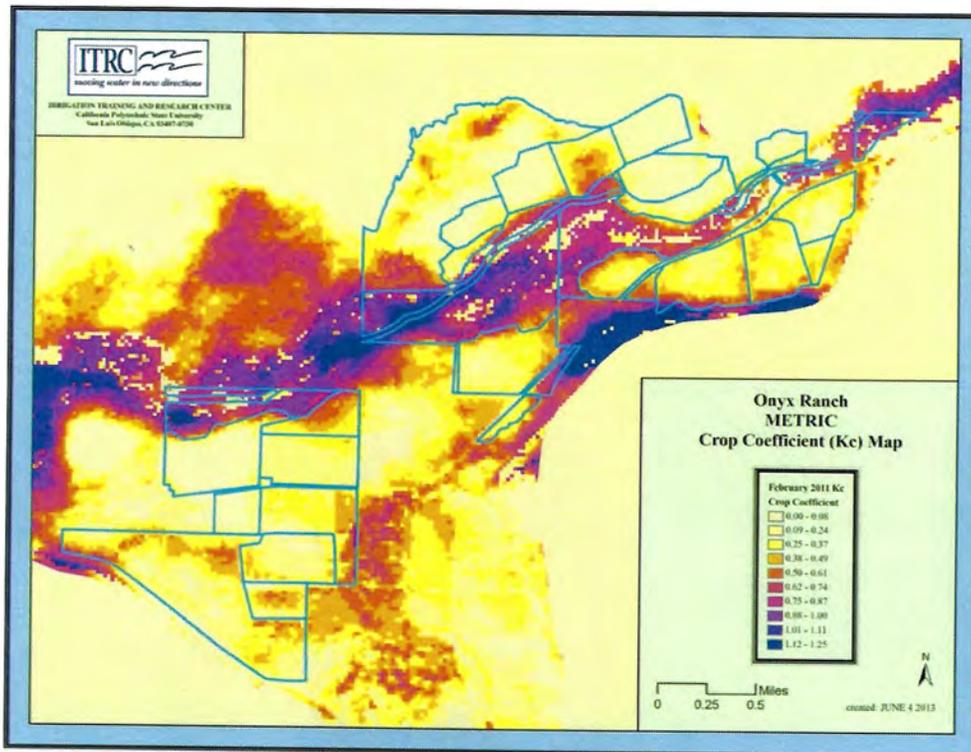


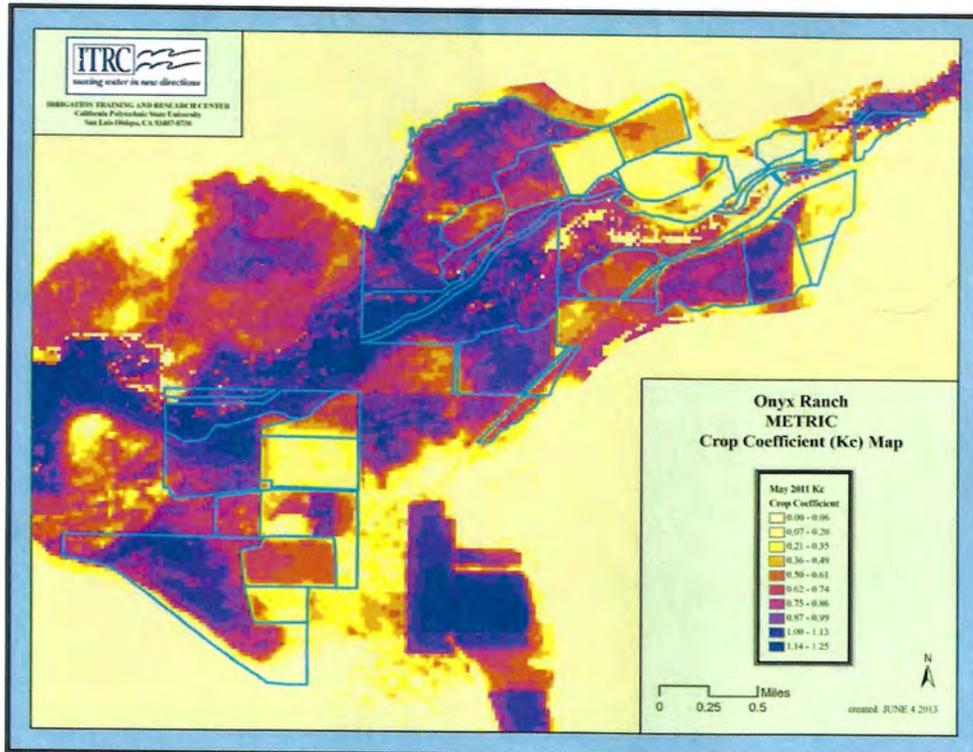
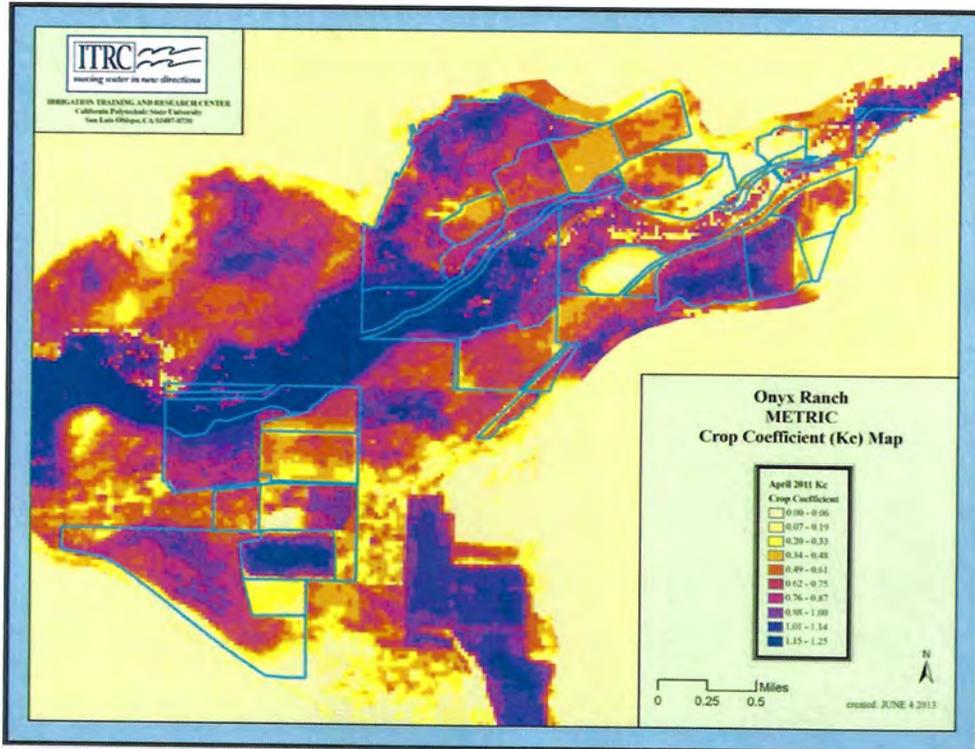


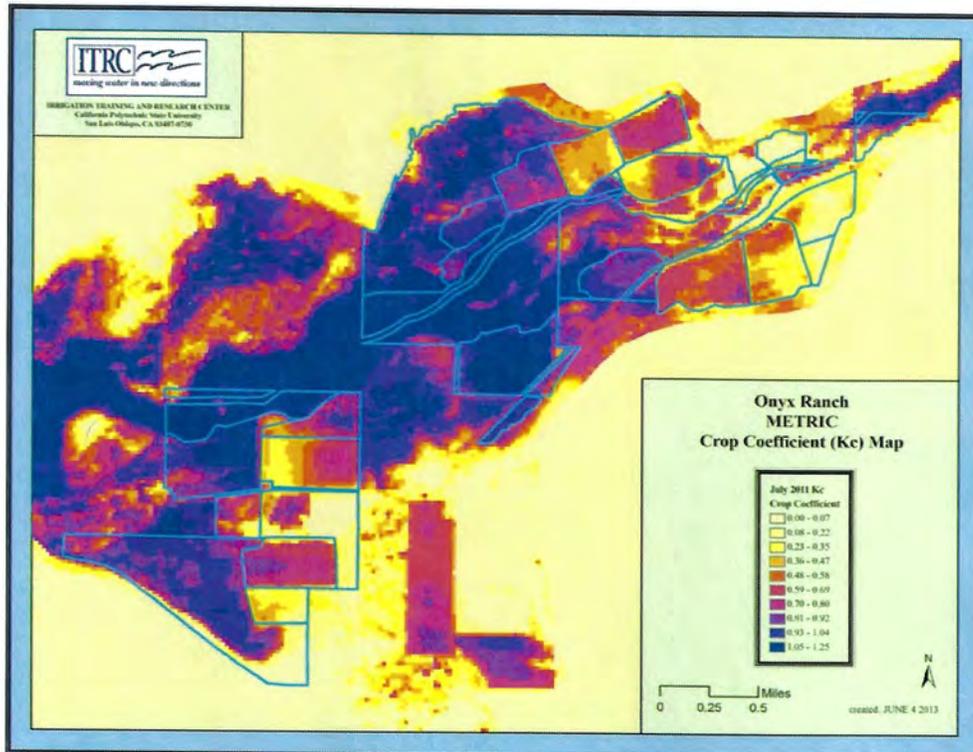
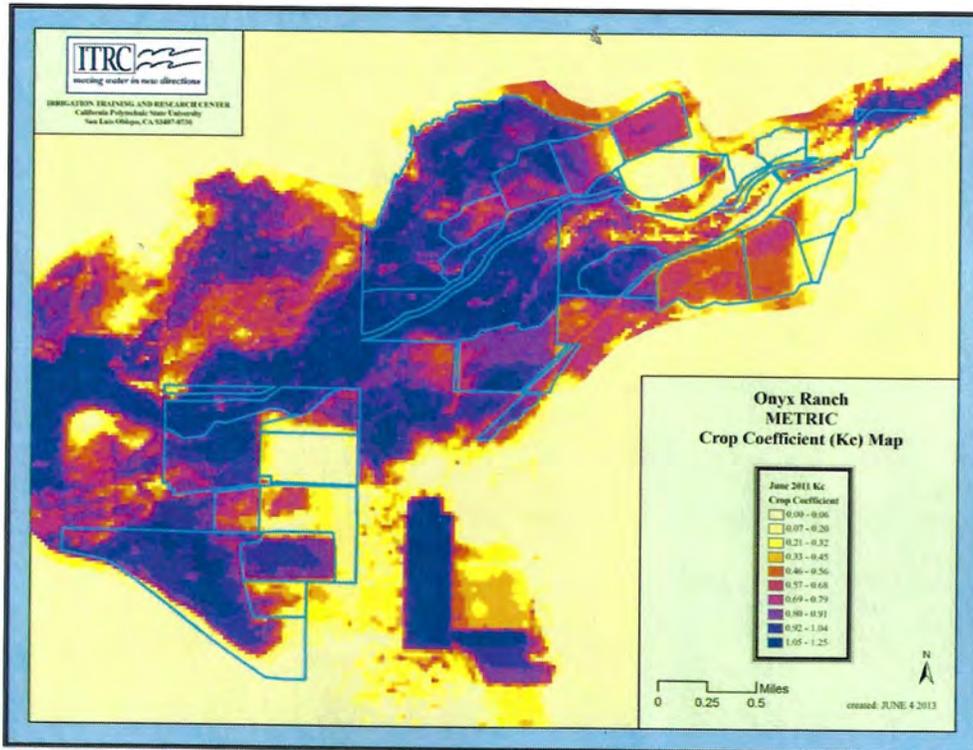


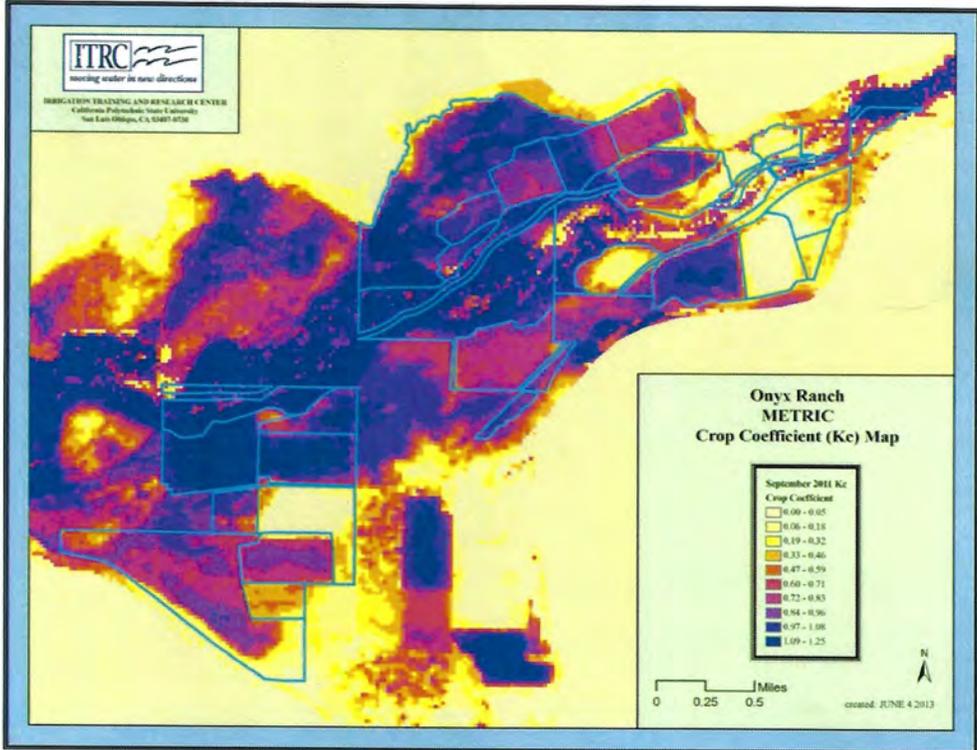
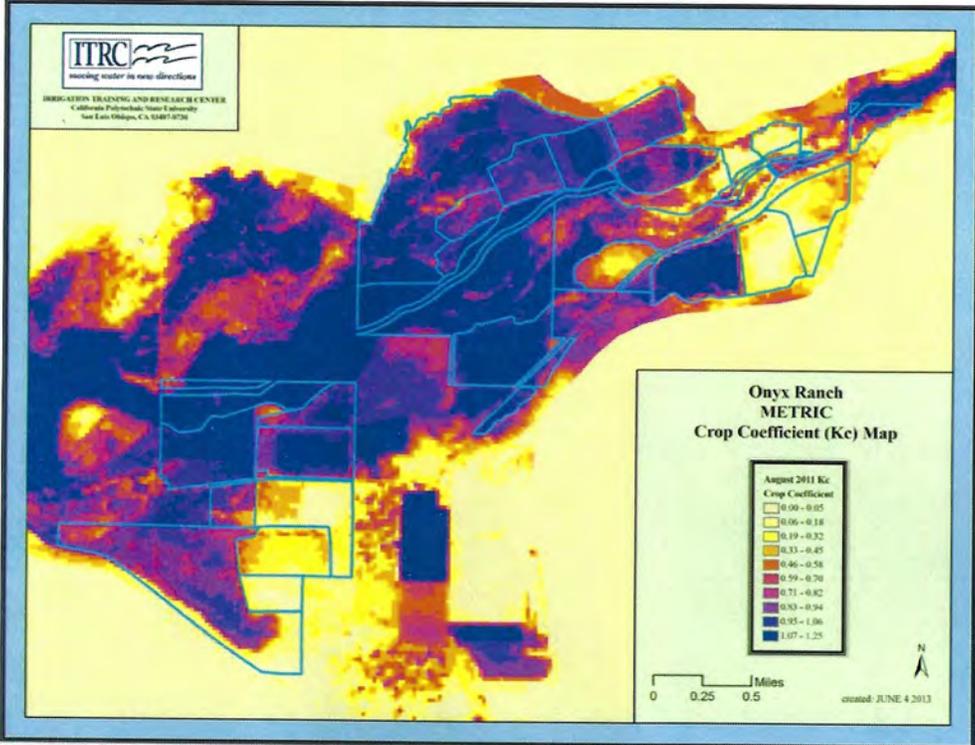






