RECLAMATION
Managing Water in the West

Environmental Assessment

Restoration of Riparian Habitat at Dos Rios Ranch Phase I

July 2013

U.S. Department of the Interior
Bureau of Reclamation
Mid-Pacific Region

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.

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Section 1 Introduction

1.1 Background

In conformance with the National Environmental Policy Act of 1969 (NEPA), as amended, the Bureau of Reclamation (Reclamation) has prepared this Environmental Assessment (EA) to evaluate and disclose any potential environmental impacts associated with providing $575,456 from the Central Valley Project Conservation Program (CVPCP) to River Partners to restore and enhance riparian and wetland habitats and conduct avian monitoring on 198 acres of floodplain at Dos Rios Ranch (Ranch) to benefit endangered riparian wildlife. Restored habitats would provide a suitable reintroduction site for riparian brush rabbit as well as expanded habitat areas for riparian woodrat, least Bell's vireo, Valley elderberry longhorn beetle, 3 state-listed bird species, and 5 California Species of Concern.

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

The proposed action would supplement proposed funding from the Natural Resources Conservation Service (NRCS) Wetland Reserve Program (WRP) to restore habitat at the Ranch. Supplemental funding from WRP would be used to restore habitat on these same 198 acres (Phase I) as well as additional acreage which is Phase II. Reclamation is not funding restoration for the Phase II acres. NRCS prepared a Dos Rios Ranch WRP Conservation Plan (2012) for their restoration work for both Phases I and II. NRCS also signed a Compatible Use Authorization (2012) for Dos Rios for Reclamation's portion of the restoration for the 198 acres. The proposed action and the NRCS WRP project are fully integrated with each other, but they are not interdependent - each action could be implemented separately without the other action.

Reclamation helped fund the development of the Conceptual Conservation Plan and other pre-acquisition tasks for the Ranch in 2005. Reclamation helped fund the acquisition of the entire 1,603-acre Ranch in 2007.

This EA was prepared in accordance with NEPA, Council on Environmental Quality (CEQ) regulations (40 CFR 1500-1508), and DOI Regulations (43 CFR Part 46). Reclamation has also prepared a Finding of No Significant Impact (FONSI), which explains why the Proposed Action would not have any significant effects on the human or natural environment.

1.2 Need for the Proposed Action

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 shrublands 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.

