

RECLAMATION

Managing Water in the West

Dos Rios Ranch Riparian Brush Rabbit Recovery Project

Environmental Assessment



**U.S. Department of the Interior
Bureau of Reclamation**

May 2016

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitment to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

List of Abbreviations and Acronyms

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CVPCP	Central Valley Project Improvement Act
ESRP	Endangered Species Recovery Program of California State University, Stanislaus
HRP	Central Valley Project Improvement Act Habitat Recovery Program
LBVI	Least Bell's Vireo
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
Reclamation	Bureau of Reclamation
RBR	Riparian brush rabbit
RWR	Riparian woodrat
Service	U.S. Fish and Wildlife Service
SHPO	State Historic Preservation Officer
SJRNWR	San Joaquin River National Wildlife Refuge
VELB	Valley Elderberry Longhorn Beetle
WRP	Wetland Reserve Program

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Section 1 Introduction

1.1 Background

In conformance with the National Environmental Policy Act of 1969 (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508), and Department of the Interior Regulations (43 CFR Part 46), the Bureau of Reclamation (Reclamation) prepared this Environmental Assessment (EA) to evaluate and disclose any potential environmental impacts associated with providing \$447,415 from the Central Valley Project Conservation Program (CVPCP) to River Partners to restore and enhance native habitat on 175 acres of historic riparian forest that are now degraded farmlands and remnant habitat spanning Fields 13 and 14 within Dos Rios Ranch. A 1.5 acre elevated flood refuge mound for the riparian brush rabbit would also be created. Restored habitat would provide a suitable reintroduction site for riparian brush rabbit as well as expanded habitat areas for additional federally endangered, threatened and state listed species. The Proposed Action would supplement proposed funding from the Natural Resources Conservation Service (NRCS) Wetland Reserve Program (WRP) to restore habitat at Dos Rios Ranch.

The Proposed Action is located at the confluence of the Tuolumne and San Joaquin Rivers, immediately adjacent to the San Joaquin River National Wildlife Refuge (SJRNR) in Stanislaus County as shown in Figures 1 and 2.

1.2 Need for the Proposal

Floodplain habitats in the San Joaquin Valley have been decimated by the development of irrigated agriculture. Construction of dams and diversions have significantly altered river flow and flood timing, while forests and shrub lands have been extensively cleared and leveled for farming. The toll this alteration has had on riparian-obligate wildlife is dramatic, with more threatened and endangered species associated with riparian habitats than any other habitat type in California. Reclamation's Central Valley Project has contributed to the loss of floodplain habitat by delivery of Federal water for irrigated farmland and has consequently impacted federally-listed endangered and threatened species. The proposed action would expand the footprint of restored floodplains in this area substantially, and provide additional habitat for special-status species.