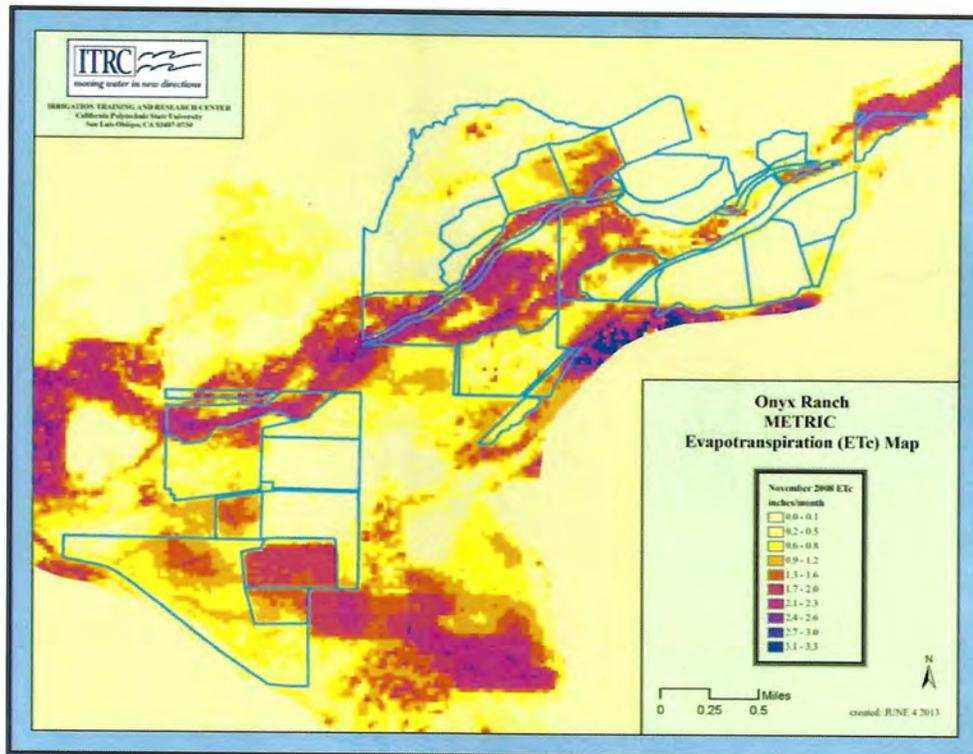
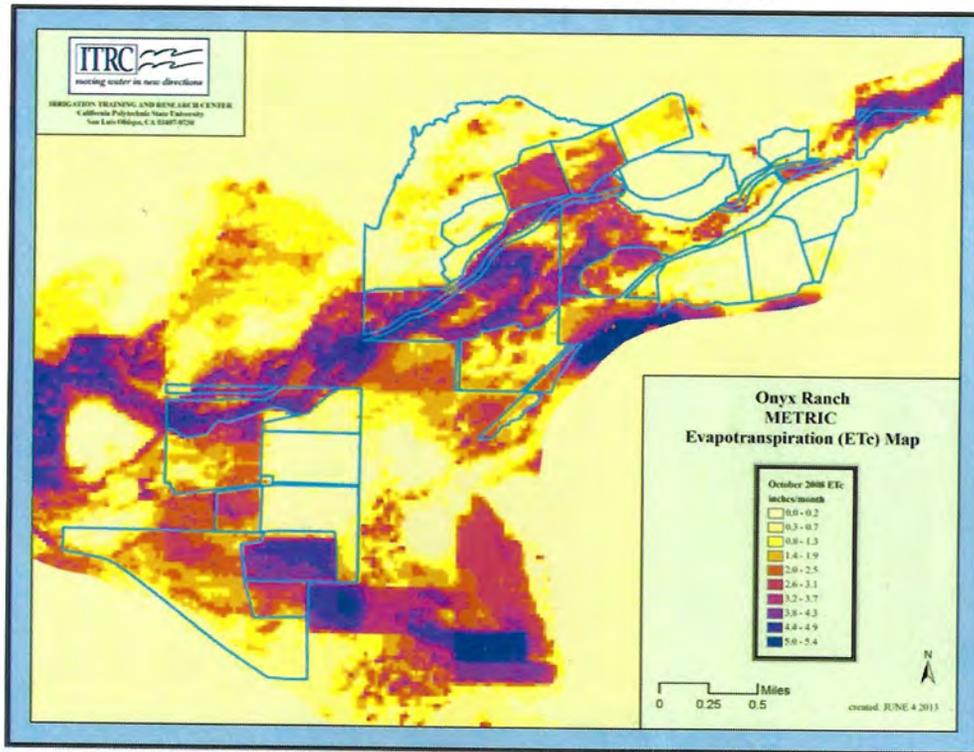


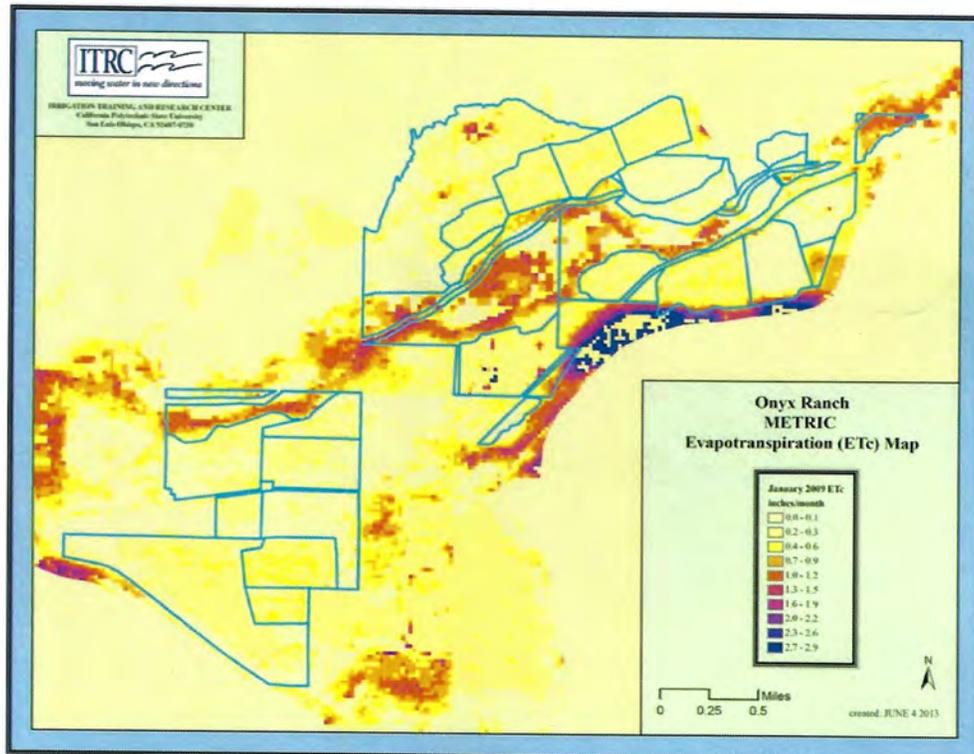
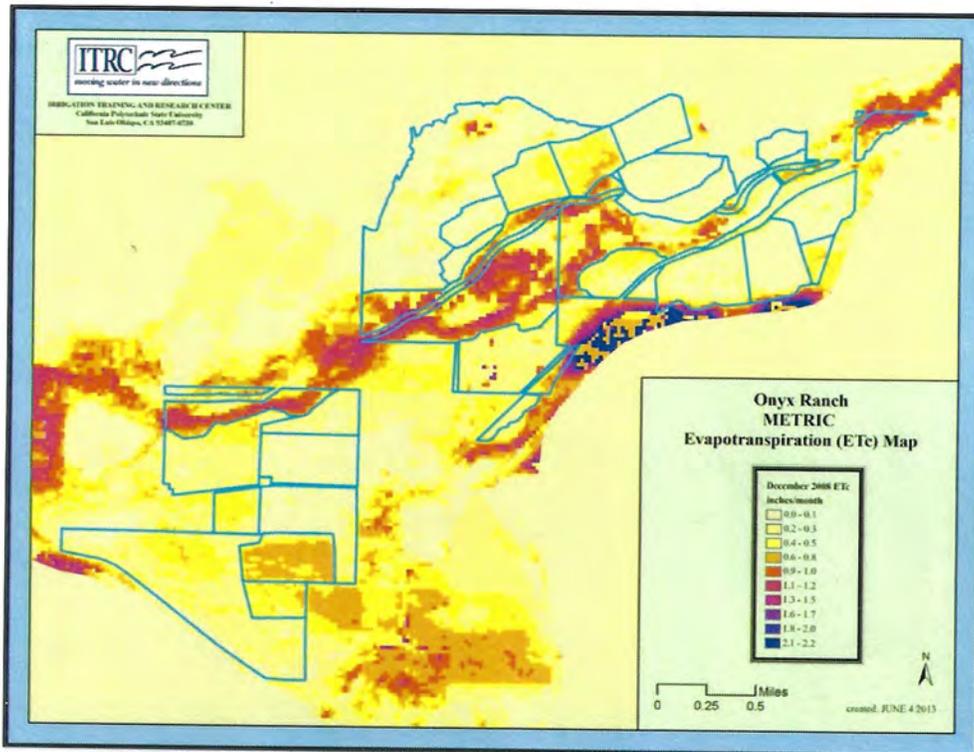


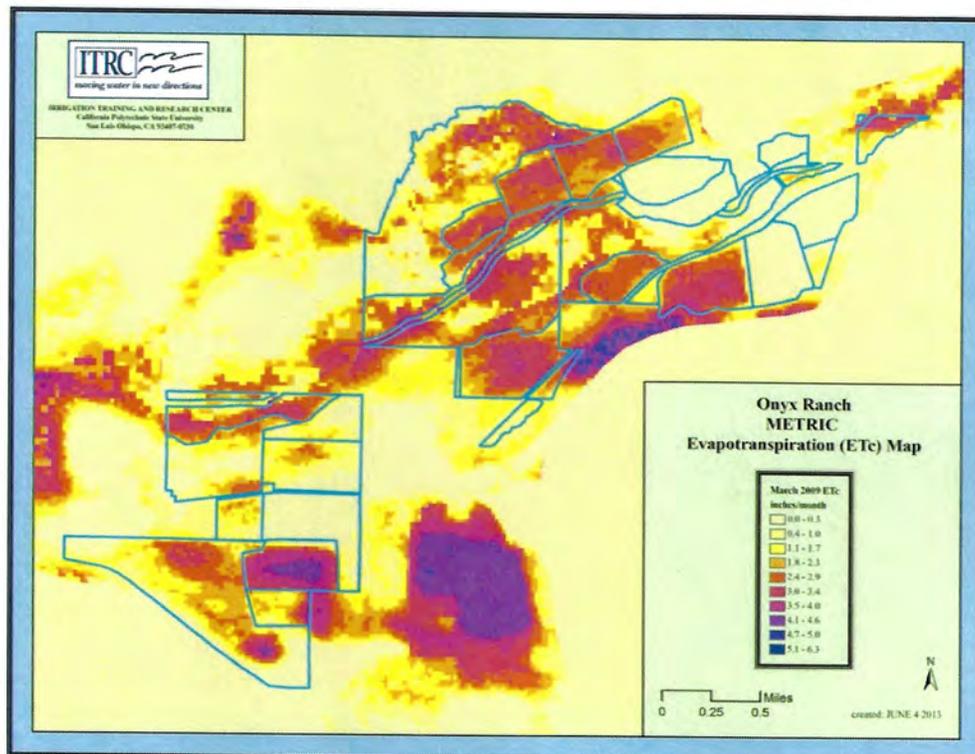
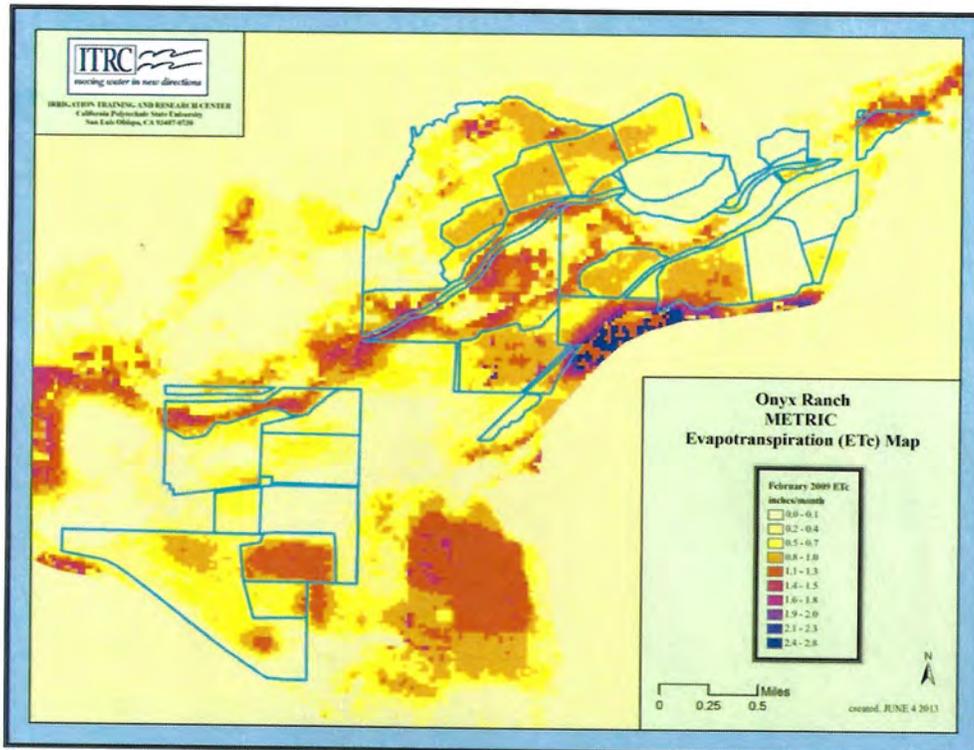


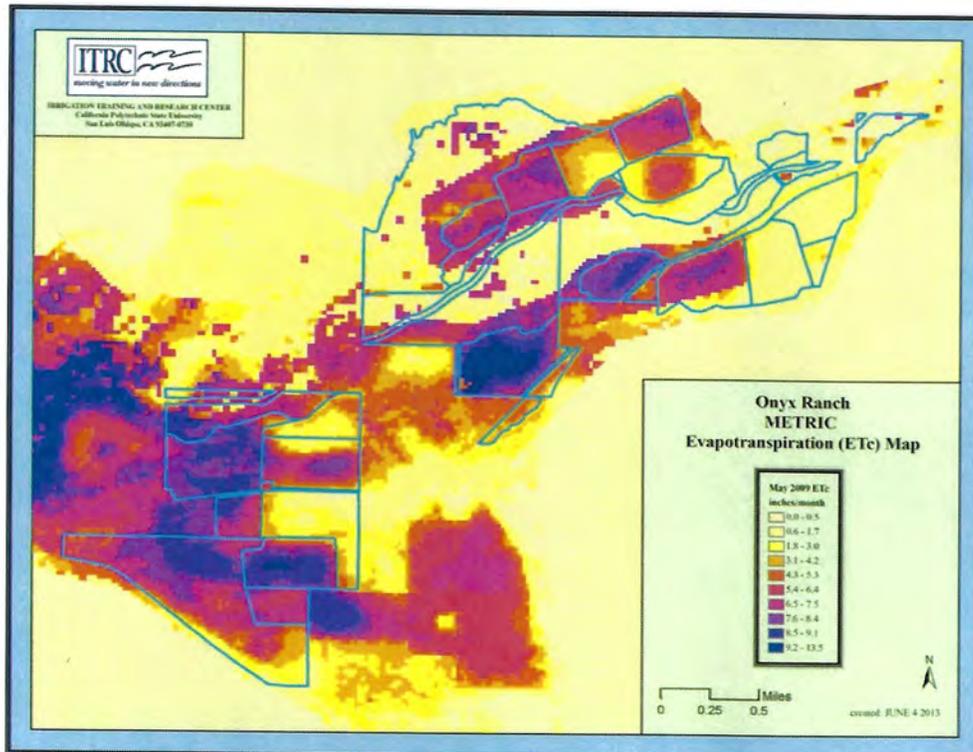
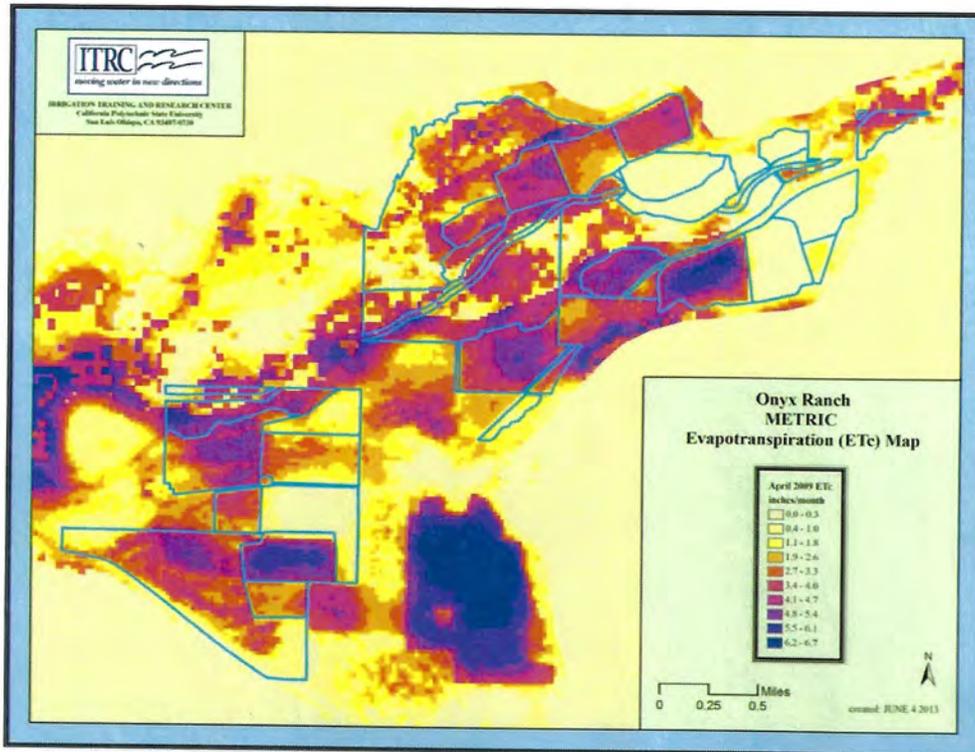
**ATTACHMENT C**  
***METRIC Monthly ETc Images***