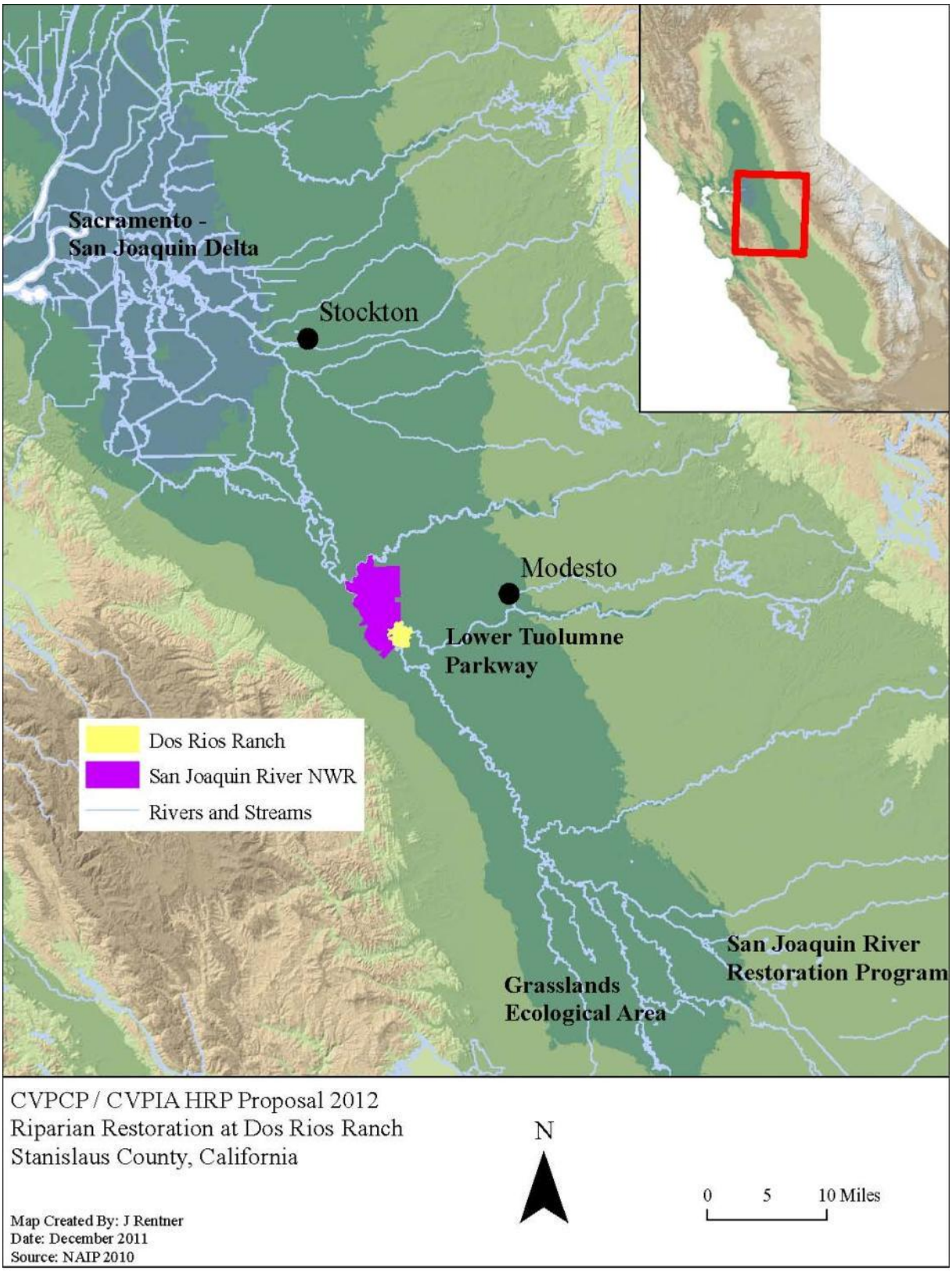


Figure 1. General Project Location

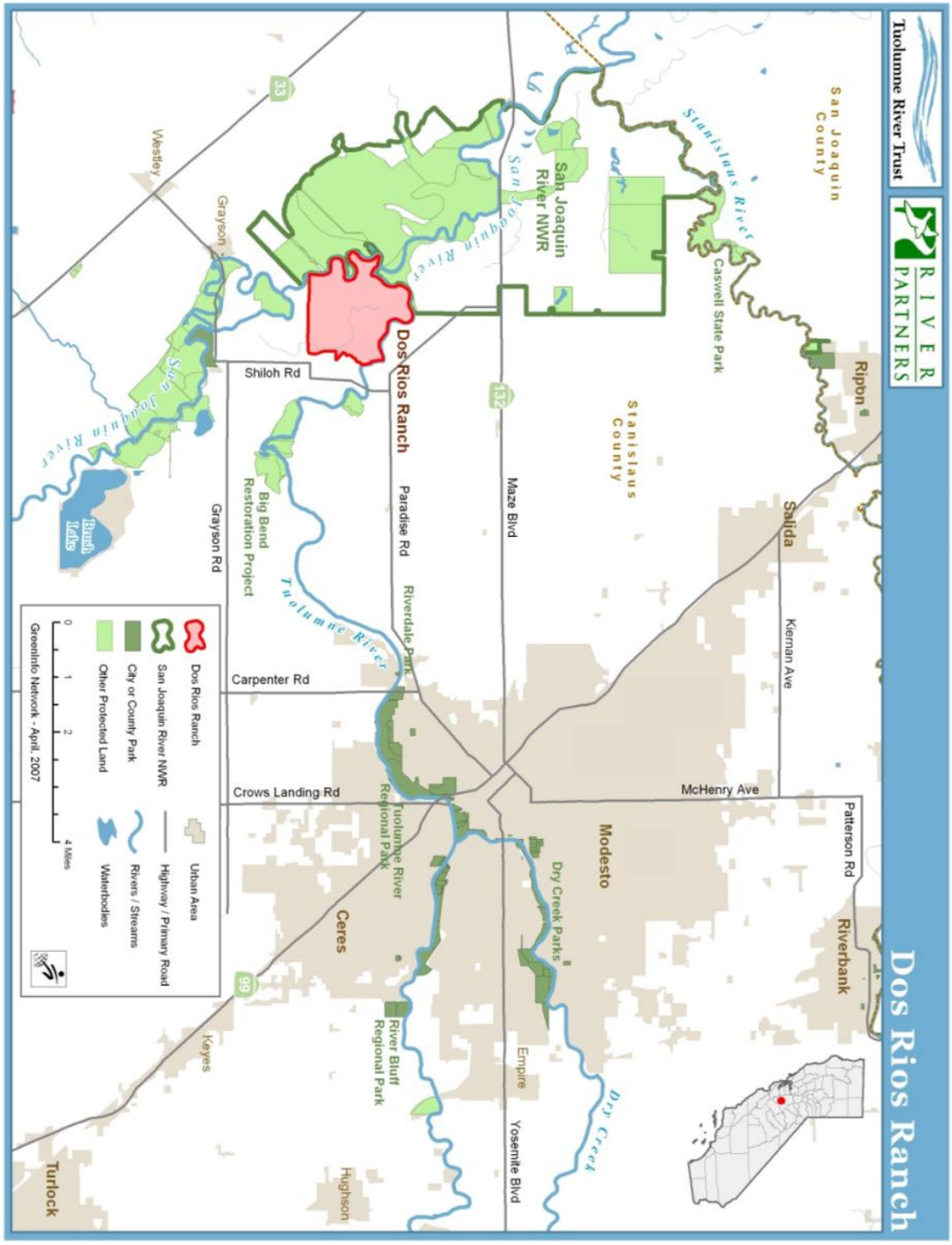


Figure 2. Local Map for Dos Rios Ranch

Section 2 Alternatives Including Proposed Action

2.1 No Action Alternative

Reclamation would not provide $575,456 from the CVPCP to River Partners to restore and enhance riparian and wetland habitats and conduct avian monitoring on 198 acres of floodplain at the Ranch. River Partners would be required to obtain the $576,456 from other public and/or private sources. If alternative funding cannot be secured, NRCS would still fund their own activities at the Ranch, shown in the third column of Table 1; the area to be restored would be reduced to 176.5 acres.

2.2 Proposed Action

Reclamation would provide $575,456 from the CVPCP to River Partners to restore to restore and enhance riparian and wetland habitats and conduct avian monitoring on 198 acres of floodplain at the Ranch. This would supplement funds committed by NRCS for Phase 1.

The Ranch is divided into different fields. The fields that comprise Phase 1 include fields 18, 19, 22, 24, and 27 as shown in Figure 3. Figure 4 shows an aerial photograph of these fields. Table 1 shows the proposed restoration activities for each field. Outside of the field boundaries but within the project footprint, aquatic and terrestrial weeds would be treated with appropriate herbicides and hand removal as possible.

Elevated refugia (mounds) would be constructed for riparian brush rabbits to escape to during flooding of adjacent habitat. Construction of elevated refugia would include scraping surface soil from no more than 44 acres of former agricultural fields (Fields 18, 22 and 24) and mounding spoils in key locations on the floodplain. Up