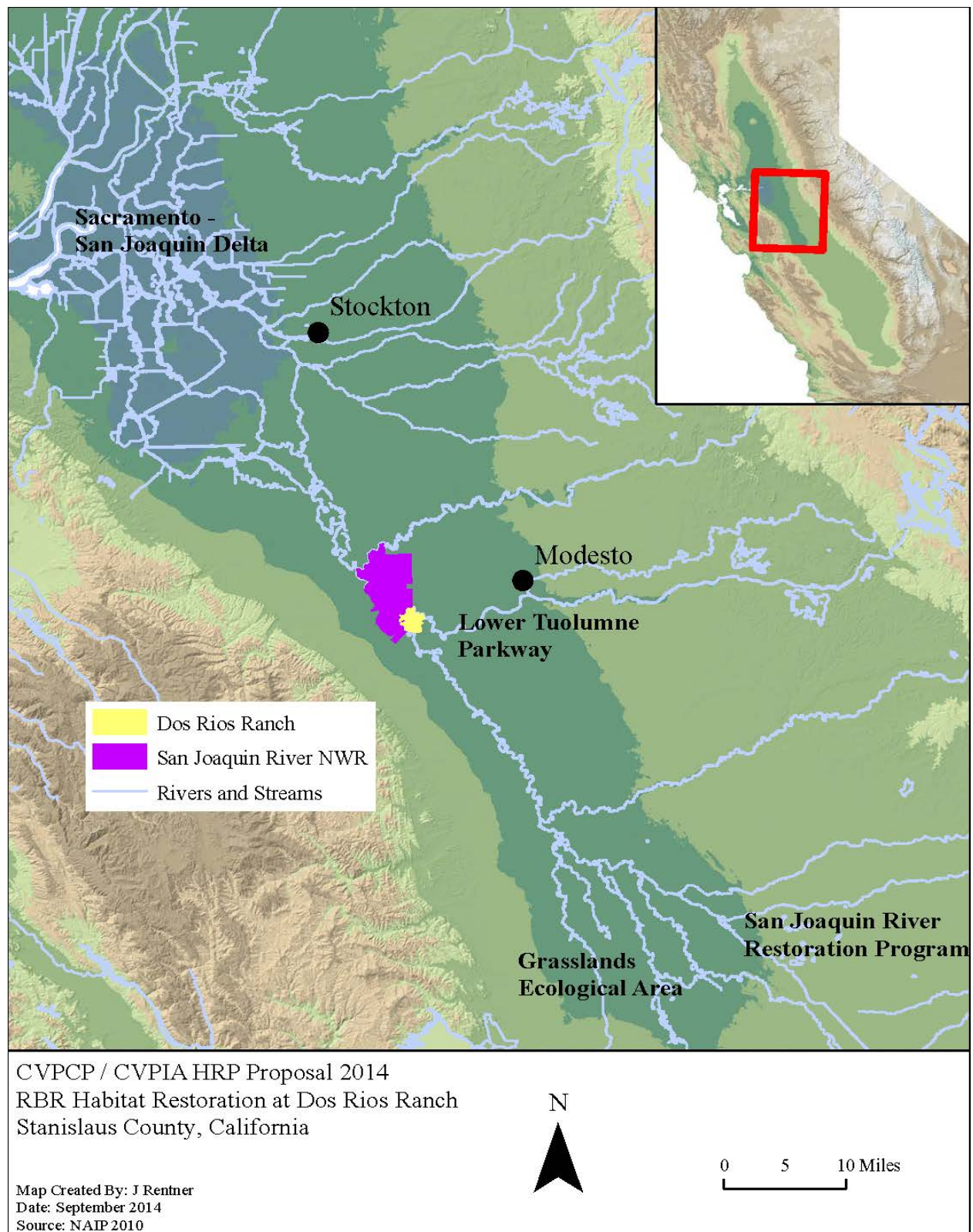


Figure 1. General Dos Rios Ranch Project Location

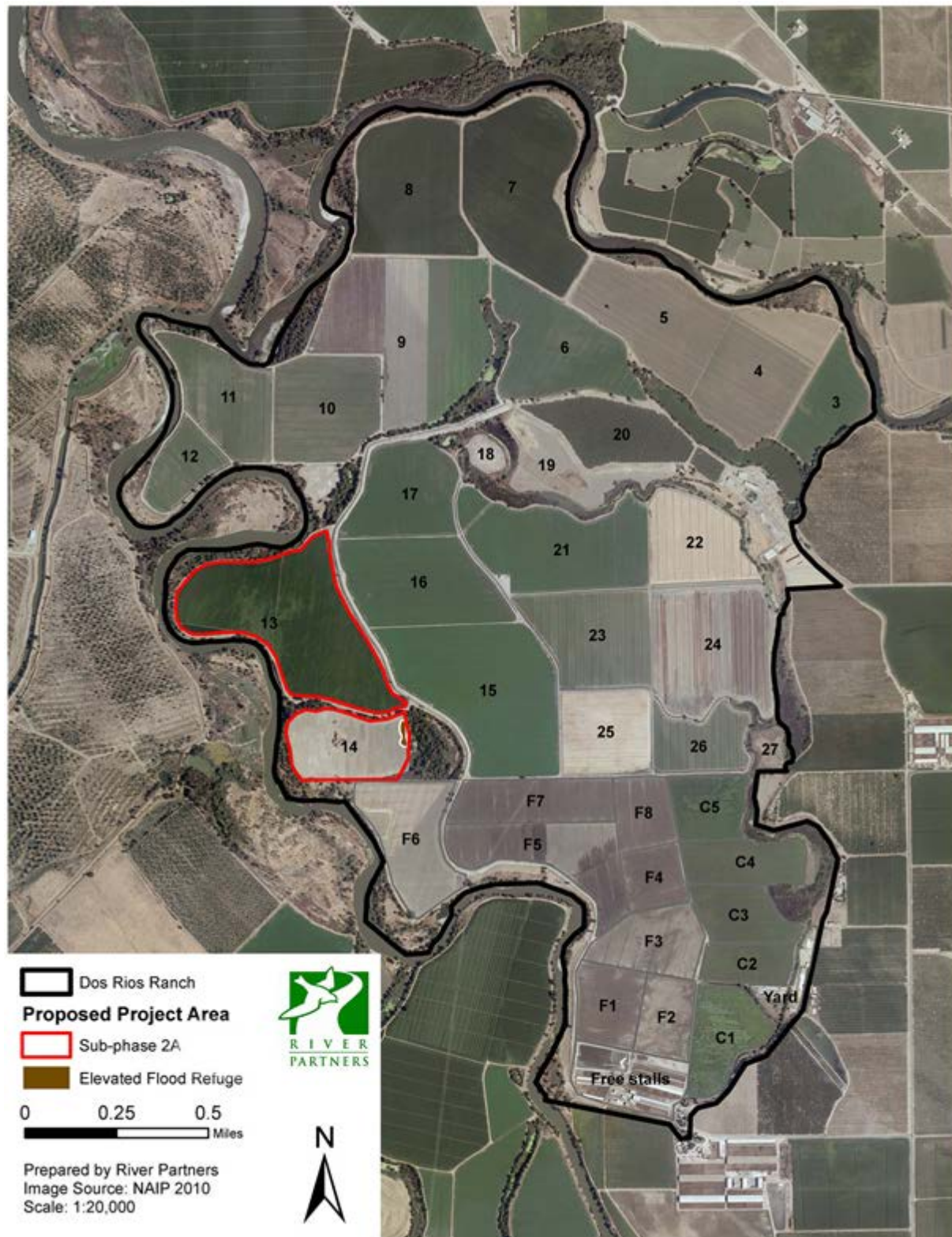


Figure 2. Project Area Map. Red outlined area represents the 134 acres of farm fields and the focus of this effort.

Section 2 Alternatives Including the Proposed Action

2.1 No Action Alternative

Reclamation would not provide \$447,415 from the CVPCP to River Partners to restore and enhance native habitat on 175 acres of historic riparian forest in Fields 13 and 14 within Dos Rios Ranch and create a riparian brush rabbit (RBR) refuge mound. River Partners would be required to obtain the \$447,415 from other public or private sources. If alternative funding cannot be secured, the Proposed Action could not move forward. Under provisions of the WRP, NRCS cannot pay the full cost for such critical project components as habitat plantings, installation of drip irrigation, and post-restoration performance monitoring. Also, WRP cannot pay for the construction of the flood refuge mounds or the planting of native vegetation on the mounds, a critical component to the recovery of the federally endangered riparian brush rabbit in the SJRNWR area.

2.2 Proposed Action

Reclamation would provide \$447,415 from the CVPCP to River Partners to restore and enhance 132.5 acres of floodplain and 1.5 acres of elevated RBR refuge mound, as well as enhance an additional 41 acres of degraded remnant habitat along the margins of Fields 13 and 14 within Dos Rios Ranch. This would supplement funds committed by NRCS for the project.

CVPCP funding would provide for:

- sculpting of a 1.5 acre elevated refuge mound for RBR and other wildlife
- installation of drip irrigation, planting of native vegetation on the elevated mound, and habitat enhancement along field edges
- a portion of performance monitoring

NRCS WRP funding would provide for:

- site preparation and flood irrigation installation
- planting native vegetation on project fields excluding the elevated refuge mound;
- site maintenance

The Proposed Action represents Phase 2 of the Dos Rios Ranch Habitat Restoration Project (Fig. 2), Phase I of which was funded through Reclamation's Central Valley Project Improvement Act Habitat Restoration Program (HRP) starting in 2012. Table 1 summarizes the proposed tasks.

To mimic historic floodplain topography and support wildlife conservation, a high ground flood refuge mound would be constructed in the southeastern corner of the project area near the eastern edge of Field 14 (Figure 3). The mound would be approximately rectangular in shape and encompass approximately 3 acres in total footprint. The top of the mound would be approximately 1.5 acres in size which is what would be available as refuge for rabbits and other wildlife during flooding. The top of the mound would be built to 49.3 feet above sea level (roughly 12 feet tall) in order to prevent it from total submersion during severe flood events. The sides of the mound would be graded and compacted at a 5:1 slope. A temporary drip irrigation system would be installed with driplines running lengthwise across the mound with which to water project plantings until established.

All fill material used to construct the mound would be obtained from excavating a wetland “swale” within the project area (Figure 3), utilizing a laser-guided scraper and excavator. The swale would be excavated across Field 13 in order to increase habitat heterogeneity, provide habitat for waterfowl and wading birds, provide off-channel rearing habitat for juvenile fish, enhance drainage of flood waters, and reduce potential fish entrapment following floods. The swale would be graded on a slope in order to achieve the latter two objectives. It would be excavated with gradual side slopes to a maximum depth of 4 feet. The edges of the swale would gradually slope at 25:1, and would be 200 feet wide. Disturbance of the ground from excavating the swale would not exceed 8” in depth, so a majority of the 200’ wide excavated swale would not disturb soils deeper than the extent they were disturbed during prior farming.

Other than for the construction of the flood refuge mound, the remainder of Fields 13 and 14 would be prepared for project planting by installing a series of furrow rows at which cuttings and potted stock would be planted. The area would be designed so that plantings can be irrigated using the furrows or through flood irrigation.

Native riparian species would be planted in three different configurations across the 175-acre site as follows:

Tree and shrub furrow rows.

Black willow, arroyo willow, valley oak, Oregon ash, box elder, elderberry, and Fremont’s cottonwood would be planted adjacent to the irrigation furrows to establish a tree canopy. The willow species are more dominant in this association which thrive on high water tables and fertile soils. California blackberry and wild rose will be planted among the trees to provide a shrub component.

Areas between the tree and shrub furrow rows.

These planting areas are expected to provide the greatest habitat benefit to riparian brush rabbits. The planting mix will be designed to maximize those benefits through the planting of a diverse mix of native understory species. Species to be planted include mugwort, gumplant, evening primrose, telegraph weed, western goldenrod, hedge nettle, stinging nettle, milkweed, and creeping wild rye. All of these species tolerate periodic mowing which will be used to control invasive non-native plants.