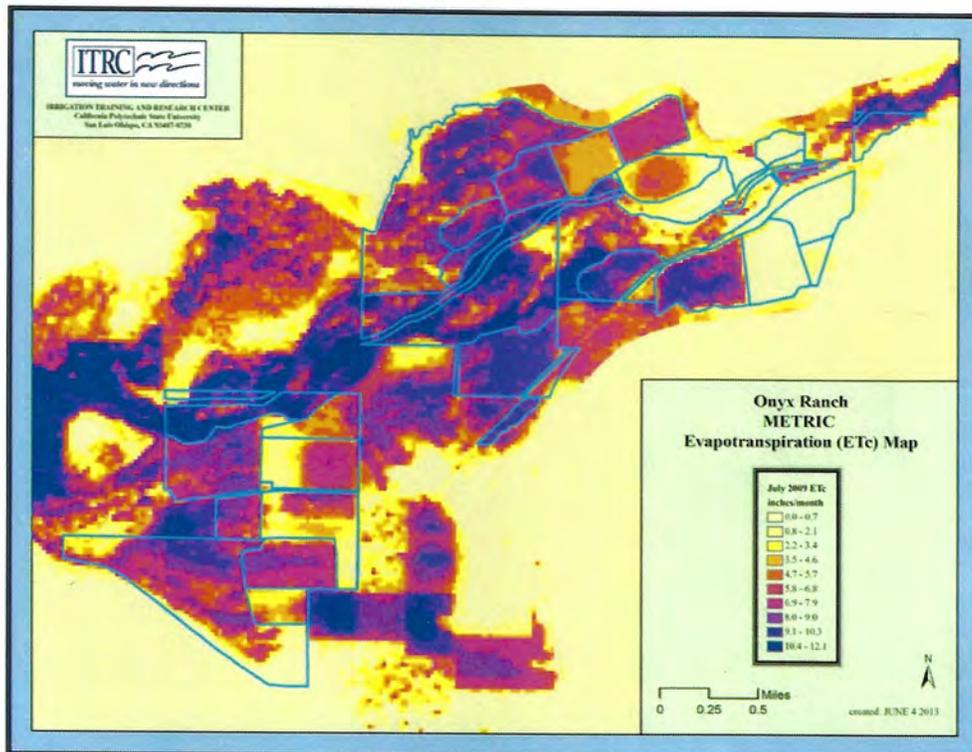
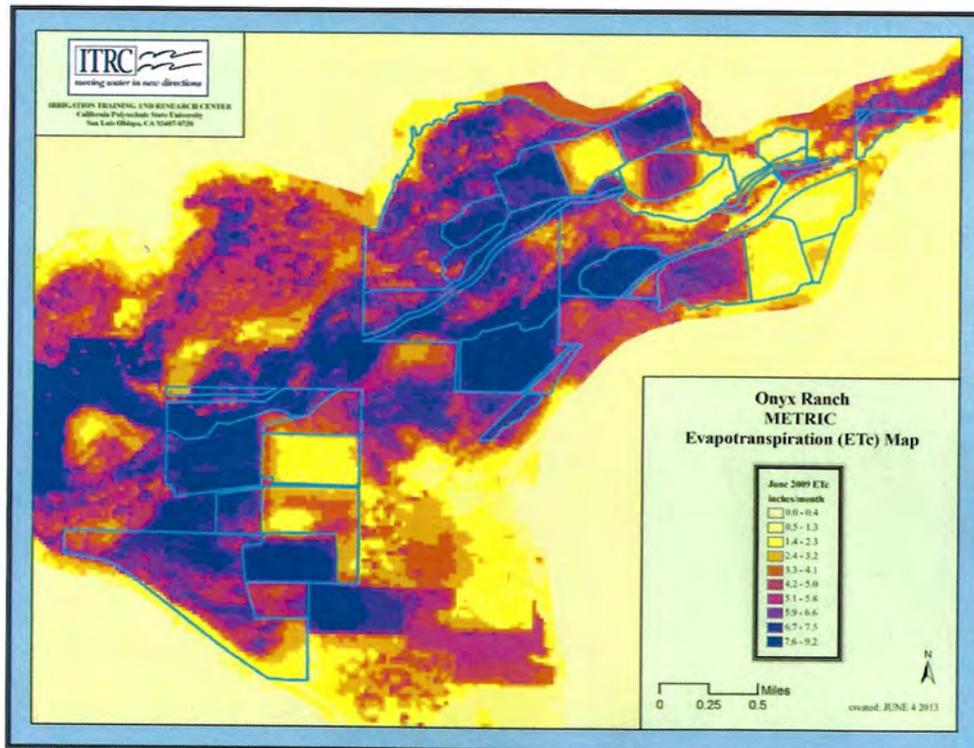
## Appendix C. METRIC Monthly *ETc* Images

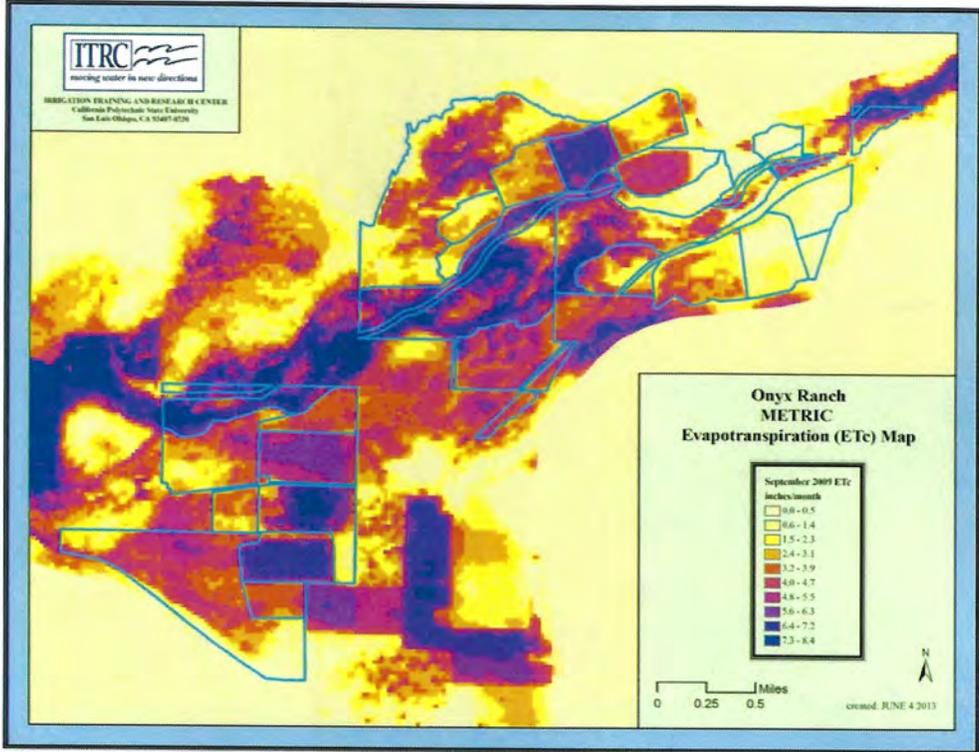
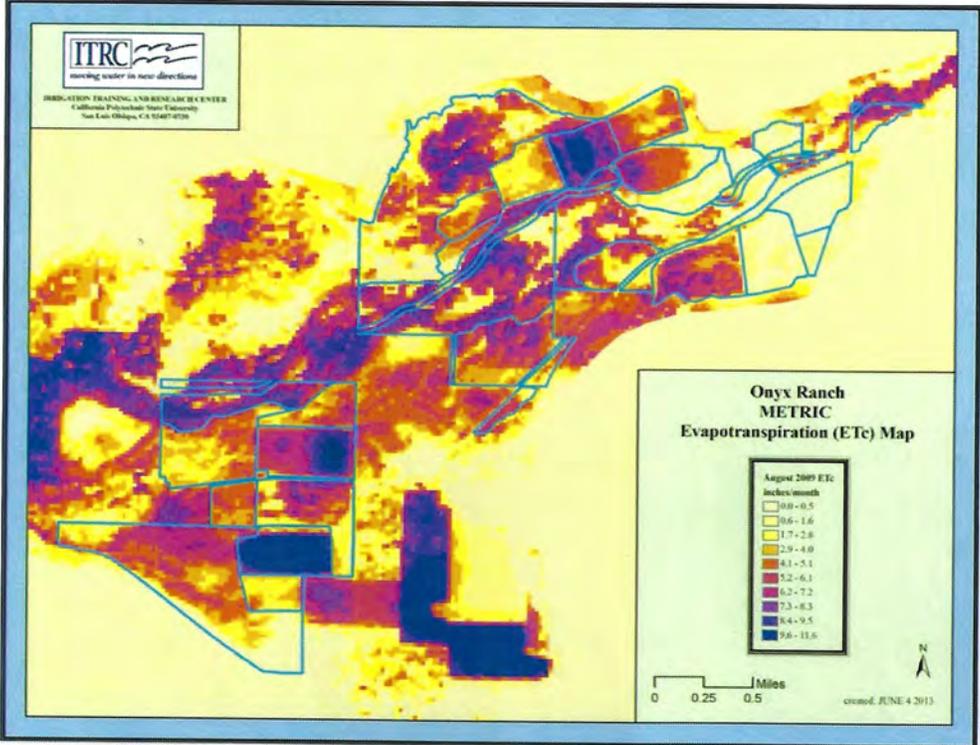


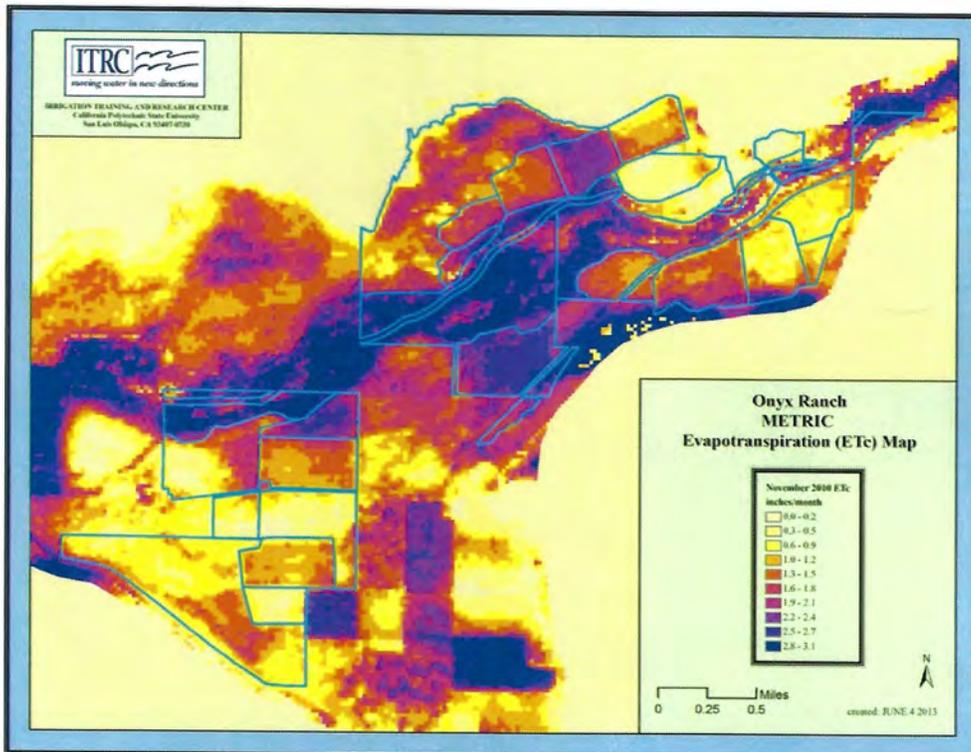
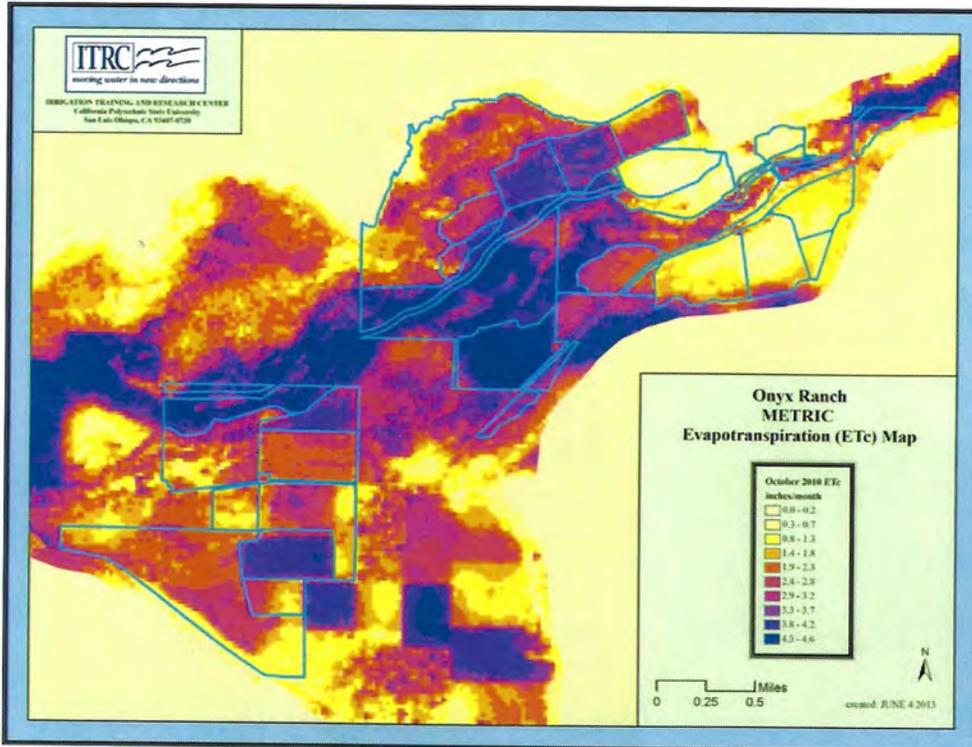


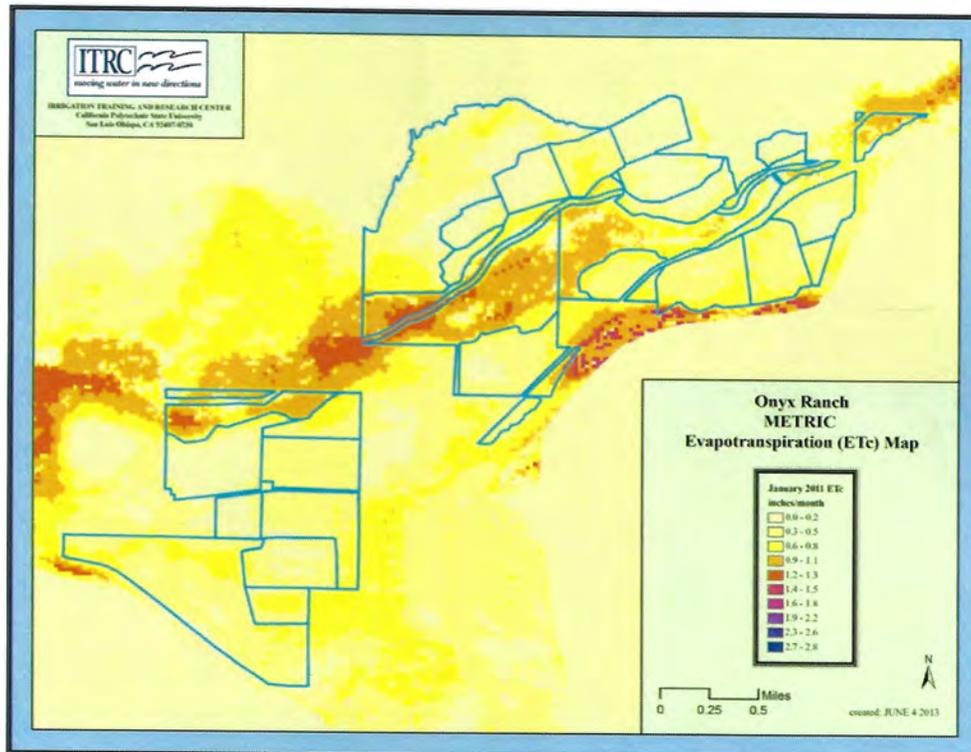
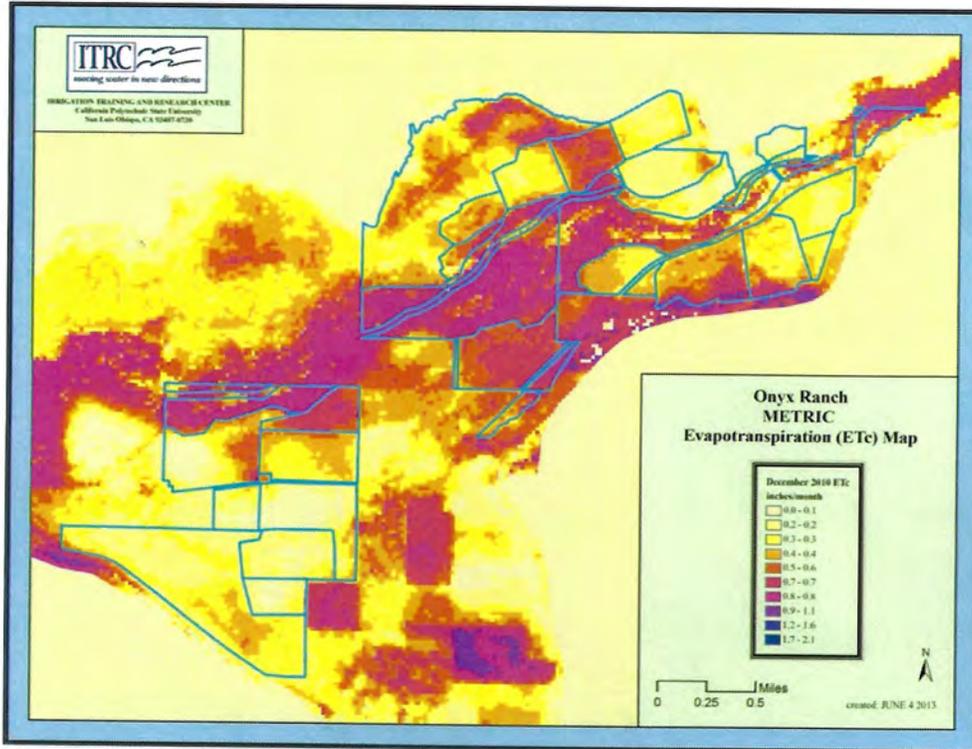