to 5,000 cubic yards of material would be scraped from Field 18 and moved to Fields 22 and 24 to construct mounds. Up to 10,000 cubic yards would be moved within fields 22 and 24 each. The precise dimensions and configuration of excavations and mounds would be determined through the restoration planning process, and maximum extent of grading would include 100’ buffers around existing elderberry shrubs. A laser level would be used to ensure appropriate slopes and dimensions of excavation. Equipment that would be used in the excavation includes backhoe, belly scraper, bulldozer, and road grader. Equipment would enter the work site on existing roads, and if needed, equipment would be stored on site in the Ranch main equipment yard east of the project area. Scraping would only occur in areas that were previously disturbed by agricultural activities (regularly disked) and previously cleared of all vegetation and debris. The estimated depth of scraping would not exceed 4 inches in fields 22 and 24, and would not exceed 12 inches in field 18.

Sculpted mounds would not exceed 4 feet in height. Mound construction would occur concurrently with other site preparation activities (after clearing weeds and debris, and

prior to leveling fields and installing furrows) to ensure appropriate drainage from fields 22 and 24 to facilitate flood irrigation, and to allow for the use of excavated material from field 18 in construction of mounds in fields 22 and 24. Material would be moved from field 18 to fields 22 and 24 via existing farm roads. Dust would be minimized according to the standard operating practices at the Ranch including maintaining speeds below 15 miles per hour on farm roads, and if necessary, the use of a water tender to wet the road surface.