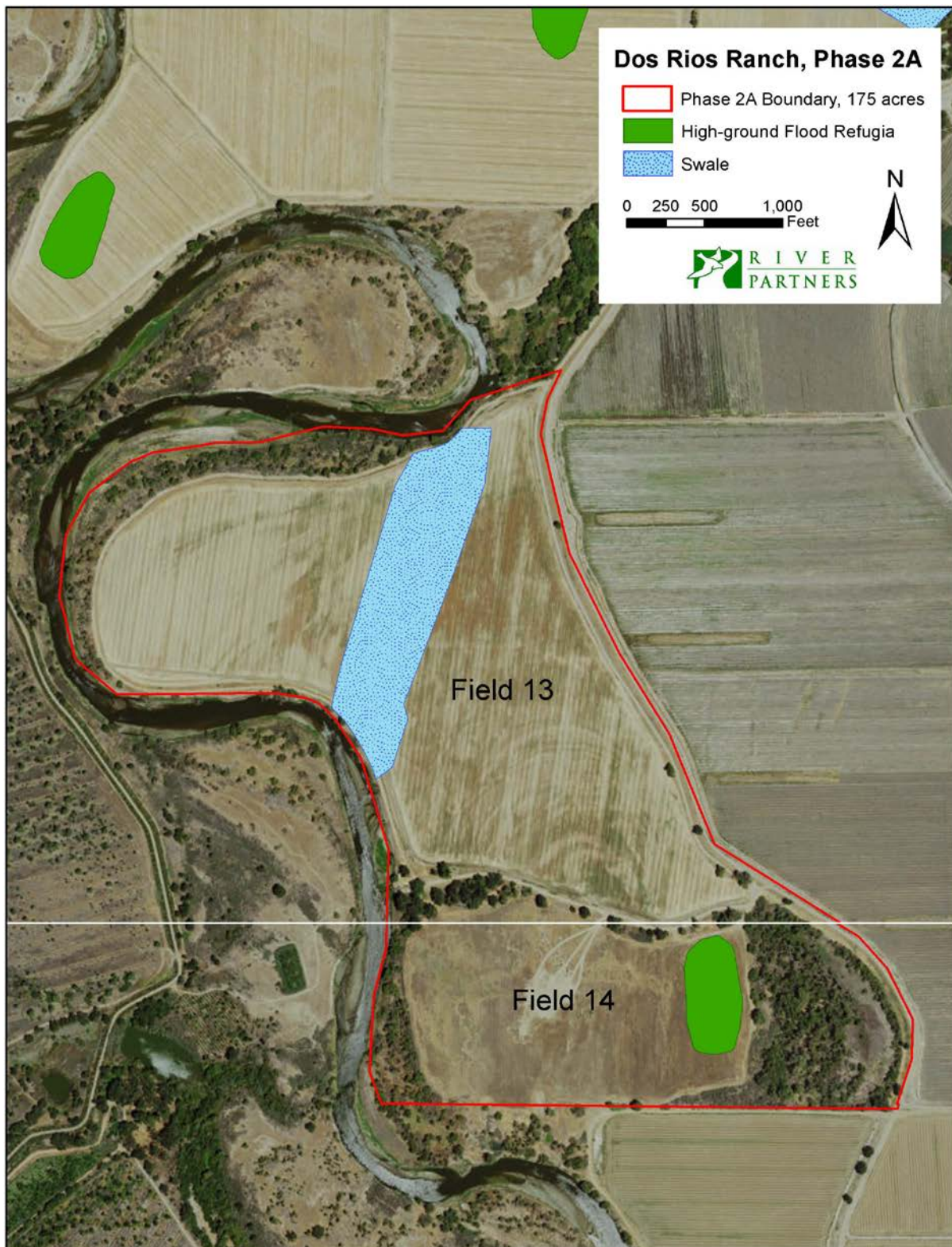


Figure 3. Refuge Mound Location. (Only the mound within the red boundary is proposed for the Dos Rios Ranch Phase 2A project.)

Elevated flood refuge mound.

Native blackberry, wild rose, and elderberry will be planted on the elevated refuge mound.

Native species would also be opportunistically planted in degraded remnant riparian habitat along the margins of Fields 13 and 14 to enhance existing habitat. Species to be planted will be determined based on which are best suited to the growing conditions at each area identified for planting. Any of the species named above may be planted as appropriate.

River Partners would irrigate the trees and shrubs for three years. Three growing seasons would be needed to restore native vegetation in all project areas. Because of the prevalence of invasive species in riparian and agricultural areas, an aggressive approach to establishing native species would be taken by River Partners. This includes regular disking between planted tree and shrub rows for two growing seasons, seeding native understory species between rows in the fall of the second project year, and mowing the between-row plantings through the final growing season. To reduce the amount of weeds at the project site before project planting, River Partners would disk the site prior to the weeds maturing in order to prevent the weeds from producing seed and adding to the soil seedbank. This would reduce the amount of weeds that germinate after the project plantings are installed. Native understory species are tolerant to occasional mowing which encourages more robust root production and discourages competition from fast-growing annual weeds for light.

The anticipated result after three years of planting and weed management is a self-sustaining, native-dominated riparian forest with a diverse understory community largely resistant to weed infestation and resilient to flood and fire disturbances. Areas with persistent perennial weeds such as perennial pepperweed would be treated with herbicides as needed. Weeds would be opportunistically treated with herbicides in the degraded remnant habitat project areas along the margins of Fields 13 and 14 to enhance existing habitat. Construction would take as many as 4 years as shown in Table 2.

2.3 Environmental Commitments

The following measures would be implemented in order to avoid and/or reduce potential impacts to federally-listed species within the action area:

- Vehicle speeds would be maintained at or below 15 miles per hour;
- Scraping would only occur in areas with a history of farming and which were regularly disked and cleared of all vegetation;
- All equipment used to conduct the project (backhoe, belly scraper, bulldozer, and road grader) would be stored on site at the Dos Rios Ranch main equipment storage yard east of the project boundary so as to reduce the risk of animals being hit from equipment traveling to and from the project site;
- Roads and other areas of bare soil where equipment operate would be regularly sprayed with water to reduce dust emissions;

- No activities would occur within 100 feet of any elderberry shrub; and
- Applications of herbicide within the action area would be supervised by a California Department of Food and Agriculture-certified Pest Control Advisor trained and experienced in riparian and wetland weed treatment. All herbicide applications would be tracked and reported according to Stanislaus County Agricultural Commission regulations.
- The U.S. Fish and Wildlife Service (Service) would be notified within 1 working day of finding of any individual of a federally listed species that is injured or killed, or any unanticipated damage to a species habitat, associated with project activities. Injured listed species would be cared for by a licensed veterinarian or other Service-approved individual. Notification to the Service regarding the individual would include the date, time, and location of the animal indicated on a USGS quadrangle, and other maps at a finer scale as requested by the Service. Should a listed animal be injured or killed, the Service's Chief of the San Joaquin Valley Division of the Sacramento Fish and Wildlife Office would be contacted for specific instructions on how to care-for or preserve the individual.

Table 1: Proposed Tasks for <i>Riparian Brush Rabbit Habitat Restoration at Dos Rios Ranch Project</i>	
Ground Preparation & Irrigation Installation	
Prepare project fields for planting, including: clearing weeds and debris, disking and furrowing, excavating head and drain ditches for flood-irrigated fields, as well as developing and installing the drip irrigation system on the elevated flood refuge mound. Build a 1.5 acre elevated refuge mound using on-site material.	
Planting	
Collect local plant material and propagate plants for restoration. Plant cuttings and potted stock at the furrow rows. Plant native grasses and perennial understory forb species between the rows. The project would be designed to minimize plant mortality and the number of replants needed; however a small amount of replanting is expected.	
Maintenance	
Throughout the growing seasons of project years 1 and 2, irrigation would occur via field furrows, overland flooding of the planting sites, or by drip irrigation approximately monthly as needed. Drain ditches are maintained as needed. Drip irrigation includes running an existing groundwater pump for a period of 12 to 20 hours per day to supply deep irrigation via ½ gallon per hour pressure-regulated in-line emitters. Drip lines are repaired as needed. Weed control includes disking of the planting sites approximately monthly through the growing season during project years 1 and 2. Spot treatments of approved herbicides would be used as needed for problematic weeds or in areas not accessible by tractor for disking or mowing.	
Monitoring	
Measure project performance through monitoring plant survival and growth, and conduct post-project evaluation of habitat for RBR and other targeted species. Monitoring includes vegetation data collected in the form of a census in year 1, and permanent plot monitoring in years 2 and 3. Report on project activities and monitoring results in end of season reports and a 2019 final project report.	
Project Management	
River Partners would manage and administer the project, host informational meetings for interested parties such as local residents and other stakeholders, and maintain good communication with neighbors throughout project implementation. This task also includes invoicing and quarterly or semi-annual progress reports.	