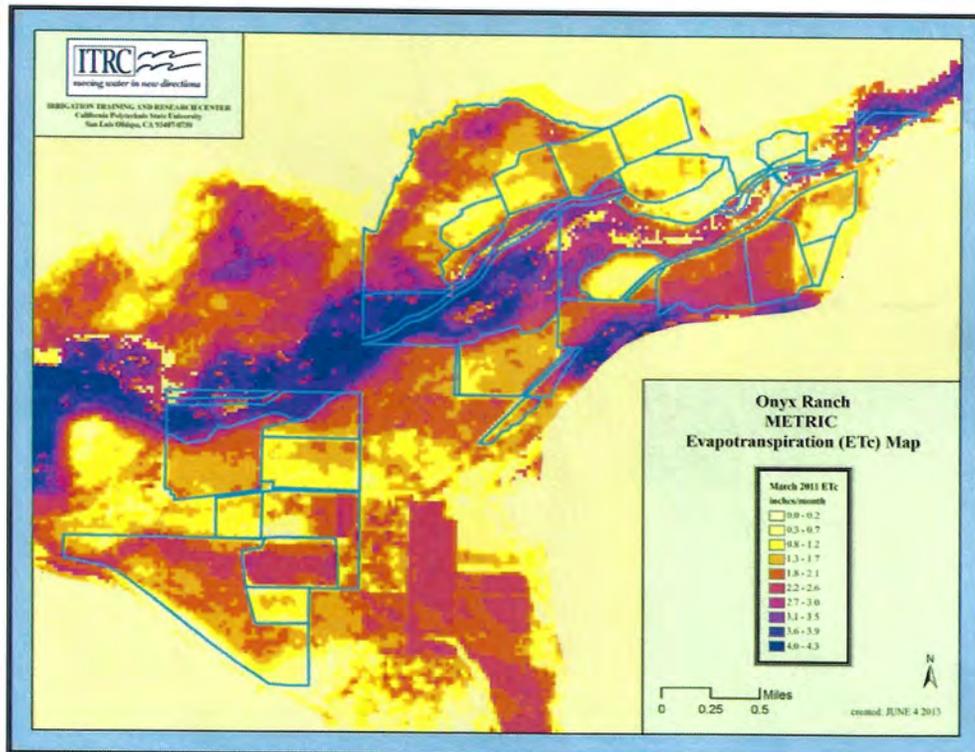
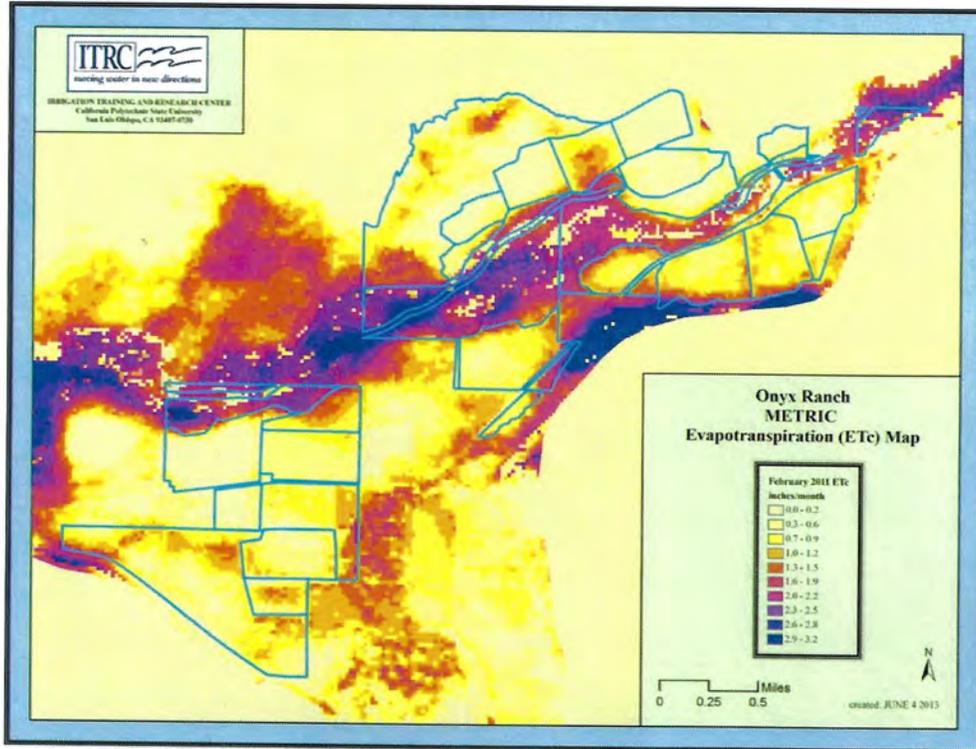


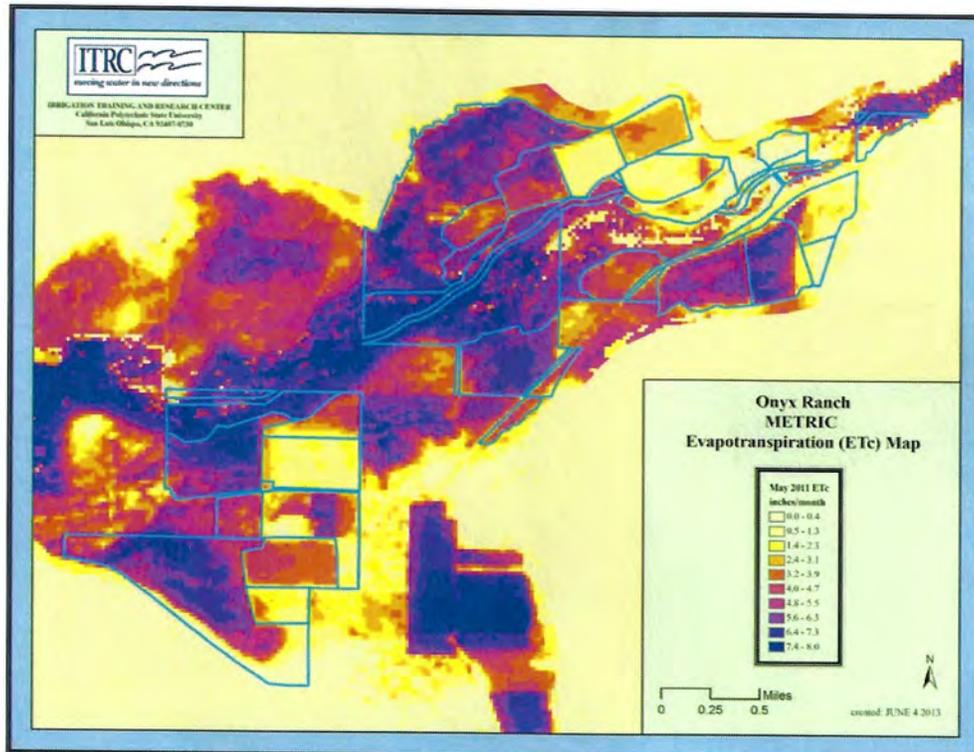
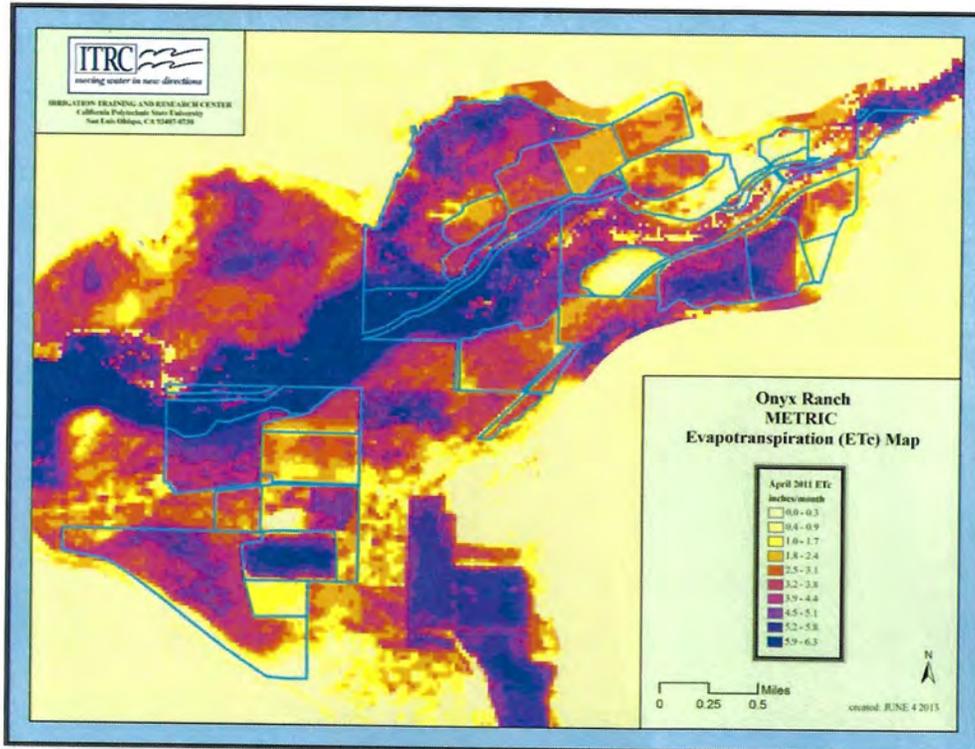




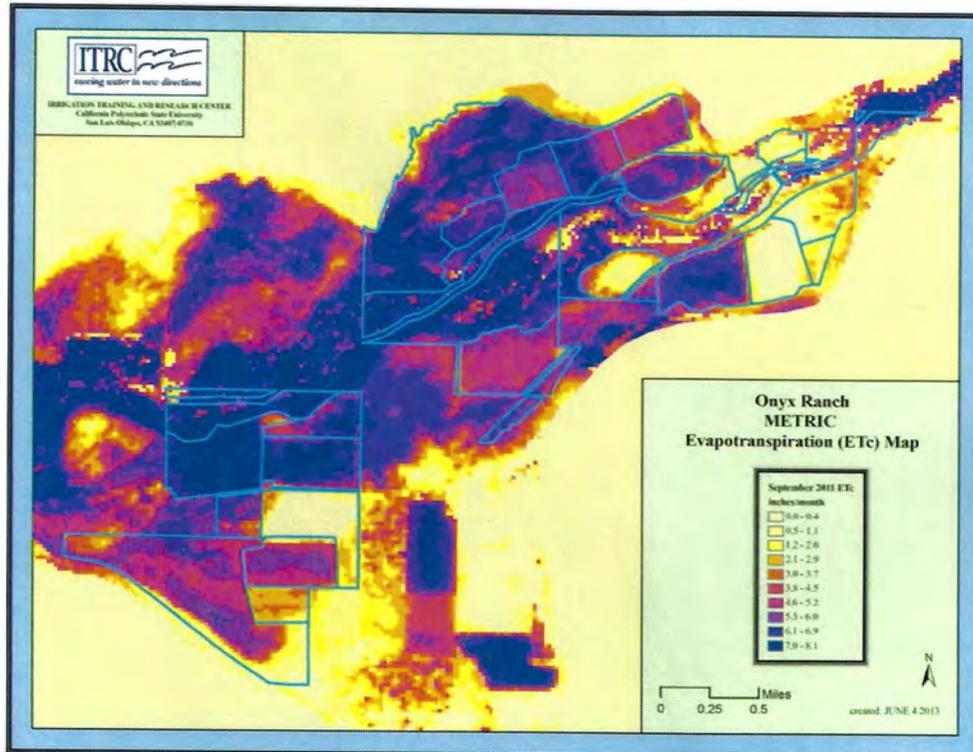
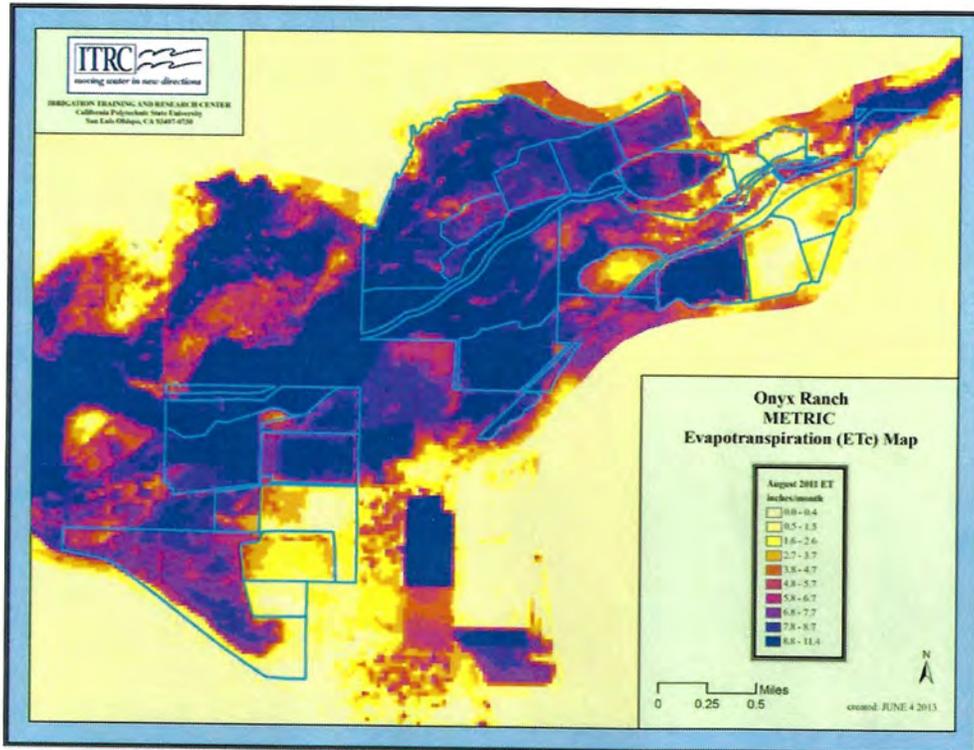














Appendix F  
**South Fork of the Kern River  
Allocation Model**





**South Fork Kern River Allocation Table (cfs)**

<b>Available Flow d/s of USGS</b>	<b>Haf/NC/Prince</b>	<b>Branson/Baily (2/3 Smith)</b>	<b>RRBWS (Onyx-Boone+1/3 Smith)</b>	<b>RRBWS (Boone)</b>	<b>Nicoll</b>
73	29.3	6.6	31.2	3.0	2.9
72	28.3	6.6	31.2	3.0	2.9
71	27.3	6.6	31.2	3.0	2.9
70	26.3	6.6	31.2	3.0	2.9
69	26.3	6.6	30.2	3.0	2.9
68	26.3	6.6	29.2	3.0	2.9
67	26.3	6.6	28.2	3.0	2.9
66	26.3	6.6	28.2	2.0	2.9
65	26.3	6.6	28.2	1.0	2.9
64	26.3	6.6	28.2		2.9
63	26.3	6.6	27.2		2.9
62	26.3	6.6	26.2		2.9
61	26.3	6.6	25.2		2.9
60	25.3	6.6	25.2		2.9
59	24.3	6.6	25.2		2.9
58	23.3	6.6	25.2		2.9
57	22.3	6.6	25.2		2.9
56	21.3	6.6	25.2		2.9
55	20.3	6.6	25.2		2.9
54	19.3	6.6	25.2		2.9
53	18.3	6.6	25.2		2.9
52	17.3	6.6	25.2		2.9
51	16.3	6.6	25.2		2.9
50	15.3	6.6	25.2		2.9
49	14.3	6.6	25.2		2.9
48	13.3	6.6	25.2		2.9
47	12.3	6.6	25.2		2.9
46	11.3	6.6	25.2		2.9
45	10.3	6.6	25.2		2.9
44	10.3	6.6	24.2		2.9
43	10.3	6.6	23.2		2.9
42	10.3	6.6	22.2		2.9
41	10.3	6.6	21.2		2.9
40	10.3	6.6	20.2		2.9
39	10.3	6.6	19.2		2.9
38	9.5	6.6	19.0		2.9
37	9.5	6.6	18.0		2.9
36	9.5	6.6	17.0		2.9
35	9.5	6.6	16.0		2.9
34	9.0	6.6	15.5		2.9
33	8.0	6.6	15.5		2.9
32	8.0	6.6	14.5		2.9
31	8.1	6.6	12.4		2.9
30	8.1	6.6	12.4		2.9
29	8.6	6.6	10.9		2.9
28	8.2	6.6	10.3		2.9
27	8.0	6.6	9.5		2.9
26	7.0	6.6	9.5		2.9
25	6.0	6.6	9.5		2.9

**South Fork Kern River Allocation Table (cfs)**

<b>Available Flow d/s of USGS</b>	<b>Haf/NC/Prince</b>	<b>Branson/Baily (2/3 Smith)</b>	<b>RRBWS (Onyx-Boone+1/3 Smith)</b>	<b>RRBWS (Boone)</b>	<b>Nicoll</b>
24	5.0	6.6	9.5		2.9
23	4.0	6.6	9.5		2.9
22	3.0	6.6	9.5		2.9
21	2.0	6.6	9.5		2.9
20	1.0	6.6	9.5		2.9
19		6.6	9.5		2.9
18		6.6	8.9		2.5
17		6.6	8.4		2.0
16		6.6	7.9		1.5
15		6.6	7.4		1.0
14		6.6	6.8		0.5
13		6.6	6.3		
12		6.0	6.0		
11		5.3	5.7		
10		4.6	5.4		
9		3.9	5.1		
8		3.3	4.7		
7		2.6	4.4		
6		2.0	4.0		
5		1.3	3.7		
4		0.7	3.3		
3			3.0		
2			2.0		
1			1.0		