Sculpted mounds would be equipped with drip irrigation systems to facilitate plant establishment. Main supply lines for the drip irrigation system would be located within the project footprint, and would include trenching to no deeper than 18 inches. Outside of the project footprint, irrigation water would be conveyed from an existing groundwater well to the site via above-ground pipes. The final location and configuration of mounds within fields 22 and 24 would be described in the restoration plan for the project. The number, size, and location of mounds are not yet determined.

Within field 19, drip irrigation would be installed and mainlines would be trenched no deeper than 18”.

Minor grading would occur within field 18 to enhance wetland hydrology (lower the soil surface relative to the water table). Such grading would be limited to areas outside the Ordinary High Water Mark of the Steenstrup Slough. River Partners would consult with the U.S. Army Corps of Engineers to determine the wetland jurisdictional status of the agricultural fields at the Ranch. Fields 18 and 27 would be planted with wetland plants, and would not be irrigated.

Weed control in the Steenstrup Slough would be limited to mechanical removal and foliar and cut stump herbicide applications to vegetation growing along the margins of the slough. No herbicide applications would be directly applied to waters of the slough. Herbicide use would be overseen by a Pest Control Advisor certified by the California Department of Pesticide Regulation. Mechanical removal would include cutting invasive weeds at or above the soil surface and removing biomass from the site manually. Mechanical weed removal would be performed using hand-held equipment including weed whackers and machetes. No wheeled equipment would be used to perform weed removal in the slough. No disturbance to the banks or bed of the slough is expected.

Aquatic weeds (*Phragmites spp.*) would be treated with aquatic herbicides as possible within the Steenstrup Slough within the project footprint. Terrestrial weeds along roadsides and other areas would be treated with approved herbicides within the project footprint. Herbicides that may be used include Imazapyr (aquatic formulation), glyphosate (terrestrial or aquatic formulation depending on treatment site), and 2-4D (roadsides). All herbicide application within the project area would be overseen by a California Department of Food and Agriculture certified Pest Control Advisor trained and experienced in riparian and wetland weed treatment. All herbicide application would be tracked and reported according to the Stanislaus County Agricultural Commissioners’ regulations. Dos Rios Ranch is enrolled in the East San Joaquin Water Quality Coalition,

which holds a conditional waiver of Waste Discharge Requirements for surface and groundwater discharge under the Irrigated Lands Regulatory Program of the Central Valley Regional Water Quality Control Board. The Ranch's irrigation infrastructure includes a 100% tail water return system which eliminates surface runoff to the San Joaquin or Tuolumne Rivers.

Performance monitoring would be performed by River Partners biology staff and would include plant survival, weed pressure, and other parameters continually monitored for a three-year establishment period. Data from the monitoring program would be used in River Partners' adaptive management program to guide future management decisions (River Partners 2008).

During years 1-3, the Point Reyes Bird Observatory (PBRO) would monitor songbirds at the Ranch in restored and remnant riparian areas. While the focus is on monitoring restoration efforts, they would also monitor some remnant riparian sites in order to be able make comparisons and gauge the overall success of restoration efforts for birds, as well as to provide a baseline for this new conservation property. Avian monitoring objectives include: 1) monitoring for least Bell's vireo and other special status birds including yellow warbler, Lawrence's goldfinch, loggerhead shrike, yellow-breasted chat, Swainson's hawk, northern harrier, willow flycatcher; 3) monitoring for brown-headed cowbirds; 4) monitoring for riparian focal species (RHJV 2004) including song sparrow, spotted towhee, and black-headed grosbeak; and 5) documenting the presence of other rare or sensitive bird species at SJRNWR.

The Central Valley Joint Venture (CVJV) has set target densities for riparian focal species, as well as 5-year habitat restoration objectives (CVJV 2006). Avian monitoring would allow measuring the project's contribution to this and other regional conservation initiatives.