Table 2: Project Timeline by Task for Riparian Brush Rabbit Habitat Restoration at Dos Rios Ranch													
Milestones: completion date	Project Year 1 (Nov 2016 – Sep 2017)			Project Year 2 (Oct 2017 – Sep 2018)				Project Year 3 (Oct 2018 – Dec 2019)					
Leveling & Earthwork: 11/15	Ground Preparation & Irrigation Install												
Ditches & Install Drip: 12/15	Fall	Winter	Spring										
Plant Cuttings: 01/16	Planting												
Plant Containers: 03/16		Winter	Spring			Winter			Fall				
Replants: 01/16													
Seed Understory: 11/16													
Irrigation & Weed Control: as needed	Maintenance												
		Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Sum	Fall
Year 1 Plant Census: 08/16	Monitoring												
Year 1 Annual Report: 12/31/16		Winter	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Sum	Fall
Year 2 Plant Sampling: 08/17													
Year 2 Annual Report: 12/31/17													
Year 3 Plant Sampling: 08/18													
Final Project Report: 12/31/18													

Section 3 Affected Environment and Environmental Consequences

3.1 Resources Not Analyzed in Detail

Department of the Interior Regulations, Executive Orders, and Reclamation guidelines require a discussion of the following items when preparing environmental documentation:

3.1.1 Cultural Resources

Reclamation utilized a cultural resources inventory completed in 2011 by Solano Archaeological Services for a similar restoration project within Dos Rios Ranch. That inventory included the 175 acres associated with the current project. Pursuant to 36 CFR § 800.4(a)(4), Reclamation invited the Big Sandy Rancheria, Santa Rosa Rancheria Tachi Yokut Tribe, Table Mountain Rancheria, Tule River Indian Tribe, and Tuolumne Band of Me-Wuk Indians to share concerns about sites of religious and cultural significance in the project Area of Potential Effect (APE). Reclamation also requested information related to historic properties in the APE from the non-federally recognized North Valley Yokuts Tribe and the Southern Sierra Miwok Nation pursuant to 36 CFR § 800.4(a)(3). No historic properties were identified through any of these efforts and therefore the proposed action would not impact any known cultural resources. See Section 4 for consultation with the State Historic Preservation Officer (SHPO).

3.1.2 Indian Trust Assets

Indian Trust Assets are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias or allotments in the project area. The nearest Indian Trust Asset is the Chicken Ranch Rancheria of the Me-Wuk Indians approximately 45 miles northeast of the project site. Therefore, the Proposed Action does not have a potential to affect Indian Trust Assets (See Appendix B).

3.1.3 Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion

has informed the agency of the existence of such a site." The proposed action would not be located on or impact any Federal lands and therefore would not affect any Indian sacred sites.

3.2 Biological Resources

3.2.1 Affected Environment

Dos Rios Ranch is in an area characterized by remnant floodplain habitats and intensive agriculture including almond orchards, vineyards, corn and other row crops, and nearby dairies. It has been actively farmed since the 1930's. Currently, the proposed project site is used to grow a winter hay crop under a Wetland Reserve Program compatible use authorization from the NRCS. Before that, the site was farmed for tomatoes, corn, alfalfa and mixed row crops. The topography of the site is essentially flat, as the two project fields were historically leveled to facilitate irrigation and drainage. Portions of Dos Rios Ranch, including the project site, have experienced periodic flooding, notably in 2011, 2006, 2005, 1997, 1995, 1986, and 1983.

Formal wildlife surveys have not been performed at Dos Rios Ranch in the past, but are planned after construction as part of long-term biological monitoring in collaboration with Point Blue Conservation Science and the Endangered Species Recovery Program of California State University, Stanislaus (ESRP). Table 3 shows potential sensitive species near Dos Rios Ranch. Presence of RBR was documented in 2004 when a radio-collared rabbit was tracked to the east side of the river from the SJRNWR in the northern part of Dos Rios Ranch (approximately 1.25 miles from the project site), and again in July of 2014 through use of wildlife cameras by River Partners. Presumably, several bird species that are abundant at the adjacent SJRNWR may also use remnant habitats at Dos Rios Ranch.

3.2.2 Environmental Consequences

3.2.2.1 No Action

If Reclamation does not provide funding to River Partners for restoration and enhancement at Dos Rios Ranch, no restoration and enhancement would occur on 132.5 acres floodplain. The refuge mound would not be constructed and the 41 acres of remnant habitat would not be enhanced.

3.2.2.2 Proposed Action

The Proposed Action would restore and enhance 132.5 acres of floodplain to riparian woodland habitat. It would also create a 1.5 acre elevated refuge mound, as well as enhance an additional 41 acres of degraded remnant habitat along field margins. After restoration, the project site

Table 3: Sensitive Species at Riparian Brush Rabbit Recovery Project at Dos Rios Ranch					
Common Name	Scientific Name	Federal Status ^a	State Status ^b	Other Designated Species ^c	Species Verified Presence (Y/N)
Riparian woodrat	<i>Neotoma fuscipes riparia</i>	E			N
Riparian brush rabbit	<i>Sylvilagus bachmani riparius</i>	E	E		Y
Valley elderberry longhorn beetle	<i>Desmoceris californicus dimorphus</i>	T			N
Least Bell's vireo	<i>Vireo bellii pusillus</i>	E	E		N
Willow flycatcher	<i>Empidonax traillii</i>		E		N
Swainson's hawk	<i>Buteo swainsoni</i>		T		Y
Yellow warbler	<i>Dendroica petechia</i>			CSC	N
Loggerhead shrike	<i>Lanius ludovicianus</i>			CSC	Y
Northern harrier	<i>Circus cyaneus</i>			CSC	Y
Yellow-breasted chat	<i>Icteria virens</i>			CSC	N
Tricolor blackbird	<i>Agelaius tricolor</i>			CSC	N
Lawrence's goldfinch	<i>Carduelis lawrencei</i>			CSC	N
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	T	T		San Joaquin River
Steelhead trout	<i>Oncorhynchus mykiss</i>	T			San Joaquin River
White sturgeon	<i>Acipenser transmontanus</i>	T			San Joaquin River

^aE = federally listed as endangered, T= federally listed as threatened,

^bE = state listed as endangered, T = state listed as threatened, C = state listed as candidate

^cCSC = California species of special concern

would provide high quality habitat for riparian brush rabbit immediately adjacent to documented populations as well as expanded habitat for riparian woodrat (RWR), least Bell's vireo (LBVI) (federally Endangered), VELB (federally Threatened), three state-listed avian species, and other species of concern. Proposed restoration activities would also benefit Chinook salmon, steelhead trout, and white sturgeon via restoration of shaded riverine aquatic habitat along the San Joaquin River that would provide terrestrial inputs to the river via vegetation, woody debris, and insects and also potentially reduce air and water temperatures to the benefit of anadromous fish (SJRRP 2014).