Appendix G  
**Kern River Hydrographic  
Annual Reports for 2015 and  
2017 and Legal Agreements**





G-1 Comparison Between Max  
Daily Project Flow and  
2015 Kern River at First  
Point of Measurement



Critical

DISCHARGE IN CUBIC FEET PER SECOND

Kern River at First Point of Measurement "Regulated"

Year: 2015

Max Daily Project Flow 8 11 8 3 2 2 0 0 0 3 6 7

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	161	187	253	284	266	341	299	127	53	54	146	172
2	155	149	267	283	285	340	304	114	55	54	146	158
3	156	139	236	264	278	344	259	131	54	58	147	163
4	166	150	236	263	317	343	216	134	51	60	136	172
5	162	132	209	268	318	341	276	118	53	65	146	181
6	172	126	213	266	319	326	325	116	52	73	143	181
7	170	137	211	253	317	321	360	108	56	86	141	182
8	181	157	224	228	322	322	366	101	52	90	140	140
9	180	153	223	228	317	311	334	107	51	89	140	142
10	182	173	224	237	314	317	319	98	52	95	160	147
11	194	193	226	244	305	305	324	99	50	99	174	154
12	195	208	229	244	297	313	290	98	68	101	171	153
13	184	173	229	249	277	323	266	93	67	106	170	153
14	178	167	227	248	267	331	266	84	65	106	171	153
15	138	161	238	248	262	352	259	85	57	107	173	154
16	163	163	239	246	257	335	223	75	57	108	178	153
17	195	169	225	234	245	334	200	87	52	104	168	161
18	195	205	234	212	238	312	205	81	60	123	165	176
19	153	229	235	229	252	314	202	93	51	130	164	194
20	158	245	248	230	252	326	204	80	53	128	162	178
21	162	262	254	213	255	414	192	68	53	129	163	182
22	157	263	254	213	255	427	163	58	54	132	163	289
23	161	279	236	209	266	351	181	57	55	127	163	759
24	164	287	223	213	252	341	201	60	65	128	181	247
25	173	278	238	223	249	341	220	63	64	135	182	183
26	166	269	227	222	264	316	238	63	67	149	183	168
27	171	216	241	228	274	320	221	66	63	142	184	181
28	182	240	254	233	280	315	173	58	71	171	184	185
29	201	-	263	243	302	312	170	52	65	166	183	179
30	178	-	272	252	320	301	158	51	56	157	198	184
31	182	-	271	-	336	-	146	53	-	144	-	177
TOTAL	5,335	5,510	7,359	7,207	8,758	9,989	7,560	2,678	1,722	3,416	4,925	6,001
MAXIMUM INSTANT.	261	301	282	338	358	528	392	136	71	178	198	1,083
MINIMUM INSTANT.	100	102	208	209	143	216	124	47	50	36	136	140
MEAN	172	197	237	240	283	333	244	86	57	110	164	194
TOTAL AC. FT.	10,582	10,930	14,596	14,295	17,371	19,812	14,995	5,313	3,415	6,777	9,769	11,903
WHOLE YEAR:-	TOTAL,	70,460	MAX.,	1,083	MIN.,	100	MEAN,	193	TOTAL AC.FT.,	139,758		

% of Mean Flow 4.6 5.5 3.3 1.2 0.7 0.6 0.0 0.0 0.0 2.7 3.7 3.6  
AVG=2.2%



G-2 Comparison Between Max  
Daily Project Flow and  
2017 Kern River at First  
Point of Measurement



Wet

DISCHARGE IN CUBIC FEET PER SECOND

Kern River at First Point of Measurement "Regulated"

Year: 2017

Max Daily Project Flow 17 21 36 40 40 40 38 16 12 14 14 20

DATE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	327	1,065	4,269	4,386	4,745	5,546	4,816	2,261	1,465	948	831	419
2	324	936	4,320	4,383	4,797	5,555	4,826	2,077	1,367	1,072	752	419
3	314	942	4,372	4,416	4,811	5,541	4,935	2,088	1,413	1,039	711	428
4	378	969	4,367	4,394	4,743	5,571	4,926	1,972	1,458	1,020	688	388
5	1,017	952	4,348	4,380	4,832	5,606	4,873	1,964	1,232	1,045	419	429
6	3,008	1,243	4,318	4,292	4,727	5,556	4,767	2,158	1,185	1,045	400	430
7	864	1,330	4,325	4,219	4,773	5,568	4,752	2,248	1,178	1,036	373	418
8	899	1,325	4,361	3,921	4,808	5,537	4,656	2,342	1,142	1,018	384	379
9	870	1,623	4,362	3,859	4,847	5,563	4,555	2,102	1,025	1,006	386	416
10	1,077	1,658	4,404	4,038	4,857	5,483	4,581	1,894	1,016	1,059	376	426
11	688	1,699	4,451	3,993	4,957	5,446	4,535	1,625	1,081	1,055	366	425
12	612	1,842	4,533	4,089	5,052	5,485	4,379	1,434	1,065	1,050	364	420
13	515	1,820	4,511	4,232	5,088	5,475	4,403	1,447	977	1,044	362	419
14	513	2,106	4,523	4,116	5,073	5,528	4,403	1,579	971	989	428	381
15	528	2,227	4,612	4,115	5,206	5,439	4,170	1,599	919	931	343	357
16	403	2,280	4,628	4,284	5,240	5,381	4,142	1,508	910	904	319	345
17	357	2,346	4,639	4,375	5,226	5,178	3,834	1,510	857	925	361	348
18	469	2,543	4,636	4,370	5,214	5,162	3,761	1,522	989	951	374	340
19	484	2,550	4,622	4,427	5,250	5,391	3,765	1,421	972	1,028	397	348
20	594	2,628	4,691	4,480	5,178	5,474	3,596	1,401	846	1,007	370	334
21	814	3,048	4,620	4,493	5,199	5,342	3,624	1,555	832	986	409	294
22	895	3,639	4,678	4,447	5,342	5,218	3,513	1,567	818	1,002	392	294
23	1,435	3,906	4,682	4,583	5,441	5,406	3,235	1,520	820	1,106	380	298
24	1,318	4,228	4,568	4,677	5,493	5,423	3,111	1,456	862	1,183	383	301
25	1,099	4,283	4,538	4,752	5,458	5,468	3,072	1,461	905	1,163	385	293
26	1,427	4,261	4,339	4,724	5,491	5,442	3,179	1,397	942	1,160	386	302
27	1,443	4,285	4,515	4,721	5,465	5,259	2,984	1,410	979	1,209	420	294
28	1,302	4,336	4,416	4,733	5,495	5,032	2,688	1,589	1,039	1,189	419	348
29	1,314	-	4,503	4,712	5,517	4,997	2,531	1,707	1,024	1,183	421	345
30	1,345	-	4,475	4,701	5,520	4,928	2,495	1,730	981	1,220	422	384
31	1,322	-	4,483	-	5,473	-	2,605	1,605	-	1,304	-	368
<b>TOTAL</b>	<b>27,955</b>	<b>66,070</b>	<b>139,109</b>	<b>131,312</b>	<b>159,318</b>	<b>162,000</b>	<b>121,712</b>	<b>53,149</b>	<b>31,270</b>	<b>32,877</b>	<b>13,021</b>	<b>11,390</b>
<b>MAXIMUM INSTANT.</b>	<b>4,567</b>	<b>4,475</b>	<b>4,718</b>	<b>4,756</b>	<b>5,536</b>	<b>5,606</b>	<b>4,953</b>	<b>2,342</b>	<b>1,614</b>	<b>1,290</b>	<b>869</b>	<b>453</b>
<b>MINIMUM INSTANT.</b>	<b>268</b>	<b>863</b>	<b>4,252</b>	<b>3,859</b>	<b>4,727</b>	<b>4,928</b>	<b>2,381</b>	<b>1,161</b>	<b>632</b>	<b>847</b>	<b>319</b>	<b>294</b>
<b>MEAN</b>	<b>902</b>	<b>2,360</b>	<b>4,487</b>	<b>4,377</b>	<b>5,139</b>	<b>5,400</b>	<b>3,926</b>	<b>1,714</b>	<b>1,042</b>	<b>1,061</b>	<b>434</b>	<b>367</b>
<b>TOTAL AC. FT.</b>	<b>55,448</b>	<b>131,048</b>	<b>275,920</b>	<b>260,453</b>	<b>316,003</b>	<b>321,321</b>	<b>241,413</b>	<b>105,419</b>	<b>62,023</b>	<b>65,211</b>	<b>25,827</b>	<b>22,591</b>
<b>WHOLE YEAR:-</b>	<b>TOTAL,</b>	<b>949,183</b>	<b>MAX.,</b>	<b>5,606</b>	<b>MIN.,</b>	<b>268</b>	<b>MEAN,</b>	<b>2,601</b>	<b>TOTAL AC.FT.,</b>	<b>1,882,677</b>		

% of Mean Flow 1.8 0.8 0.8 0.9 0.8 0.7 1.0 0.9 1.1 1.3 3.2 5.4  
 AVG=1.6%



G-3 City of Bakersfield  
Summary of Kern River  
First Point Group Kern  
River Diversions 2015



CITY OF BAKERSFIELD  
SUMMARY OF KERN RIVER FIRST POINT GROUP  
KERN RIVER DIVERSIONS

Quantities in acre-feet

Year: 2015

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
<b>KERN RIVER FLOW AT FIRST POINT</b>	<b>9,862</b>	<b>10,477</b>	<b>13,958</b>	<b>13,482</b>	<b>16,506</b>	<b>18,809</b>	<b>13,932</b>	<b>4,247</b>	<b>2,384</b>	<b>5,714</b>	<b>8,920</b>	<b>11,387</b>	<b>129,678</b>
BEARDSLEY CANAL	1,648	998	1,174	272	246	1,821	1,706	440	226	0	3,628	6,432	18,591
CALLOWAY CANAL	0	0	0	0	0	0	0	0	0	0	0	0	0
KERN ISLAND CANAL	6,734	8,438	10,011	9,774	12,167	12,801	8,670	2,573	1,495	5,032	3,533	1,930	83,158
EASTSIDE CANAL	0	0	1,843	2,779	3,322	3,505	2,874	547	0	0	0	0	14,870
STINE CANAL	0	0	0	0	0	0	0	0	0	0	0	0	0
PANORAMA PRESERVE	0	4	2	2	2	5	6	10	8	6	4	0	49
TRUXTUN LAKES	109	109	65	0	0	0	0	0	0	0	0	371	654
ARVIN-EDISON TURNOUT	0	0	0	0	0	0	0	0	0	0	0	0	0
BUENA VISTA CANAL	0	0	0	0	0	0	0	0	0	0	0	0	0
THE PARK AT RIVER WALK	79	44	24	0	0	0	0	0	0	0	0	0	147
ROSEDALE CHANNEL	0	0	0	0	0	0	0	0	0	0	0	0	0
PIONEER CANAL	0	0	0	0	0	0	0	0	0	0	0	0	0
BERRENDA MESA PIPELINE	0	0	0	0	0	0	0	0	0	0	0	0	0
PIONEER PROPERTY	0	0	0	0	0	0	0	0	0	0	0	0	0
AERA PARK TURNOUT	16	0	0	0	0	0	0	0	0	0	0	0	16
KERN WATER BANK VIA 2800 ACRES	0	0	0	0	0	0	0	0	0	0	0	0	0
KERN WATER BANK CANAL AT HEAD	0	0	0	0	0	0	0	0	0	0	0	0	0
2800 ACRE RECHARGE FACILITY	0	0	0	0	0	0	0	0	0	0	0	0	0
First Point Passing Second Point	0	0	0	0	0	0	0	0	0	0	0	0	0
CARRIER CANAL LOSS/REFILL	600	241	107	0	93	22	0	0	0	0	1,100	837	3,000
RIVER LOSS & SPREADING	676	643	732	655	676	655	676	677	655	676	655	1,817	9,193
<b>FIRST POINT CANALS TOTAL FLOW</b>	<b>9,862</b>	<b>10,477</b>	<b>13,958</b>	<b>13,482</b>	<b>16,506</b>	<b>18,809</b>	<b>13,932</b>	<b>4,247</b>	<b>2,384</b>	<b>5,714</b>	<b>8,920</b>	<b>11,387</b>	<b>129,678</b>
<b>TOTAL FLOW AT SECOND POINT</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
BUENA VISTA WSD	0	0	0	0	0	0	0	0	0	0	0	0	0
CITY to BUENA VISTA WSD	0	0	0	0	0	0	0	0	0	0	0	0	0
HACIENDA WATER DISTRICT	0	0	0	0	0	0	0	0	0	0	0	0	0
KERN DELTA WATER DISTRICT	0	0	0	0	0	0	0	0	0	0	0	0	0



G-4 City of Bakersfield  
Summary of Kern River  
First Point Group Kern  
River Diversions 2017



**CITY OF BAKERSFIELD**  
**SUMMARY OF KERN RIVER FIRST POINT GROUP**  
**KERN RIVER DIVERSIONS**

Quantities in acre-feet

**Year: 2017**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
<b>KERN RIVER FLOW AT FIRST POINT</b>	<b>55,293</b>	<b>130,867</b>	<b>275,099</b>	<b>259,497</b>	<b>314,830</b>	<b>320,198</b>	<b>240,055</b>	<b>104,081</b>	<b>60,871</b>	<b>64,203</b>	<b>25,015</b>	<b>21,707</b>	<b>1,871,716</b>
BEARDSLEY CANAL	11,635	23,893	39,491	42,906	50,223	49,767	43,872	22,489	14,545	16,513	10,159	14,438	339,931
CALLOWAY CANAL	464	2,981	10,078	15,705	31,065	40,756	23,478	5,837	4,028	4,042	3,267	2,636	144,337
KERN ISLAND CANAL	6,313	4,935	11,248	12,900	15,499	21,017	24,932	15,586	8,687	6,426	3,860	1,692	133,095
EASTSIDE CANAL	0	105	3,614	3,515	4,044	4,074	4,268	3,810	2,206	2,259	1,456	232	29,583
STINE CANAL	559	1,736	5,096	4,562	5,383	6,861	7,898	5,913	3,868	2,039	861	337	45,113
PANORAMA PRESERVE	0	0	4	8	10	8	12	8	14	18	11	2	95
TRUXTUN LAKES	186	221	123	196	275	424	408	435	433	448	224	53	3,426
ARVIN-EDISON TURNOUT	0	1,170	4,840	3,876	11,434	4,132	0	0	0	0	0	0	25,452
BUENA VISTA CANAL	4,106	5,014	5,562	6,337	6,849	7,771	7,986	5,534	3,342	4,122	2,517	2,184	61,324
THE PARK AT RIVER WALK	91	111	123	119	123	119	123	143	119	123	119	28	1,341
ROSEDALE CHANNEL	6,397	13,196	24,635	25,556	25,845	29,710	26,260	12,416	1,468	3,783	0	0	169,266
PIONEER CANAL	0	3,909	17,790	17,080	20,110	18,918	6,436	0	0	0	0	0	84,243
BERRENDA MESA PIPELINE	0	795	3,755	3,138	3,189	3,184	3,122	654	704	131	0	0	18,672
PIONEER PROPERTY	0	13,767	28,171	26,269	29,458	29,014	23,297	6,965	4,304	6,653	285	0	168,183
AERA PARK TURNOUT	139	220	157	127	159	127	188	97	178	158	24	0	1,574
KERN WATER BANK VIA 2800 ACRES	795	1,908	6,077	5,766	6,042	5,228	4,667	696	107	0	0	0	31,286
KERN WATER BANK CANAL AT HEAD	0	7,343	27,562	29,584	37,982	30,734	4,354	0	0	0	0	0	137,559
2800 ACRE RECHARGE FACILITY	8,275	10,608	10,030	8,647	10,313	8,822	9,141	5,094	3,136	3,499	0	0	77,565
First Point Passing Second Point	0	0	8,594	1,527	0	0	0	0	0	0	0	0	10,121
CARRIER CANAL LOSS/REFILL	357	545	418	464	480	493	534	532	446	510	416	123	5,318
RIVER LOSS & SPREADING	13,108	12,244	16,837	11,152	10,246	9,372	10,062	12,733	12,743	13,479	3,210	1,771	126,957
<b>FIRST POINT CANALS TOTAL FLOW</b>	<b>52,425</b>	<b>104,701</b>	<b>224,205</b>	<b>219,434</b>	<b>268,729</b>	<b>270,531</b>	<b>201,038</b>	<b>98,942</b>	<b>60,328</b>	<b>64,203</b>	<b>26,409</b>	<b>23,496</b>	<b>1,614,441</b>
<b>TOTAL FLOW AT SECOND POINT</b>	<b>2,868</b>	<b>26,166</b>	<b>50,894</b>	<b>40,063</b>	<b>46,101</b>	<b>49,667</b>	<b>39,017</b>	<b>5,139</b>	<b>543</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>257,275</b>
BUENA VISTA WSD	520	23,877	41,213	30,842	41,280	43,003	12,417	5,139	543	0	0	0	198,834
CITY to BUENA VISTA WSD	0	0	0	0	0	0	0	0	0	0	0	0	0
HWD	0	0	9,681	9,221	4,871	6,664	26,600	0	0	0	0	0	57,037
RRBWSD to WEST KERN WD	2,348	2,289	0	0	0	0	0	0	0	0	0	0	4,637



G-5 City of Bakersfield  
Agreement No. 96-356





B A K E R S F I E L D

Office of the City Clerk • Ex Officio Clerk of the Council

January 14, 1997

**TO: CONTRACTOR**

**FROM: PAMELA A. McCARTHY, CITY CLERK** *By G. K. W.*

**SUBJECT: CITY OF BAKERSFIELD AGREEMENT NO. 96-356**

Enclosed is one (1) fully executed copy of the above referenced agreement for your files. This document was approved by the City Council on December 18, 1996.

