



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



July 27, 2020

Governor's Office of Planning & Research

**Jul 27 2020**

## **STATE CLEARINGHOUSE**

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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 (RRBWSD) 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

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<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

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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

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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.

**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.

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.

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.

## 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).

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.

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*)

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).

### **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.

### **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).

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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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.

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:

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.

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.

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.

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).

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)*

*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.

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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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.

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.

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.

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.

**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.

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.

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 ( $1,578 = -2,043 + 465$ ).

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%.

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).

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.

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.

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.

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.

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.

#### 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.

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%.

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.

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.

## 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.

**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).

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 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)).

#### **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.

#### **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).

#### **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.

**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).

### **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 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.

#### **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.

#### **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).

### **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.

**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.

#### **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.

#### **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.

### **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.

### **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.

### **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.

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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.

**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.

**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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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.

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.

**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 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.

**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.

**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.

**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.

**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.

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*).

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.

**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.

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.

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.

**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 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.

## **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).

## 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).

Sincerely,

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

Bob Stafford for Julie A. Vance  
Regional Manager

Attachment 1

cc: See Page Twenty-Nine

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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	