3.2.2.2.1 Riparian Brush Rabbit (Federally Listed Endangered)

The nearby SJRNWR and Caswell Memorial State Park support populations of RBR, both from natural and reintroduced populations. One RBR was found on the northern edge of the project site boundary in dense riparian habitat along the San Joaquin River, approximately 1.25 miles northeast of the project area. RBR live in the brushy understory of dense riparian forests and require areas of high cover dominated by willow thickets, California rose, California blackberry, coyote brush, and wild grape. The rabbits avoid large openings in shrub cover, but frequent small clearings where they feed on herbaceous vegetation including grasses, sedges, clover, and forbs. This species does not usually inhabit or cross large, open areas such as the project site, which keeps RBR from dispersing beyond the dense brush of riparian forests.

Conversion of the floodplain to agricultural uses and the construction and maintenance of levees at the project site have eliminated the small patches of shrub-covered uplands that provided refuge for rabbits from flooding and predators. Currently during times of flooding, RBR are forced to seek high ground, which at the project site and its vicinity consists mostly of cleared levees or agricultural fields that lack sufficient cover from predators. Optimum riparian RBR habitat must include elevated flood refuge areas accessible to the RBR, with adequate cover that are not prone to flooding, as will be provided by the project.

Existing remnant riparian habitat is present on the margins of the previously farmed project fields and in an approximately 16-acre section to the east of Field 14. This latter area supports valley oak and other tree species, with dense understory vegetation in some areas. This area may currently provide habitat for RBR, RWR, and VELB, though surveys would be needed to confirm that.

The project area is primarily an expanse of sparsely vegetated, recently farmed, open ground. Existing conditions include small habitat patch sizes, narrow and discontinuous riparian corridors, lack of dense understory, and lack of adequate flood refugia that do not constitute suitable habitat for RBR. Taking into consideration that RBR have not been found to be present during surveys in 2015 at the project site, the poor quality of the existing habitat for RBR at the project site, the avoidance measures to be undertaken during implementation of the project listed in Section 2.3, and the potential beneficial impacts of the project habitat restoration, the proposed action is not likely to adversely affect RBR.

3.2.2.2.2 Riparian Woodrat (Federally Listed Endangered)

RWR were live-trapped on the adjacent SJRNWR in 2005, 2009, 2011 and 2012, 1.7 miles from the project site on the west side of the river. RWR inhabit areas with dense shrub cover, typically willow thickets with a valley oak overstory, similar to RBR. The species eats leaves, fruits, flowers, and nuts.

As with RBR, historic habitat and refugia from flooding have been converted to cultivated fields, orchards, and vineyards beginning in the 1930's, which do not provide suitable habitat for RWR. Many habitat requirements of the RWR are similar to those of the RBR. Therefore, habitat restoration recommendations for riparian corridors for RWR benefit would be similar to those for RBR.

For reasons similar to those listed for the RBR, current site conditions on the project area do not provide suitable habitat for the riparian woodrat. Conversely, the proposed action is expected to benefit RWR in the same manner it does RBR. Taking into consideration the poor quality of the existing habitat for RWR and the avoidance measures to be undertaken, while considering the potential beneficial impacts of the project habitat restoration to RWR in the long-term, the proposed action is not likely to adversely affect RWR.

3.2.2.2.3 Least Bell's Vireo (Federally Listed Endangered)

LBVI are only found in the project area during breeding season. LBVI breeding habitat includes 3-5 year old willow thickets within a dense herbaceous understory. Nests are usually low in a shrub or tree, near the edge of a thicket. A critical structural component is a dense shrub layer 0.6-3 meters above ground (TNC 2000).

Brood parasitism by brown-headed cowbirds is a significant threat to LBVI populations. Grazed areas, row crops, and orchards provide foraging habitat for the brown-headed cowbird (RHJV 2004), as does open agricultural ground as found at the project site. LBVI that are forced into fragmented or marginal nesting areas are more vulnerable to nest parasitism. Minimizing habitat patchiness may reduce rates of cowbird nest parasitism. Therefore restoration projects targeting LBVI should be located in areas free of brown-headed cowbirds. Restoring quality breeding habitat and cowbird control have led to population recovery in some areas (Kus 1998, TNC 2000). Water availability, vegetation structure, and proximity to natural habitat were key components of restoration success and use by the LBVI (Kus 1998). The Proposed Action would increase the availability of riparian habitat for the LBVI and contribute to the goal of reestablishing a breeding population in this region.

The first nesting pair of LBVI observed in the Central Valley in over 50 years was documented in restoration plantings at the SJRNWR in 2005 and 2006 (Howell and Dettling 2007) approximately 1.2 miles from the project site. Adequate breeding and nesting habitat for LBVI does not currently exist at the project area, and LBVI have not been found at SJRNWR since 2008. River Partners and its partners including SJRNWR staff, Pt. Blue Conservation Science, and others periodically conduct bird surveys at the Refuge and adjacent lands including Dos Rios Ranch. Should LBVI be detected at the project site during future surveys, River Partners will notify Reclamation of those occurrences. Therefore, taking into consideration the poor quality of

the existing habitat for LBVI at the project site and the avoidance measures to be undertaken in Section 4.3, while considering the potential beneficial effects of the project habitat restoration to LBVI in the long-term, the proposed action is not likely to adversely affect the LBVI.

3.2.2.2.4 Valley Elderberry Longhorn Beetle (Federally Listed Threatened)

California Natural Diversity Database (CNDDB) records include a VELB occurrence approximately 1.5 miles northwest of the project site, on the other side of the San Joaquin River. Several groups of elderberry shrubs occur in the southeast corner of the project site. A map showing the locations of elderberry shrubs and their 100-foot avoidance buffers (where no activity would occur) is shown in Figure 4. Avoidance measures, derived in part from recommendations put forth by the Service in the July 9, 1999, *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*, would be implemented as part of the proposed action. Taking into consideration the avoidance measures listed in Section 2.3, and the potential beneficial impacts of habitat restoration in the long-term from the project, including planting over 1,500 blue elderberry shrubs, the proposed action is not likely to adversely affect VELB.

3.2.2.2.5 Other Species.

Swainson's hawk commonly nests on the adjacent SJRNWR (USFWS 2006) and has been documented nesting at Dos Rios Ranch. The Proposed Action would restore riparian forest habitat as roosting and nesting habitat further aiding in the recovery of this species. Northern harrier, tricolored blackbird, and loggerhead shrike also nest at the adjacent SJRNWR (Howell and Dettling 2007) and likely nest at Dos Rios Ranch in some years. The Proposed Action could aid in the recovery of these species by restoring nesting and foraging habitats adjacent to wetlands, and by broadening the available prey base.

Yellow warbler territories have steadily increased at the SJRNWR since 2002 (Howell and Dettling 2007). Yellow-breasted chat and Lawrence's goldfinch have been documented at the SJRNWR. The Proposed Action would restore suitable nesting habitat for these species.

3.3 Cumulative Impacts

The Proposed Action contributes directly (through habitat expansion) to other previously-funded CVPCP/HRP projects, including over one million dollars and nearly 400 acres of habitat restoration work conducted on the adjacent SJRNWR targeting endangered species at the Hagemann I, Hagemann II, Arambel and Lara Tracts within SJRNWR.

The CVPCP/HRP funded the 198-acre Phase 1A of the Dos Rios Restoration Project and the captive breeding program for riparian brush rabbits through ESRP. The Proposed Action would provide habitat for future reintroduction of this species.