If you have any questions, please contact my office at (805) 326-3767.

enclosure

PAM/gkw

I HEREBY CERTIFY that the foregoing Joint Resolution was passed and adopted by the Council of the City of Bakersfield at a regular meeting thereof held on DEC 18 1996, by the following vote:

AYES: COUNCILMEMBER DeMOND, CARSON, SMITH, McDERMOTT, ROWLES, SULLIVAN, SALVAGGIO  
NOES: COUNCILMEMBER None  
ABSTAIN: COUNCILMEMBER None  
ABSENT: COUNCILMEMBER None

Samela A. McCarthy  
CITY CLERK and EX OFFICIO of the  
Council of the City of Bakersfield

APPROVED DEC 18 1996

Bob Price  
BOB PRICE  
MAYOR

APPROVED AS TO FORM:

JUDY K. SKOUSEN  
City Attorney

By: Alan D. Daniel  
ALAN D. DANIEL  
Assistant City Attorney

ADD\dlr\bsb



AGREEMENT NO. 96 - 356

PIONEER PROJECT JOINT OPERATING AGREEMENT

THIS AGREEMENT is made and entered into on DEC 18 1996, by and between the **CITY OF BAKERSFIELD**, a chartered municipal corporation, referred to herein as "CITY," and **KERN COUNTY WATER AGENCY**, a special act public entity, referred to herein as "KCWA."

**RECITALS**

A. CITY owns certain contiguous parcels of real property situated within and along the natural channel of the Kern River located west of CITY between Buena Vista Road and Interstate "5", consisting of approximately 2,800 acres, which is commonly referred to as the "2800 Acres" ("2800 Acres" herein), and more fully shown on Exhibit "A" attached hereto and incorporated herein by reference; and

B. CITY, since 1976, has operated a water spreading and recovery project on the 2800 Acres ("City Project" herein), the primary use of which is for the spreading, percolation, storage, banking and recovery of CITY owned Kern River water for use by its citizens and residents to meet the demands and services required of those citizens and residents, including, but not limited to, drinking water; and

C. CITY has heretofore entered into contracts with Olcese Water District, Buena Vista Water Storage District ("Buena Vista" herein), and KCWA, for use of the 2800 Acres, which provide for the spreading, percolation, storage, banking and recovery of various waters (including Kern River water, Friant-Kern and State Water Project water) owned by said contractors; and

D. KCWA owns certain non-contiguous parcels of real property situated adjacent to the 2800 Acres, consisting of approximately 2,253 acres, which is commonly referred to as the "Pioneer Property," and which is more fully shown on Exhibit "A," attached hereto and incorporated herein by reference; and

E. KCWA plans to develop and manage a water spreading and recovery operation on the Pioneer Property, as well as other locations on the Kern River alluvial fan, and establish a Project ("Pioneer Project" herein), the primary use of which is for spreading, percolation, storage, banking and recovery of Kern River and other water owned by the KCWA and certain member units ("Pioneer Project Participants" herein) which, as of this date, include Buena Vista, Henry Miller Water District, Kern Delta Water District, Rosedale-Rio Bravo Water Storage District, Wheeler Ridge-Maricopa Water

Storage District, Tejon-Castac Water District, Semitropic Water Storage District, Lost Hills Water District, Belridge Water Storage District, Berrenda Mesa Water District and Improvement District No. 4 of KCWA ("ID4" herein); and

F. As used herein "spreading" refers to the physical placement onto and percolation of water into the groundwater basin for purposes designated by the spreading party including, but not limited to, overdraft correction and groundwater banking; and

G. CITY and KCWA acknowledge that the operation of their projects may have an impact or influence on the project of the other for which reason both parties desire, by this Agreement, to determine and provide certain reciprocal operating criteria which will avoid, to the greatest extent practicable, future conflicts; and

H. KCWA will enter into agreements with the Pioneer Project Participants concerning the operation of the Pioneer Project; and

I. KCWA has executed a "Transfer and Exchange Agreement" with the Kern Water Bank Authority which provides, among other things, for KCWA and its Member Units to use the capacity of the Kern Water Bank that is determined to be surplus by the Board of the Kern Water Bank Authority, and it is on that basis that the Kern Water Bank is included in the Project Area described below. The Kern Water Bank Authority has entered into a Memorandum of Understanding with Adjoining Entities regarding the operation and monitoring of the Kern Water Bank; and

J. CITY completed an Environmental Impact Report for the 2800 Acres in 1983, and has operated the City Project under this Environmental Impact Report since that time; and

K. CITY and KCWA believe it is to the mutual benefit of both parties that incentives be developed to increase recharge in the Kern River Channel to improve water management and the urban environment of the metropolitan Bakersfield area.

**NOW, THEREFORE**, incorporating the foregoing recitals herein, CITY and KCWA agree as follows:

**1. PARTIES.**

a. CITY executes this Agreement as the owner and operator of the 2800 Acres (City Project) and other CITY-owned facilities required under the operation of this Agreement.

b. KCWA executes this Agreement on behalf of itself and on behalf of each of the Pioneer Project Participants identified in Recital E above, each of whom will consent in writing to be bound by the terms and provisions of this Agreement as it affects the Pioneer Project only. For purposes of this Agreement, the term "AGENCY" shall mean KCWA and the Pioneer Project Participants, unless otherwise specified.

2. **NO ALTERATION.** Nothing in this Agreement shall change or supersede any previous agreement executed by any party hereto, unless specifically set forth herein.

3. **PROJECT AREA.** The "Project Area" shall be defined as the 2800 Acres, the Kern River Channel easterly from the 2800 Acres extending to the Rocky Point Weir (excluding property owned by Berrenda Mesa Water District), the Pioneer Property (Including portions of the existing James and Pioneer Canal systems) and Kern Water Bank. The spreading areas are located as shown on the map attached as **Exhibit "B."** The recovery areas are located as shown on the map attached as **Exhibit "C."**

4. **RELATIONSHIP TO ENVIRONMENTAL STUDIES.** This Agreement shall become a part of any Environmental Impact Report, Negative Declaration, or other environmental document prepared by the KCWA for the Pioneer Project. New urban developments in unincorporated areas of the County utilizing the KCWA's reserved capacity in the Pioneer Project will require additional environmental review for such developments before implementation.

5. **USE OF FACILITIES.**

a. **Kern River Canal.** For purposes of this Agreement, the CITY owns and controls the Kern River Canal and structures appurtenant thereto, including headgates diverting water therefrom, and has the right to operate said facilities at CITY's sole discretion subject only to existing rights arising by law or contract. Subject to the rights of CITY and the rights of any other entity under the 1964 Amendment to the Miller-Haggin Agreement, or other CITY contracts, and subject to carrying capacity as determined by CITY, AGENCY may use the River Canal for transportation of water to be diverted into the recharge areas (**Exhibit "B"**) and for transportation of water recovered from recovery areas (**Exhibit "C"**). AGENCY acknowledges that any AGENCY request for delivery downstream of the terminus of the River Canal must be coordinated and verified with Buena Vista.

b. **Pioneer Canal.** For the purposes of this Agreement, the CITY owns or controls the Pioneer Canal from and including the headgate westerly to the Stockdale Highway bridge overcrossing subject only to existing rights arising by law or contract, and CITY shall continue to operate said portion of Pioneer Canal subject to available capacity as determined by CITY. AGENCY shall make separate arrangements with downstream owners to use the Pioneer Canal, which includes reaches downstream

from the Cross Valley Canal, for spreading and transportation of AGENCY water to be diverted into the Pioneer Property or Kern Water Bank.

c. 2800 Acres. The CITY owns and controls the 2800 Acres (City Project). The CITY and KCWA have heretofore entered into an agreement providing for KCWA use of the 2800 Acres under certain terms and conditions, to wit: Agreement No. 84-232 dated October 17, 1984. Said agreement will expire on July 1, 2012, subject to an option to extend for an additional period of twenty (20) years. A copy of said Agreement No. 84-232 is attached hereto as **Exhibit "D."** This Agreement neither replaces nor amends Agreement No. 84-232 but merely supplements the same. In the event of any conflict between this Agreement and Agreement No. 84-232, Agreement 84-232 shall govern. AGENCY acknowledges that any AGENCY request for conveyance of water past Second Point of Measurement in the Kern River Channel, located in the northwest quarter (NW 1/4) of Section 24, Township 30 South, Range 25 East, M.D.B. & M., must be coordinated and verified with Buena Vista.

- (1) The CITY shall permit AGENCY to utilize the 2800 Acres for transportation of AGENCY water to the Pioneer Property and the Kern Water Bank subject to available capacity as determined by CITY with the following provisions:
  - (a) AGENCY water supply spread in the 2800 Acres as a result of transportation of AGENCY water via the 2800 Acres will be recorded as spread in the Pioneer Property or the Kern Water Bank as determined by the AGENCY.
  - (b) CITY charges to AGENCY for water spread under this provision will consist of the Operations and Maintenance fee and Facilities Improvement Component of the Spreading Fee as set forth in Agreement No. 84-232, for the Pioneer Project and Kern Water Bank accounts.
- (2) CITY shall permit AGENCY access to the 2800 Acres for the purpose of construction of turnout facilities at AGENCY expense which may divert water from the 2800 Acres onto the Pioneer Property and the Kern Water Bank. Any plans for such construction shall be delivered to CITY by AGENCY in writing prior to the date of commencement of said construction. CITY shall have final approval of any plans or specifications. Upon completion of construction to the satisfaction of CITY, such facilities shall be and become the property of the CITY

and CITY shall thereafter own, operate and maintain the installed facilities. For the term of this Agreement, AGENCY shall have first priority to use any facilities constructed by it pursuant to this paragraph and shall pay operation and maintenance charges only (i.e., AGENCY shall not be required to pay a capital component or replacement charge).

d. Kern River Channel. For the purposes of this Agreement, the CITY controls the operation of a major portion of the Kern River Channel downstream of Rocky Point Weir, extending to the Kern River Diversion Weir located immediately upstream of Second Point of Measurement, subject to rights arising by law or contract. Use of said portion of the Kern River Channel by AGENCY shall be governed by the following:

- (1) AGENCY may deliver water into the Kern River Channel at points easterly of 2800 Acres for spreading purposes; however, AGENCY shall be responsible for determining the accounting for such water, including designation of project accounts and related losses. CITY shall have access to such accounting records.
- (2) Use of the Kern River Channel by AGENCY for spreading purposes shall not diminish or interfere with ongoing ID4 spreading operations, and for the purpose of this Agreement, the ID4 spreading operation shall not be considered banked within the ID4 boundaries, unless otherwise agreed to between the CITY and ID4. Deferral of ID4 spreading operations to allow for spreading by another entity shall not be deemed to diminish or interfere with ID4 spreading operations as long as the deferred quantities are eventually spread or used in ID4.
- (3) To encourage use of the Kern River Channel upstream of the 2800 Acres at times the Kern River Channel would otherwise be dry, CITY may, by mutual agreement with AGENCY, request delivery of AGENCY water into the Kern River Channel at points easterly of the 2800 Acres that, absent such request, would otherwise be spread by AGENCY in the 2800 Acres, Pioneer Property or Kern Water Bank. CITY shall reimburse AGENCY for the actual cost increase, if any, necessary to deliver AGENCY water into the Kern River Channel as set forth herein.

e. Operations. CITY may operate the Kern River Canal, the Pioneer Canal at its point of diversion from the Kern River Channel, the 2800 Acres and the Kern

River Channel for the benefit of the AGENCY, subject to available capacity as determined by CITY and rights arising out of law or contract, and with the following understandings:

- (1) The cost to AGENCY for use of CITY facilities shall be as described in certain pre-existing agreements which are incorporated by reference herein, as follows:
  - (a) For use of the Kern River Canal - 1964 Amendment to the Miller-Haggin Agreement dated January 1, 1964; and
  - (b) For use of the 2800 Acres, exclusive of the Kern River Channel, to transport AGENCY water - Agreement No. 84-232 dated October 17, 1984; and
  - (c) For use of the Kern River Channel to bank in the 2800 Acres - Agreement No. 84-232 dated October 17, 1984; provided, however, the operation and maintenance fee and Facility Improvement Component of the Spreading Fee shall not apply to water spread in the Kern River Channel easterly of the 2800 Acres; and
  - (d) For use of the Kern River Channel easterly of the 2800 Acres to spread for the Pioneer Project and Kern Water Bank accounts, no fee shall apply; and
  - (e) For use of the Kern River Channel through the 2800 Acres to spread for the Pioneer Project and Kern Water Bank Accounts, a reasonable handling fee to be negotiated between the CITY and KCWA under then existing conditions shall apply; and
  - (f) For use of the Pioneer Canal - Agreement No. 93-158 dated August 25, 1993 (a copy of which is attached hereto as **Exhibit "E."**)

f. Waiver of Charges. CITY may waive any or all of the aforementioned charges to the extent that AGENCY has spread water, after giving advance written notice to the CITY, for overdraft correction rather than storage for later sale, assignment or extraction.

g. Payment of Charges. All charges herein are due and payable by AGENCY to CITY forty-five (45) days after the mailing of the notice that such charges are due to CITY. No oversight by CITY in making such demand shall relieve AGENCY from such payments.

6. PRIORITY FOR USE. AGENCY hereby grants to CITY a right to use any and all unused spreading and recovery capacity of the Pioneer Project after the AGENCY and KCWA Member Units. CITY's right shall, at all times, be subject to the first priority rights of AGENCY and KCWA Member Units and shall further be subject to the payment of all fees and compliance with all rules, regulations, restrictions and limitations imposed by KCWA on non-participating Member Units.

## 7. WATER QUALITY ASSURANCES.

a. Quality Enhancement. CITY and AGENCY agree to operate their respective projects in such manner so as to maintain and, when possible, enhance the quality of groundwater in the basin underlying the Project Area. To this end, each party agrees to make a good faith effort to meet the following objectives:

- (1) If supplies of acceptable water exceed spreading capacity, all other things being equal, spreading priority should be given to the purest or best quality water.
- (2) Each project should be operated with the objective that the average concentration of total dissolved salts in the recovered water will exceed the average concentration of total dissolved salts in the spread water. The average shall be calculated for a given project from the date of filing notice of determination to proceed with such project under the California Environmental Quality Act.
- (3) To maintain or improve groundwater quality, recovery operations should extract poorer quality groundwater where practicable. Blending may be used to increase extraction of lesser quality groundwater unless doing so will exacerbate problems by generating unfavorable movement of lesser quality groundwater.
- (4) CITY and AGENCY should attempt to control the migration of poor quality groundwater. Problem areas may be dealt with by limiting or terminating extractions that tend to draw lesser quality groundwater toward or into the useable groundwater

areas, by increasing extractions in areas that might generate a beneficial gradient, by increasing recharge within the useable groundwater area to promote favorable groundwater gradient, and the like.

- (5) Spreading should not occur in, on or near contaminated areas, nor should water be spread in, on or near an adjoining area if the effect will be to mound water near enough to the contaminated area that the contaminants will be picked up and carried into the uncontaminated groundwater supply.
- (6) Within the Project Area, the parties may spread Kern River and other high quality waters as high on the Kern River Fan as possible and may spread State Water Project water as far to the west as possible, through reciprocal use of facilities if necessary, in order to enhance water quality in the upper Kern River Fan area.

b. Hydraulic Gradient. In addition to the foregoing, CITY and AGENCY agree to use best efforts in operating their respective projects to maintain a hydraulic gradient which slopes away from the Kern River Channel within the Project Area. Such efforts may include, but are not limited to, prioritizing spreading along the Kern River Channel within the Project Area, limiting operation of recovery wells within the Project Area, and active monitoring of water levels.

## **8. OPERATING CRITERIA.**

a. Spreading Priority. In order to preserve the historical high quality groundwater supplies underlying the Kern River Channel, it shall be the goal of CITY and AGENCY to maintain a positive hydraulic gradient sloping away from the existing mound underlying the Kern River Channel. In recognition of this goal, AGENCY agrees that, at those times when water is not otherwise being spread in the 2800 Acres CITY may call for up to twenty percent (20%) of water scheduled by AGENCY for spreading purposes on the Pioneer Property to be spread in the 2800 Acres. Said delivery will be monitored, reviewed and coordinated on a daily basis by CITY and AGENCY contact person. Water spread by AGENCY under this provision may be conveyed from North Pioneer to the 2800 Acres by gravity through a turnout to be constructed by the CITY. Water spread in the 2800 Acres under this provision shall be credited to the account of AGENCY in the same manner as if it had been spread on the Pioneer Property and shall not be subject to CITY fees. CITY shall reimburse AGENCY for the actual cost increase, if any, necessary to deliver AGENCY water as set forth herein.

b. Use of Easement. The CITY and KCWA have entered into a permanent agreement providing for an easement across CITY-owned property, to wit: Agreement No. 93-158 dated August 25, 1993 (Exhibit "E"). CITY hereby consents to the assignment of said agreement as necessary to enable the AGENCY to use said easement in connection with its operation of the Pioneer Project, if necessary.

c. Recovery Area. The AGENCY has developed a recovery plan for the Project Area that may afford maximum recovery capability within the Project Area while minimizing adverse impacts to others within the Project Area or other areas adjacent thereto.

d. Adverse Impact Avoidance/Mitigation. With Monitoring Committee oversight, each project should be operated so as to prevent, eliminate or mitigate significant adverse impacts. Measures to prevent significant adverse impacts from occurring include, but are not limited to, the following:

- (1) Limit recovery from wells situated on Pioneer Property to water previously spread on the Pioneer Property (including portions of the existing James and Pioneer Canal systems), the Berrenda Mesa property, the Kern Water Bank, the 2800 Acres and the Kern River Channel easterly of the 2800 Acres;
- (2) In any given year, the recovery from the Pioneer Project shall not exceed the total quantity of AGENCY water previously spread on, minus that amount of water previously recovered from, the Pioneer Property (including portions of the existing James and Pioneer Canal systems), the Berrenda Mesa property, the 2800 Acres, and the Kern River Channel easterly of the 2800 Acres (not including water spread by ID4 within the ID4 boundaries); plus AGENCY water spread on the Kern Water Bank via the Pioneer Property. The accounting and establishment of spreading and recovery quantities referred to in this paragraph shall commence on January 1, 1981.
- (3) Expand the recovery area to include areas located westerly of the Pioneer Property;
- (4) Maintain a positive water balance between water spread and water recovered at all times;
- (5) Provide buffer areas between recovery wells and neighboring overlying users;

- (6) Limit the monthly, seasonal or annual recovery rate;
- (7) Provide sufficient recovery wells to allow rotation of recovery wells or the use of alternate wells;
- (8) Adjust pumping rates or terminate pumping to reduce impacts, if necessary;
- (9) Impose time restrictions between spreading and extraction to allow for percolation of water to the aquifer; and
- (10) Spread water that would not otherwise be spread in the Project Area.

e. Compensation for Adverse Impacts. Mitigation measures that compensate for unavoidable adverse impacts include, but are not limited to, the following;

- (1) With the consent of the affected overlying user, lower the pump bowls or deepen wells as necessary to restore groundwater extraction capability to such overlying user;
- (2) With the consent of the affected overlying user, provide alternative water supplies to such overlying user; and
- (3) With the consent of the overlying user, provide financial compensation to such overlying user.

f. Well Spacing. New wells shall be placed no closer than one-third (1/3) mile from any existing wells located off the Pioneer Property;

g. Additional CITY Wells. AGENCY acknowledges that CITY has heretofore planned to construct three (3) wells in the 2800 Acres which may be situated in Sections 3, 9, 10 and 16 of Township 30 South, Range 26 East, M.D.B. & M., and AGENCY agrees to provide well spacing for new wells of at least one-third (1/3) mile from said planned wells unless otherwise mutually agreed.

h. Losses. Losses will be applicable to all water spread under this Agreement and at a minimum shall be assessed as follows:

- (1) Spreading losses (i.e., evaporation, evapotranspiration, etc.) shall be fixed and assessed at a rate of six percent (6%) of water spread.
- (2) An additional five percent (5%) loss shall be assessed against any water spread in the Project Area for banking by, for or on behalf of any out-of-County person, entity or organization and/or against any banked water sold or transferred to any out-of-County person, entity or organization.
- (3) Effective the date of this Agreement and except as otherwise limited by any prior agreement, losses assessed under this Agreement represent amounts of water that will not be credited to any account and are non-recoverable by CITY or AGENCY.

i. Definitions Applicable to Fees and Charges. To provide for uniformity with respect to fees and charges under this Agreement, it is agreed as follows:

- (1) Operations and maintenance fees and facility improvement fees shall be charged against total diversions into the facility (i.e., the amount of water diverted before losses).
- (2) Spreading fees shall be charged against net water spread which shall be understood to be the total amount of water spread, less losses.
- (3) Recovery or extraction fees shall be charged against total water recovered.

j. Friant-Kern Canal Flood Flows. For purposes of this Agreement, CITY and AGENCY agree that the first priority of Friant-Kern flood flows that spill into the Kern River Channel shall be to establish and maintain a continuous (uninterrupted) stream channel from the terminus of the Friant-Kern Canal to the Kern River Intertie. Said continuous stream flow shall be dedicated to overdraft correction of the groundwater basin.

## 9. COORDINATION AND RECORD KEEPING.

a. Coordination. The AGENCY is responsible for the day-to-day operation of the Pioneer Project. The AGENCY and CITY will designate a contact person to coordinate AGENCY activities with the CITY. Water deliveries to the Project Area via the Kern River Channel or via any CITY-owned facility shall be regulated through CITY operation and shall be scheduled forty-eight (48) hours in advance through the CITY

Water Dispatcher by the AGENCY contact person. Unless otherwise agreed, the AGENCY contact person shall meet regularly with CITY to coordinate Pioneer Project operations. Delivery and recovery of water to and from the Kern Water Bank shall be coordinated by the AGENCY with the manager of the Kern Water Bank.

b. Records. The CITY is currently responsible for, and shall continue to maintain records of all points of diversion from the Kern River Channel and CITY-owned canals. The AGENCY shall have access to such records. The AGENCY contact person will provide such assistance and information as is necessary for CITY to meet its obligations hereunder. All other records required for this Agreement shall be developed and maintained by KCWA.

**10. MONITORING COMMITTEE.** The Pioneer Project Participants will consent to formation of a Monitoring Committee composed of representatives of such Pioneer Project Participants. The Monitoring Committee is charged with the duty and responsibility of reviewing project operations and activities, of making recommendations with respect thereto to insure compliance with the project objectives, and of providing a forum for dispute resolution. The CITY agrees to cooperate with the Monitoring Committee through contribution of records, identified herein, and 2800 Acre spreading and recovery data, collected by CITY, which will be supplied in the normal course of business.

**11. OVERDRAFT REDUCTION.** CITY and AGENCY agree that the use of the Pioneer Property shall not cause or contribute to overdraft of the groundwater basin. In this connection, any consumptive use of water on the Pioneer Property which exceeds .3 acre-feet per acre on an acre-by-acre basis shall be provided from supplemental surface water or previously recharged water that does not create or contribute to overdraft.

**12. NO CHANGE TO KERN RIVER RIGHTS.** The Pioneer Project shall not change or affect rights to use Kern River water. Should any court of competent jurisdiction determine any use of Kern River water rights is affected by this Agreement, the parties shall meet and negotiate whatever modifications are necessary to re-establish those rights which have been affected, or void any part, or all, of this Agreement necessary to re-establish said rights. The parties shall negotiate in good faith to maintain Kern River water rights whenever a modification or voiding of the terms of this Agreement becomes necessary.

**13. INDEMNIFICATION.**

a. Indemnity. CITY and AGENCY agree to indemnify and hold each other harmless from any and all claims, demands, liabilities, losses or causes of action which arise by virtue of its own acts or omissions (either directly or through or by its agents, officers, or employees) to such extent and in such part as the respective parties are found by reason of law to have proximately caused the injury or damage.

b. Notice of Claim. The party against whom any claim arising from any subject matter of this Agreement is filed shall give prompt notice of the filing of the claim to the other party.

14. EFFECTIVE DATE. This Agreement is effective the day and year first above written regardless of the date of actual execution.

15. NOTICES. All notices relative to this Agreement shall be given in writing and shall be personally delivered or sent by certified or registered mail, in which latter case service will be effective upon depositing in the United States mail. Notices to CITY and AGENCY shall be addressed as follows, or at any other address designated by notice given in the manner herein provided:

CITY: CITY OF BAKERSFIELD  
WATER RESOURCES DEPARTMENT  
1000 Buena Vista Road  
Bakersfield, CALIFORNIA 93311

AGENCY: KERN COUNTY WATER AGENCY  
P.O. Box 58  
Bakersfield, CALIFORNIA 93302-0058

16. FORUM. Any lawsuit pertaining to any matter arising under, or growing out of, this Agreement shall be instituted in Kern County, California.

17. ASSIGNMENT. This Agreement shall not be assigned by CITY or KCWA, without the prior written consent of the other.

18. BINDING EFFECT. The rights and obligation of this Agreement shall inure to the benefit of, and be binding upon, the parties to this Agreement and their heirs, administrators, executors, personal representative, successors and assigns.

19. CORPORATE AUTHORITY. Each party executing this Agreement represents and warrants that it is duly authorized to execute and deliver this Agreement on behalf of the organization named herein and that this Agreement is binding upon said organization in accordance with its terms.

20. WAIVER OF DEFAULT. The failure of any party to enforce against another a provision of this Agreement shall not constitute a waiver of that party's right to enforce such a provision at a later time, and shall not serve to vary the terms of this Agreement.

**21. MERGER AND MODIFICATION.** All prior oral agreements or understandings between the parties with respect to the matters covered by this Agreement are incorporated in this Agreement which constitutes the entire agreement. Its terms are intended by the parties as a final expression of their agreement with respect to such terms as are included herein and may not be contradicted by evidence of any prior or contemporaneous oral agreement. The parties further intend this Agreement constitutes the complete and exclusive statement of its terms. This Agreement may be modified only in a writing approved by the City Council, the KCWA Board, and signed by all the parties.

**22. NEGATION OF PARTNERSHIP.** No party shall become or be deemed a partner or joint venturer with any other party or associate in any such relationship with any other party by reason of the provisions of this Agreement. KCWA shall not for any purpose be considered an agent, officer or employee of CITY, and CITY shall not for any purpose be considered an agent, officer or employee of KCWA.

**23. ACCOUNTING RECORDS.** CITY and AGENCY shall maintain accurate accounting records and other written documentation pertaining to all costs incurred in performance of this Agreement. Such records and documentation shall be maintained during the term of this Agreement. Said records shall be made available to CITY or AGENCY representatives upon request at any time during regular business hours.

**24. EXHIBITS.** In the event of a conflict between the terms, conditions or specifications set forth in this Agreement and those in exhibits attached hereto, the terms, conditions, or specifications set forth in this Agreement shall prevail. All exhibits to which reference is made in this Agreement are deemed incorporated in this Agreement, whether or not actually attached.

**25. ENVIRONMENTAL QUALITY.** The CITY has various environmental concerns relating to the Pioneer Project which have been addressed to the CITY's satisfaction in this Agreement; however, the CITY does not warrant or guarantee the environmental quality of the Pioneer Project and does not warrant or guarantee the Pioneer Project will be without environmental effects.

**26. TERM.** The term of this Agreement shall be the same as the term of the Agreement No. 84-232.

**27. AUTHORSHIP.** It is understood and agreed that this Agreement is the product of negotiation between CITY and AGENCY, with each represented by independent counsel of its choice and each has contributed to the drafting hereof. In constructing this Agreement, neither CITY nor AGENCY shall be

deemed its author.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year first above written.

"CITY"

"KCWA"

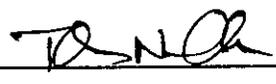
CITY OF BAKERSFIELD

KERN COUNTY WATER AGENCY

By:   
**BOB PRICE**  
Mayor

By:   
Title: President

APPROVED AS TO CONTENT:

By:   
Title: General Manager

WATER RESOURCES DEPARTMENT

By:   
**GENE BOGART**  
Water Resources Manager

APPROVED AS TO FORM:

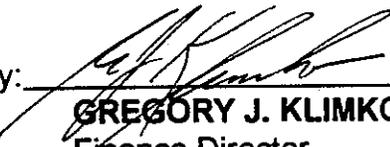
APPROVED AS TO FORM:

By:   
**JOHN STOVALL**  
Attorney for KCWA

**JUDY K. SKOUSEN**  
City Attorney

By:   
**ALAN D. DANIEL**  
Assistant City Attorney

COUNTERSIGNED:

By:   
**GREGORY J. KLIMKO**  
Finance Director

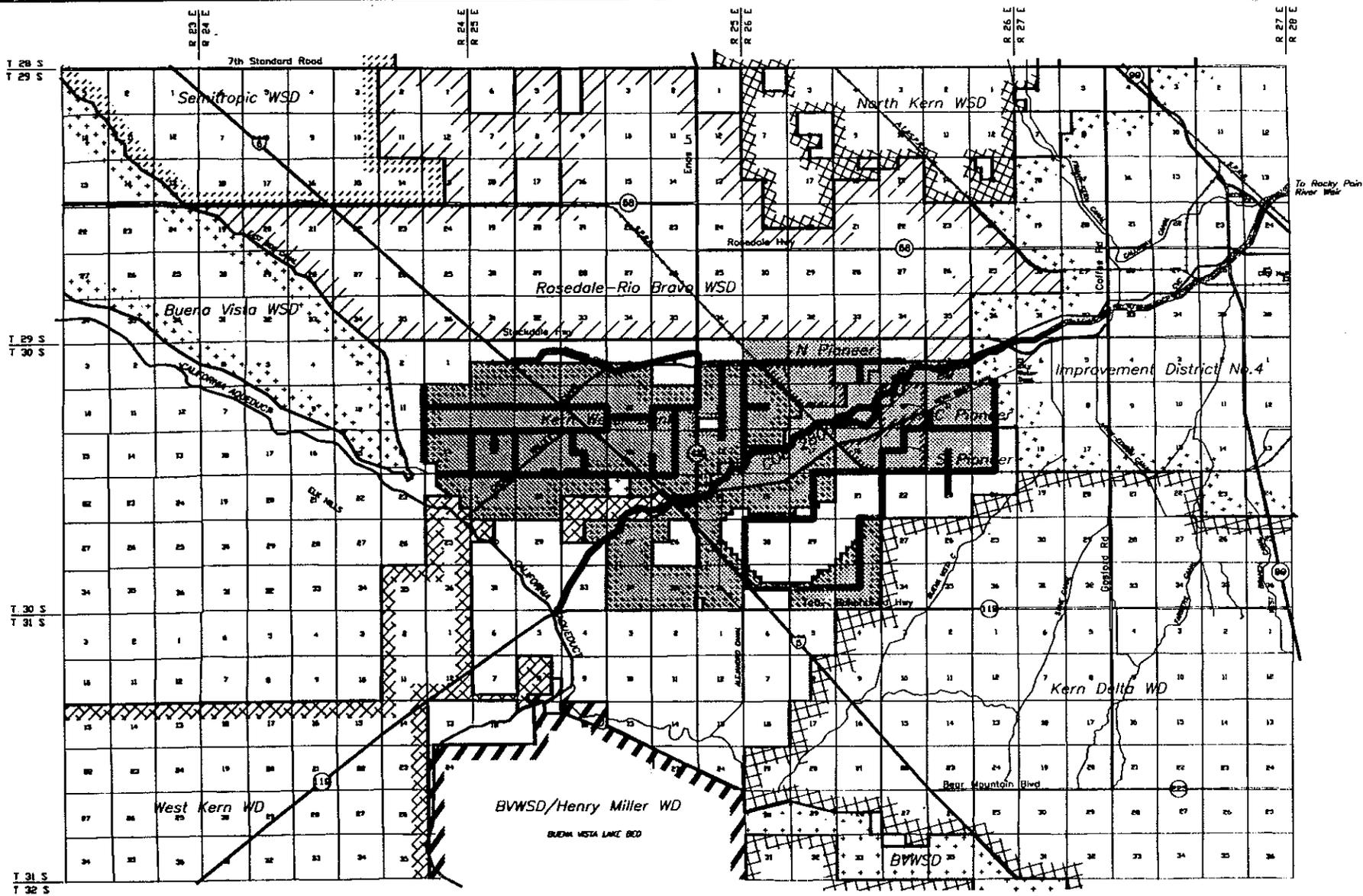
ADD:dlr

PIONEER PROJECT JOINT OPERATING AGREEMENT  
LIST OF EXHIBITS AND ATTACHMENTS

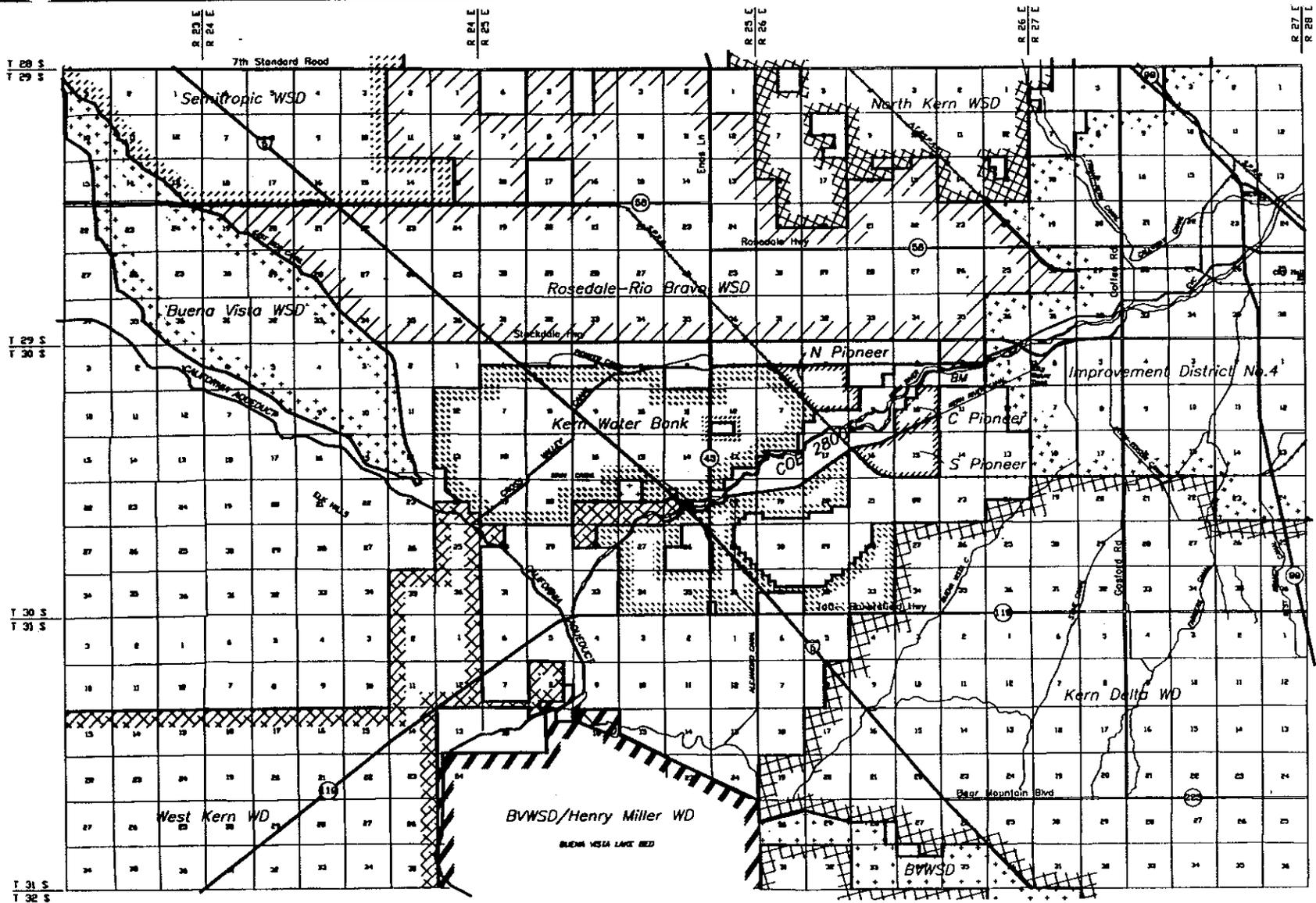
Exhibits

- Exhibit A -- 2800 Acre Recharge Facility and Pioneer Property
- Exhibit B -- Project Area Spreading Map
- Exhibit C -- Project Area Recovery Map
- Exhibit D -- CITY/KCWA Agreement No. 84-232
- Exhibit E -- CITY/KCWA Agreement No. 93-158