Dos Rios Ranch is immediately adjacent to (on the north and west sides) the 8,000 acre SJRNWR. River Partners has been designing and implementing floodplain habitat restoration at the SJRNWR since 2001. A 2,500 acre floodplain restoration project at SJRNWR hosted nesting

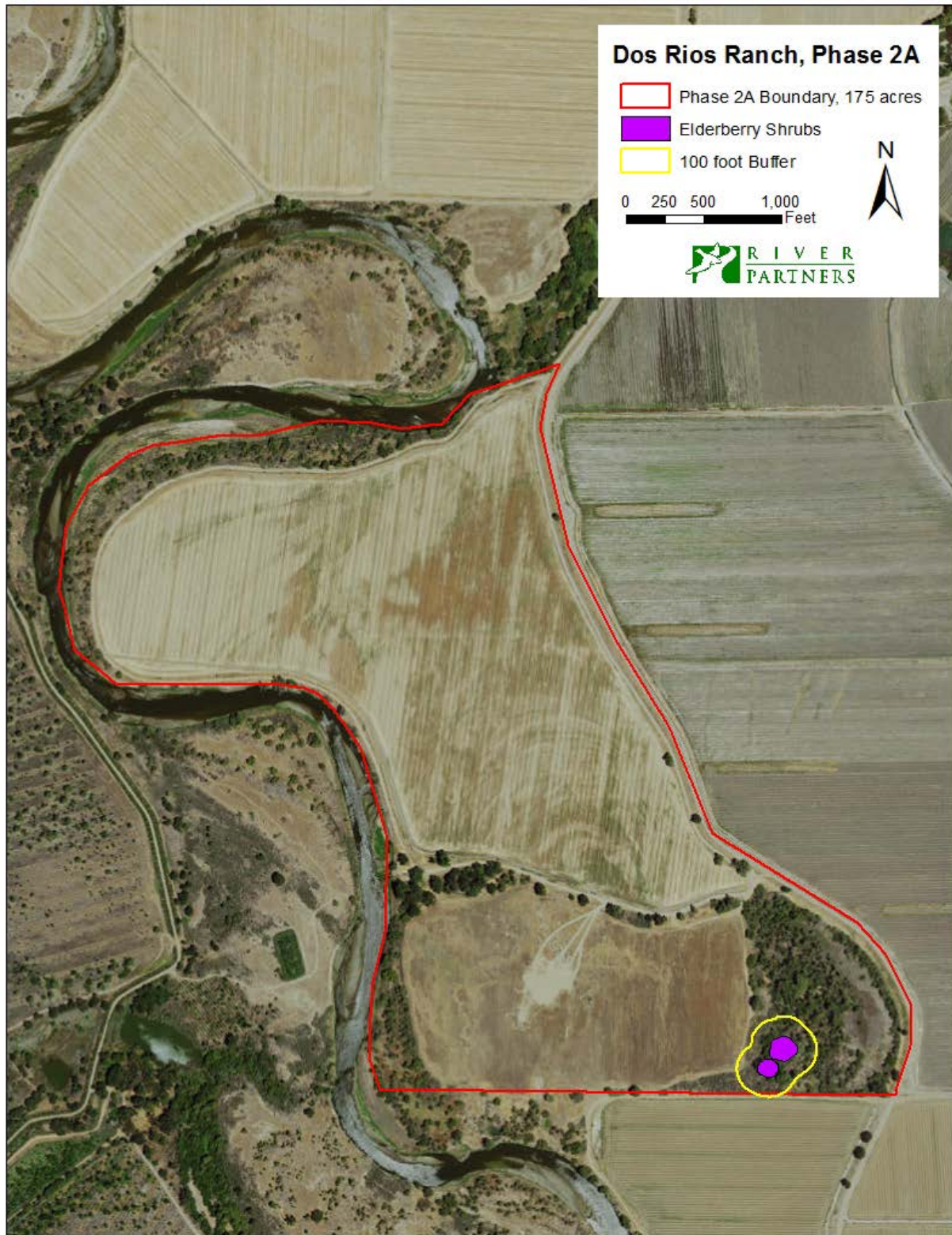


Figure 4. Elderberry Shrubs at the Dos Rios Ranch Phase 2A Project Site

LBVI in 2005 and 2006 in forests planted by River Partners with HRP funding. Additionally a growing population of yellow warblers and tens of thousands of waterfowl use the SJRNWR annually. That restoration site also hosts a successful reintroduction site for captive-bred riparian brush rabbits that have shown increased survival during flooding due to creation of elevated flood refuge mounds similar to the Proposed Action. RWRs have also been documented through live-trapping in the restored areas. ESRP did several days of trapping at the site of the Proposed Action in January 2015 but did not trap any species except black rats.

Section 4 Consultation and Coordination

4.1 CVPCP and HRP Technical Team

CVPCP and HRP Program managers are guided by a Technical Team of biologists and natural resource specialists from Reclamation, the Service, and the California Department of Fish and Wildlife. During the period of November 5, 2014 through February 19, 2015, members of the Technical Team reviewed and scored proposals submitted to Reclamation for consideration for funding. The Dos Rios Riparian Brush Rabbit Recovery proposal ranked in the top tier of proposals and was selected for funding following evaluation by the Team. Reclamation and Service management subsequently approved the Technical Team's recommended list of proposals for funding.

4.2 Consultation with Federal Agencies

4.2.1 National Historic Preservation Act (16 U.S.C. § 470 et seq.)

Section 106 of the NHPA requires that Federal agencies take into consideration the effects of their undertakings on historic properties. Historic properties are defined as cultural resources that are included in, or eligible for inclusion in, the National Register. The process for implementing Section 106 of the NHPA is found at 36 CFR Part 800. The Section 106 process includes requirements to identify historic properties that could be affected by a proposed undertaking, to seek and gather information about significant cultural resources from Indian tribes and other interested parties, and to consult with the SHPO on a finding of effect for an undertaking.

Through correspondence dated October 15, 2015, Reclamation initiated consultation with the California SHPO concerning the proposed undertaking and provided notification of a finding of no historic properties affected pursuant to 36 CFR § 800.4(d)(1). Through correspondence dated November 20, 2015, the SHPO responded with no objection to Reclamation's finding. With receipt of SHPO concurrence, Reclamation's responsibilities under Section 106 are fulfilled. (See Appendix B).

4.2.2 Endangered Species Act (16 USC § 1531 et seq.)

Section 7 of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species.

In a memo dated October 14, 2015, Reclamation requested written concurrence from the Service that the Proposed Action may affect, but is not likely to adversely affect, the valley elderberry longhorn beetle, LBVI, RBR, or RWR . The Service concurred with Reclamation's determination in a memo dated March 3, 2016 (Appendix C).

Section 5 References

Collinge, S.K., M. Holyoak, M., and J.T. Barr. 2001. Riparian habitat fragmentation and population persistence of the threatened valley elderberry longhorn beetle in Central California. *Biological Conservation* 100:103-113.

Howell, C.A. and M. Dettling. 2007. Least Bell's Vireo Monitoring, Nest Predation Threat Assessment, and Cowbird Parasitism Threat Assessment at the San Joaquin River National Wildlife Refuge 2007 Field Season Final Report.

Kus, B. E. 1998. Use of restored riparian habitat by the endangered Least Bell's Vireo (*Vireo bellii pusillus*). *Restoration Ecology* 6:1.

RHJV (Riparian Habitat Joint Venture). 2004. Version 2.0. The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/pdfs/riparian_v-2.pdf

River Partners. 2007. VELB Habitat and Colonization of Remnant and Planted Elderberry along the Stanislaus and San Joaquin Rivers. San Joaquin, Stanislaus and Tuolumne Counties, California. Sara Taylor, Tom Griggs, and Lauren Singleton. Modesto, California.

San Joaquin River Restoration Program (SJRRP). 2014. Effects of a riparian forest on water temperatures in the restoration area. 2014 Mid-year Technical Report. July 2014.

The Nature Conservancy (TNC). 2000. Species management abstract: Bell's Vireo (*Vireo bellii*). <http://conserveonline.org/docs/2001/08/bevi.doc>.

USFWS. 2006. Comprehensive Conservation Plan for the San Joaquin River NWR.

Appendix A Cultural Resources Compliance

**OFFICE OF HISTORIC PRESERVATION
DEPARTMENT OF PARKS AND RECREATION**

1725 23rd Street, Suite 100
SACRAMENTO, CA 95816-7100
(916) 445-7000 Fax: (916) 445-7053
calshpo@parks.ca.gov
www.ohp.parks.ca.gov



November 20, 2015

In reply refer to: BUR_2015_1023_001

Ms. Anastasia T. Leigh
Regional Environmental Officer
Bureau of Reclamation
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

Re: National Historic Preservation Act (NHPA) Section 106 Consultation for the Dos Rios
Ranch Riparian Brush Rabbit Recovery Project, Stanislaus County, California (15-SCAO-214)

Dear Ms. Leigh:

Thank you for your letter dated October 15, 2015, requesting my review and comment with regard to the above-referenced project. The Bureau of Reclamation (Reclamation) is consulting with me pursuant to Section 106 of the National Historic Preservation Act and its implementing regulations found at 36 CFR Part 800 (as amended 8-05-04). Reclamation proposes to partially fund work on the Dos Rios Ranch Riparian Brush Rabbit Recovery Project, through its Central Valley Project Conservation Program (CVPCP) and Central Valley Project Improvement Act Habitat Restoration Program (CVPIA HRP, proposed by River Partners, to protect and create wildlife habitat through the implementation of river and stream restoration projects. Along with your consultation letter, you also provided the following document:

- *Cultural Resources Survey Report for the Dos Rios LP WRP Project, Stanislaus County, California* (Coleman, July 2011).

Reclamation has determined that the area of potential effects (APE) for this undertaking is approximately 175 acres within the boundaries of the Dos Rios Ranch and includes all project-related construction activities including weed and debris removal, construction of a 14 acre "swale," construction of an approximately 3 acre elevated flood refugia mound, installation of a drip irrigation system, and planting of native vegetation.

Your letter and attached technical report document Reclamation's efforts to identify historic properties in the APE. These efforts included consultation with federally and non-federally recognized Indian tribes, a records search, and a cultural resources survey conducted by Solano Archaeological Services (Consultant). No historic properties were identified through these identification efforts and, pursuant to 36 CFR 800.4(d)(1), Reclamation is seeking my concurrence with their finding that the proposed undertaking will result in no historic properties affected. After reviewing your submission I have the following comments:

- Pursuant to 36 CFR 800.4(a)(1), I have no objections to the APE as defined.
- Pursuant to 36 CFR 800.4(b), I find that Reclamation has made a reasonable and good faith effort to identify historic properties within the area of potential effects.
- Pursuant to 36 CFR 800.4(d)(1)(i), **I do not object with your finding of no historic properties affected for this undertaking.**

Thank you for seeking my comments and considering historic properties as part of your project planning. Be advised that under certain circumstances, such as unanticipated discovery or a change in project description, Reclamation may have additional future responsibilities for this undertaking under 36 CFR Part 800. If you have any questions, please contact Patrick Riordan of my staff at (916) 445-7017 or Patrick.Riordan@parks.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Julianne Polanco', with a long horizontal stroke extending to the right.

Julianne Polanco
State Historic Preservation Officer

Appendix B Indian Trust Assets Compliance

04/13/2015

**Indian Trust Assets
Request Form (MP Region)**

Submit your request to your office's ITA designee or to MP-400, attention Deputy Regional Resources Manager.

Date: October 2, 2015

Requested by (office/program)	Doug Kleinsmith, MP-152
Fund	RX304249930250000
WBS	15XR0680A3
Fund Cost Center	RR2015200
Region # (if other than MP)	
Project Name	Dos Rios Ranch Riparian Brush Rabbit Recovery Project
CEC or EA Number	
Project Description (attach additional sheets if needed and include photos if appropriate)	Reclamation would provide \$447,415 from the CVPCP to River Partners to restore and enhance native habitat on 175 acres of historic riparian forest in fields 13 and 14 within Dos Rios Ranch and create a 1.5 acre riparian brush rabbit refuge mound.
*Project Location (Township, Range, Section, e.g., T12 R5E S10, or Lat/Long cords, DD-MM-SS or decimal degrees). Include map(s)	Long: -121.17 Lat: 35.59

/s/ Doug Kleinsmith
Signature

Doug Kleinsmith
Printed name of preparer

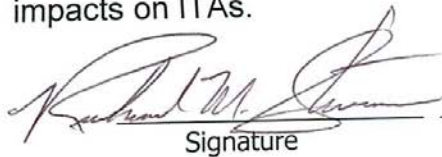
10/2/15
Date

04/13/2015

ITA Determination:

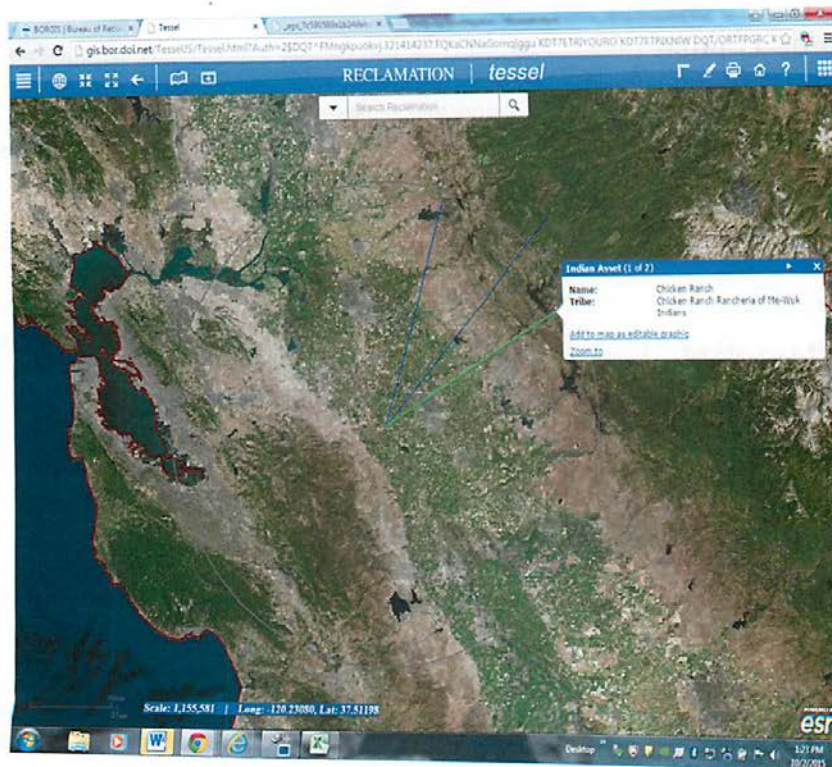
The closest ITA to the proposed Dos Rios Ranch y Project activity is the Chicken Ranch Rancheria of the Me-Wuk Indians about 45.46 miles to the northeast. (see attached image).

Based on the nature of the planned work it does / does not appear to be in an area that will impact Indian hunting or fishing resources or water rights nor is the proposed activity on actual Indian lands. It is reasonable to assume that the proposed action will / will not have any impacts on ITAs.