Kern County Water Agency  
 Kern County, California  
**PIONEER PROJECT JOINT OPERATING AGREEMENT**  
 Project Area Spreading Map  
*EXHIBIT B*



Kern County Water Agency  
 Kern County, California  
 PIONEER PROJECT JOINT OPERATING AGREEMENT  
 Project Area Recovery Map  
*EXHIBIT C*

11/15/96



G-6 Kern River Water Service  
Agreement Between Canal  
Companies and Rosedale-  
Rio Bravo Water Storage  
District



KERN RIVER WATER SERVICE AGREEMENT

THIS AGREEMENT, made as of the 31<sup>st</sup> day of August, 1961, by and between ANDERSON CANAL, INC., JAMES CANAL, INC., JOYCE CANAL, INC., PIONEER CANAL, INC., and PLUNKET CANAL, INC., all corporations duly organized and existing under and by virtue of the laws of the State of California (herein called "Canal Companies"), as First Parties, and ROSEDALE-RIO BRAVO WATER STORAGE DISTRICT, a water storage district duly organized and existing under and by virtue of the laws of the State of California (herein called "Rosedale District"), as Second Party,

W I T N E S S E T H:

THAT WHEREAS:

A. Canal Companies execute this agreement on their own behalf and on behalf of all the parties of the second part (or their successors in interest) in and to that certain contract known as the "Miller-Haggin Agreement", dated July 28, 1888, and recorded in the Office of the County Recorder of Kern County, California, in Book 2 of Agreements, at page 40, as amended and supplemented, and all of the parties (or their successors in interest) whose water rights on the Kern River were adjudicated among themselves in that certain judgment known as the "Shaw Decree", rendered August 6, 1900, by the Superior Court of the State of California in and for the County of Kern, Honorable Lucien Shaw, Judge, in that certain Action No. 1901 entitled "Farmers Canal Company, et al., Plaintiffs, vs. J. R.

Simmons, et al., Defendants", who might wish to share in the benefits and obligations of this agreement (herein called "Other Affiliates").

B. The increasing agricultural irrigation requirements of lands within Kern County are causing a continuing decline in the level of the ground-water table from which water in the Rosedale District is now drawn by pumps for irrigation purposes.

C. The Rosedale District was formed to provide an organized public entity that could cope with and solve the mutual water problems confronting residents and property owners of the area contained within the Rosedale District.

D. Canal Companies have observed that river seepage losses between First Point of Measurement and Second Point of Measurement on the Kern River have been increasing substantially during recent years, and the extent of such increased losses has become a matter of great concern to Canal Companies.

E. It is anticipated that future ground-water pumping conditions can be improved by the importation of additional surface water into the Rosedale District.

F. Canal Companies are undertaking to make improvements in the channel of the Kern River, the first phase being the construction of a concrete-lined canal, starting in the channel of the Kern River near the outlet of the Friant-Kern Canal in the West One-Half of Section 33, Township 29 South, Range 27 East, M.D.B. & M., running in a Southwesterly direction south of Kern River and terminating in the channel of Kern River at Second Point of Meas-

urement in the Northeast Quarter of Section 24, Township 30 South, Range 25 East, M.D.B. & M., hereinafter called the "Kern River Canal".

G. There is and for some years has been a shortage of water in Kern County, and because of such shortage, Rosedale District needs an additional permanent source of water.

H. Canal Companies are willing to make available to Rosedale District a permanent supply of water, and to furnish water transportation service, in the amounts and under the terms and conditions set forth in this agreement.

I. The parties desire to share in the mutual benefits which will accrue to them from construction of the Kern River Canal.

NOW, THEREFORE, Canal Companies and Rosedale District hereby agree with each other as follows:

1. Water Sale.

Canal Companies agree to sell to Rosedale District, and Rosedale District agrees to buy from Canal Companies, ten thousand (10,000) acre-feet of water per year computed as hereinafter provided upon a cumulative annual average basis, at the price and in accordance with the provisions hereinafter set forth, as follows:

(a) Term: The term of this agreement for the sale and purchase of water shall commence on the first day of January of the calendar year next following the calendar year in which the Kern River Canal is completed and placed in operation, and shall continue until terminated by mutual written consent or agreement of the Canal Companies and Rosedale District.

(b) Quantity: The quantity of water to be sold hereunder will vary from year to year, but the cumulative annual average quantity delivered hereunder as of the end of any calendar year shall never be less than ten thousand (10,000) acre-feet per year. Such cumulative annual average quantity shall be computed as of the end of each calendar year during the term hereof by dividing the total quantity of water sold hereunder from the commencement of the term hereof to the end of such calendar year by the number of calendar years embraced within that period of time. The total quantity delivered hereunder during any period of five (5) consecutive calendar years of the term hereof shall never be less than five thousand (5,000) acre-feet.

(c) Deliveries: All water sold by Canal Companies to Rosedale District hereunder shall be delivered at Rosedale District's Diversion Works on Kern River in Section One (1), Township Thirty (30) South, Range Twenty-Six (26) East, M.D.B. & M. All such deliveries of water shall be made at such times and at such rates as Canal Companies deem practicable in the light of available water supplies, unused capacity in the Kern River Canal, and other pertinent factors; provided, however, that Canal Companies shall not without the prior written consent of Rosedale District deliver water hereunder at rates of flow exceeding one hundred sixty-seven (167) cubic feet per second or at times which would interfere with Rosedale District's receipt of water under its "Contract for Short Term Water Service" with the United States Bureau of Reclamation as described in the "Report on Proposed Project for Rosedale-Rio Bravo

Water Storage District" dated February, 1960, or any extension thereof, or any other temporary or short-term contract of a similar nature hereafter made between the Rosedale District and the Bureau of Reclamation for a comparable water supply in replacement for said Contract so described in said Report.

(d) Maximum Annual Deliveries: The quantity of water delivered by Canal Companies to Rosedale District hereunder during any calendar year shall not, without the consent of Rosedale District, exceed whichever of the following maximum limits shall be applicable:

(1) In each and every calendar year the maximum delivery hereunder shall be forty thousand (40,000) acre-feet.

(2) In each calendar year during which Rosedale District shall receive more than thirty thousand (30,000), but not more than forty-five thousand (45,000), acre-feet of water at its Rosedale District Diversion Works from the Bureau of Reclamation pursuant to the contract or contracts described in Paragraph 1(c) hereof, the maximum delivery hereunder shall be forty thousand (40,000) acre-feet minus one (1) acre-foot for each acre-foot of water in excess of thirty thousand (30,000) acre-feet so received from the Bureau of Reclamation during the year.

(3) In each calendar year during which Rosedale District shall receive more than forty-five thousand (45,000) acre-feet of water at its Rosedale District Diversion Works from the Bureau of Reclamation pursu-

ant to said contract or contracts, the maximum delivery hereunder shall be twenty-five thousand (25,000) acre-feet, of which ten thousand (10,000) acre-feet may be delivered whenever permissible under Paragraph 1(c) hereof and the other fifteen thousand (15,000) acre-feet may be delivered at any time during the same calendar year after the lapse of ninety (90) consecutive days following the discontinuance of deliveries of water to Rosedale District at its Rosedale District Diversion Works from the Bureau of Reclamation pursuant to said contract or contracts and the completion of deliveries hereunder of the aforementioned ten thousand (10,000) acre-feet of water.

(4) The total quantity of water sold hereunder at the end of any calendar year during the term hereof shall not, without the consent of Rosedale District, exceed by more than sixty thousand (60,000) acre-feet a quantity equal to the product obtained by multiplying ten thousand (10,000) acre-feet by the number of years elapsing from the commencement of the term hereof to the end of such calendar year.

(e) Notice of Deliveries: Not less than thirty (30) days prior to any contemplated delivery of water to Rosedale District hereunder, Canal Companies shall give Rosedale District written or oral notice of the date and rate of such contemplated delivery. The giving of any such notice shall not, however, obligate Canal Companies to make delivery in accordance with such notice.

(f) Refusal of Water: If Rosedale District shall refuse to accept delivery of any water tendered for delivery

by Canal Companies in accordance with the provisions of this contract, the quantity so tendered and refused shall nevertheless be included as "water delivered" in computing the cumulative average annual quantity of water sold hereunder pursuant to Paragraph 1(b) hereof.

(g) Free Water: In recognition of the possibility that the construction and operation of the Kern River Canal may reduce to some extent the quantity of water seeping or percolating from the Kern River Channel to and under the lands within Rosedale District, Canal Companies and Rosedale District agree that the first four thousand (4,000) acre-feet out of each successive ten thousand (10,000) acre-feet of water delivered to Rosedale District hereunder shall be deemed and is agreed to be full replacement for any and all such reduction in such seepage and percolation and shall be sold and delivered to Rosedale District free of charge. Such water shall, however, be deemed for all purposes to be water sold hereunder and shall be included in computing the cumulative average annual quantity of water sold hereunder pursuant to Paragraph 1(b) hereof.

(h) Price: The price for all water sold hereunder other than the first 4,000 acre-feet out of each successive 10,000 acre-feet shall be One Dollar (\$1.00) per acre-foot.

(i) Additional Water Sales: Whenever the quantities of water delivered hereunder shall equal the applicable maximum limit specified above in Paragraph 1(d) hereof in any calendar year, the parties may, by mutual agreement

*See Amendment  
dated 1/25/55*

from time to time, provide for the sale and delivery of additional water by Canal Companies to Rosedale District hereunder at the rate of One Dollar (\$1.00) per acre-foot.

(j) Use of Water: All water sold by Canal Companies to Rosedale District hereunder shall be used only within the boundaries of Rosedale District and not elsewhere, provided, however, that Rosedale District may enter into agreements providing for the delivery of such water to, in exchange for a like quantity of water from, areas outside the boundaries of Rosedale District, and provided further that before any such exchange is entered into, Canal Companies shall be notified thereof in writing and the method of exchange shall be subject to Canal Companies prior written approval.

(k) Modification of Schedules: Each and all of the maximum limits and schedules specified herein for water deliveries hereunder may be modified at any time or from time to time, either temporarily or permanently, by mutual agreement of Canal Companies and Rosedale District.

2. Transportation of Other  
Rosedale District Water.

(a) Upon completion of the Kern River Canal, Canal Companies agree, subject to the qualifications stated below, to transport from time to time upon written request of Rosedale District water purchased by Rosedale District from the United States Bureau of Reclamation through Canal Companies' facilities from the general vicinity of the terminal point of the Friant-Kern Canal to Rosedale District's diversion works in Section 1, Township 30 South, Range 26 East, M.D.B.&M., on the Kern River for a charge of ten

cents (10¢) per acre-foot of Rosedale District water so transported. Canal Companies agree to transport such water only when there is capacity in the Kern River Canal available for such purposes and such canal is not being used for the purpose of meeting Canal Companies' own requirements, the requirements of Other Affiliates, or the requirements of other persons pursuant to commitments existing on the date hereof pertaining to the transportation of water in the Kern River Canal.

(b) All Rosedale District water transported pursuant to this paragraph shall bear its own share of transportation losses, including but not limited to evaporation and seepage.

### 3. Kern River Channel Improvements

(a) The Rosedale District consents to and approves the construction and operation by Canal Companies of the Kern River Canal described above; provided that the maximum carrying capacity of such canal so constructed by Canal Companies shall not exceed eleven hundred (1100) cubic feet per second. Rosedale District makes no commitment, however, with respect to the construction or operation of any other canal between the outlet of Friant-Kern Canal and Second Point of Measurement nor with respect to any possible enlargement of the above-described Kern River Canal by Canal Companies or other parties above a maximum capacity of eleven hundred (1100) cubic feet per second. Rosedale District also agrees that it will not oppose the construction and operation of a similar canal of not exceeding 1100 cubic feet per second in capacity between the Calloway Weir in the Kern River Channel and the outlet of Friant-Kern Canal.

(b) If Canal Companies or Other Affiliates are required by any court order in a proceeding commenced by or on behalf of any person as owner or operator of lands within Rosedale District to release into Kern River Channel any water which could be transported in the Kern River Canal within the capacity limits of 1100 cubic feet per second, or to deliver any water to the Rosedale District or to any such land, then all of such water so ordered to be released or delivered shall be deemed to have been sold and delivered to Rosedale District pursuant to Paragraph 1 of this agreement in partial satisfaction of Canal Companies' obligation to sell and deliver to Rosedale District a cumulative annual average quantity of at least ten thousand (10,000) acre-feet, and all such water shall be included in all computations of the cumulative average annual quantity of water delivered hereunder, but Rosedale District shall not be required to pay for such water pursuant to Paragraph 1(h) hereof.

4. Payments for Sale and Transportation of Water.

(a) The payments specified in Paragraphs 1(h), 1(i) and 2(a) hereof shall be adjusted annually upon request of either party upward or downward in proportion to the percentage variation in the Price Index for the "All Commodities" classification of the Wholesale Price Indices for Major Commodity Groups published by the Bureau of Labor Statistics of the United States Department of Labor, which index uses the years 1947 to 1949 as the base years, and which stood at 119.6 for the month of November, 1960. In the event of the discontinuance of said Index, the adjustment shall thereafter

be made upon the basis of whatever index shall replace or supersede the discontinued index. Said adjustment shall be made as of January 1 of each calendar year, and said payments shall be adjusted upward or downward in proportion to the percentage variation from the point at which said index stood on the first day of January of the first calendar year of the term of this agreement.

(b) As soon as possible after the end of each calendar year Canal Companies shall furnish Rosedale District with a written statement of all charges due with respect to operations hereunder during such calendar year pursuant to this agreement, and within ninety (90) days after the receipt of such statement Rosedale District agrees to pay the full amount thereof to Canal Companies at their office in Bakersfield, California.

5. Notices.

Any notice hereunder to either party shall be deemed to have been given if deposited in the United States Mail in a sealed envelope, postpaid, certified and addressed as follows:

To Canal Companies: Anderson Canal, Inc.  
James Canal, Inc.  
Joyce Canal, Inc.  
Pioneer Canal, Inc.  
Plunket Canal, Inc.  
Post Office Box 380  
Bakersfield, California

To Rosedale District: Rosedale-Rio Bravo Water  
Storage District  
2714 L Street  
Bakersfield, California

Any party may change its address by giving the other party written notice of its new address.

6. Succession.

This agreement shall bind and inure to the benefit of the successors and assigns of each of the parties to this agreement. Neither this agreement nor any of its rights hereunder may be assigned by Rosedale District, however, without the prior written consent of Canal Companies.

EXECUTED in seven counterparts at Bakersfield, California, as of the day and year first above written.

ANDERSON CANAL, INC.

By William T. Balch President

(SEAL)

Attest: D. S. Atwood Secretary

JAMES CANAL, INC.

By William T. Balch President

(SEAL)

Attest: D. S. Atwood Secretary

JOYCE CANAL, INC.

By William T. Balch President

(SEAL)

Attest: D. S. Atwood Secretary

PIONEER CANAL, INC.

By William T. Balch President

(SEAL)

Attest: D. S. Atwood Secretary

PLUNKET CANAL, INC.

By William T. Balch President

(SEAL)

Attest: D. S. Atwood Secretary

First Parties

ROSEDALE-BIO BRAVO WATER STORAGE DISTRICT

By Paul G. Burns President

(SEAL)

Attest: Paul G. Burns Assistant Secretary

Second Party