Signature

RICHARD M. STEVENSON
Printed name of approver

10/2/15
Date



Appendix C Endangered Species Act Concurrence



United States Department of the Interior



In Reply Refer to:
08ESMF00-
2016-I-0707

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Suite W-2605
Sacramento, California 95825-1846

MAR 03 2016

Memorandum

To: Anastasia T. Leigh, Regional Environmental Officer
Bureau of Reclamation, Sacramento, California

From: Thomas Leeman, Chief, San Joaquin Valley Division, Sacramento Fish and Wildlife
Office, Sacramento, California 

Subject: Informal Consultation on the Proposed Dos Rios Ranch Riparian Brush Rabbit
Recovery Project, Stanislaus County, California (Bureau of Reclamation # MP-152
ENV-7.00)

Dear Ms. Leigh:

This letter is in response to the Bureau of Reclamation's (Reclamation) October 14, 2015, request for initiation of informal consultation with the U.S. Fish and Wildlife Service (Service) on the proposed Dos Rios Ranch Riparian Brush Rabbit Recovery Project (proposed project) in Stanislaus County, California. Your request was received by the Service on October 15, 2015. On October 18, 2015, you requested that the Service cease work on the consultation until notified to begin work by Reclamation. On December 12, 2015, Reclamation requested that the Service resume work on the consultation. At issue are the proposed project's effects on the federally-listed as endangered least Bell's vireo (*Vireo bellii pusillus*), riparian brush rabbit (*Sylvilagus bachmani riparius*), and riparian woodrat (*Neotoma fuscipes riparia*), as well as the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*). This response is provided under the authority of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act) and in accordance with the implementing regulations pertaining to interagency cooperation (50 CFR 402).

The federal action we are consulting on is Reclamation's approval of federal grant funding through the Central Valley Project Conservation Program (CVPCP) to River Partners to fund restoration and enhancement of native habitats on 175 acres of historic riparian forest. This restoration will take place on fields 13 and 14 within the Dos Rios Ranch. The purpose of the project is to restore floodplains and provide additional habitat for special-status species.

Pursuant to 50 CFR §402.12(j), you submitted a biological assessment for our review, titled *Effects to Federally Listed Threatened and Endangered Species Dos Rios Ranch Riparian Rabbit Recovery Project* (BA), and requested concurrence with the findings presented therein. These findings conclude that the proposed project may affect, but is not likely to adversely affect least Bell's vireo, riparian brush rabbit, riparian woodrat, or valley elderberry longhorn beetle. The proposed project is not within designated or proposed critical habitat for any federally-listed species.

In considering your request, we based our evaluation of your findings on the following: 1) the October 14, 2015, letter initiating informal consultation and the accompanying BA; 2) an October 28, 2015, email clarifying the effects of the action on the riparian brush rabbit; 3) email and telephone correspondence between the Service and Reclamation; and 4) additional information available to the Service.

The proposed project is located adjacent to and east of the 8,000-acre San Joaquin River National Wildlife Refuge, approximately 10 miles west of Modesto in Stanislaus County. The project is composed of three components: 1) restoration of 132.5 acres of floodplain; 2) creation of a 3-acre riparian brush rabbit refuge mound to provide 1.5 acres of upland refuge habitat to protect the species from flood events; and 3) enhancement of 41 acres of degraded remnant habitat along field margins spanning fields 13 and 14. Restored habitat will provide a suitable reintroduction site for riparian brush rabbit as well as expanded habitat areas for additional federally endangered, threatened and state listed species. Reintroduction of federally-listed species is not planned at this time. Planting, maintenance, and restoration monitoring are expected to take three years. Black willow, arroyo willow, and Fremont's cottonwood will be planted across the site, as well as a robust understory of wild rose and blackberry. Valley oak, Oregon ash and box elder are also included in the planting design for this project. Native blackberry, wild rose, and elderberry will be planted on the riparian brush rabbit refuge mound. Native species will also be opportunistically planted in degraded remnant habitat along field margins to enhance existing habitat. Restored vegetation will be watered via flood irrigation and drip irrigation for the first two years following planting.

Regular disking will occur between planted trees and shrubs for two growing seasons, seeding native understory species in the fall of the second project year, and mowing the understory plantings through the final growing season. To reduce the amount of weeds in the project site before planting native species, River Partners will disk the site prior to weeds maturing and producing seeds of their own. Locations dominated by perennial weeds such as perennial pepperweed will be treated with herbicides as needed. Weeds will be opportunistically treated with herbicides in the degraded remnant habitat project areas along the margins of Fields 13 and 14 to enhance existing habitat.

Riparian Brush Rabbit and Riparian Woodrat

After reviewing all the available information, we concur with your determination that the proposed project may affect but is not likely to adversely affect the riparian brush rabbit riparian woodrat. The proposed project occurs within the known range of these species, known populations exist adjacent to the action area on the other side of the San Joaquin River, and because the riparian brush rabbit has been observed within the action area.

Discing, grading, and mechanical weed controls are components of the proposed project, and would occur during the first two years of restoration. The areas that will experience discing, grading, or mechanical weed controls are currently in an actively farmed state and do not provide habitat for the riparian brush rabbit or the riparian woodrat. These species may be attracted to the restored area; however, they are unlikely to inhabit the action area during the time period any discing, grading, or mechanical weed control will occur because 1) grading will occur before restored vegetation is planted; 2) once planted, restored vegetation will be too small and sparse to provide cover for the first two years following planting; and 3) flood irrigation proposed to water restored vegetation during the first two years will prohibit any populations or individuals of this species from taking up residence within the action area. Finally, a vehicle speed limit of no greater than 15 miles per hour,

as proposed in the Avoidance and Minimization Measures in the BA will prevent vehicle strikes of riparian brush rabbits or riparian woodrats by vehicles traveling to or from the restoration areas.

Due to the *Avoidance and Minimization Measures* proposed by Reclamation and the unlikely probability of a riparian brush rabbit or riparian woodrat inhabiting the action area during activities that could potentially result in harassment or harm of these species, it is the Service's opinion that any potential adverse effects to the riparian brush rabbit or riparian woodrat from the proposed project are unlikely to occur, and are therefore discountable for purposes of this consultation.

Valley Elderberry Longhorn Beetle

We also concur with your determination that the proposed project is not likely to adversely affect the valley elderberry longhorn beetle. The proposed project occurs within the known range of the species, elderberry plants are present in the action area, and individuals may be present in the action area. The *Avoidance and Minimization Measures* in the BA state that no project activities shall occur within 100 feet of any elderberry shrub. The avoidance distance is great enough to render the chances of potential effects to the beetle resulting from the proposed project to be unlikely, and are therefore discountable for purposes of this consultation.

Least Bell's Vireo

We also concur with your determination that the proposed project is not likely to adversely affect the least Bell's vireo. The proposed project occurs within the potential range of the least Bell's vireo. Breeding and nesting habitat does not exist within the action area. Due to the lack of habitat, the Service believes that the least Bell's vireo is likely to be absent from the action area, precluding any potential adverse effects to the least Bell's vireo.

This concludes the Service's review of the proposed Dos Rios Ranch Riparian Brush Rabbit Recovery Project. No further action pursuant to the Act is necessary unless new information reveals effects of the proposed action that may affect listed species in a manner or to an extent not considered; the action is subsequently modified in a manner that causes an effect to federally-listed species or critical habitat that was not considered in this determination; or a new species or critical habitat is designated that may be affected by the proposed action.

If you have any questions regarding the proposed Dos Rios Ranch Riparian Brush Rabbit Recovery Project please contact Joshua Emery, Fish and Wildlife Biologist, by telephone at (916) 414-6692 or by email at joshua_emery@fws.gov, or Thomas Leeman, Chief, San Joaquin Valley Division, by telephone at (916) 414-6544 or by email at thomas_leeman@fws.gov, or by mail at the letterhead address.