Figure 1. Phase 1 Restoration at Dos Rios Ranch

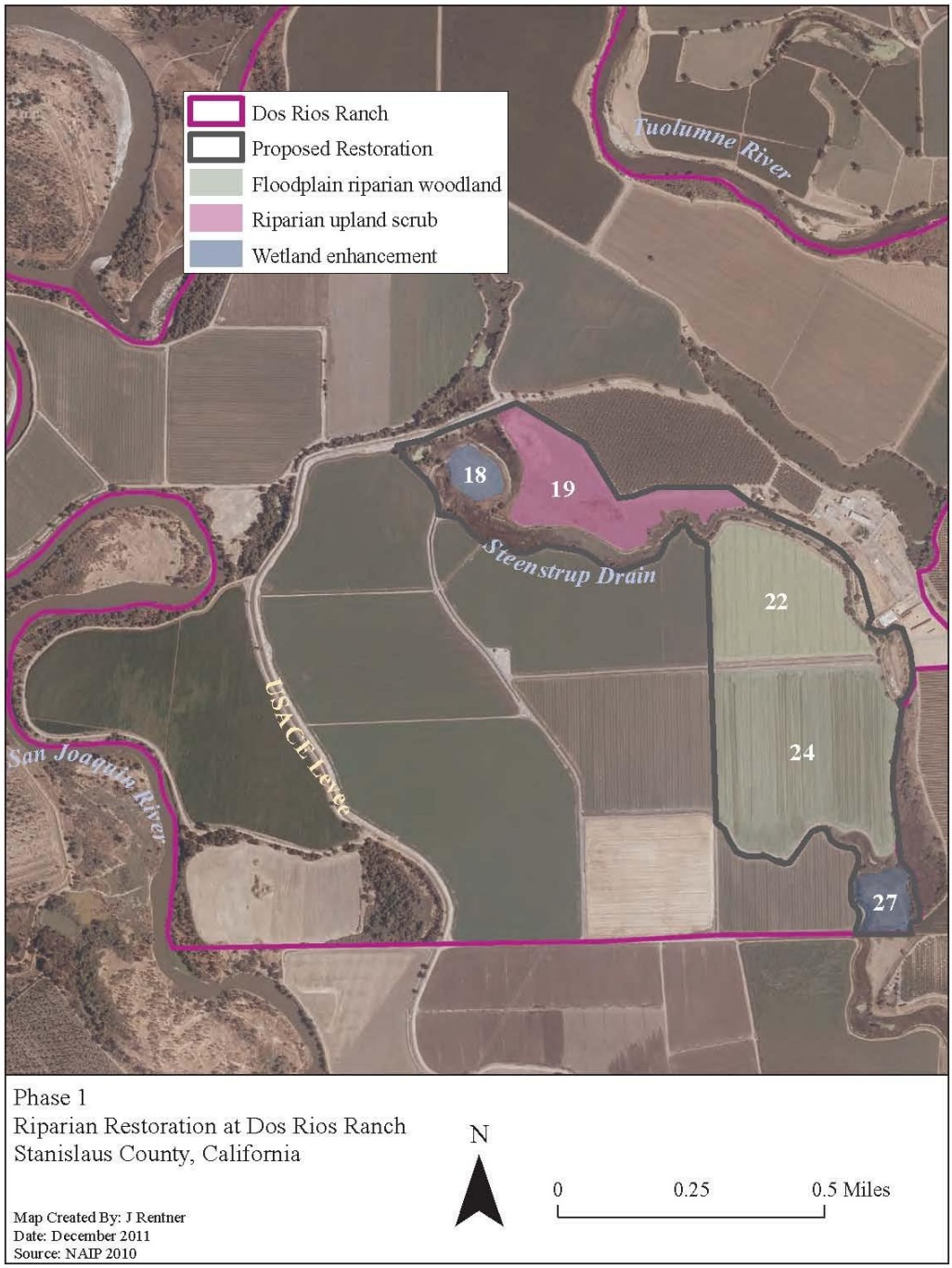


Figure 3. Phase 1 Restoration at Dos Rios Ranch

Project Area outlined in black, fields labeled by number.

Figure 4. Aerial Photograph of Dos Rios Phase I Restoration Fields

Table 1. Fields, Acres, and Proposed Activities by Funder for Dos Rios Ranch Habitat Restoration Phase 1

Field Number	CVPCP -funded activities	WRP-funded activities
18 5 acres	Site preparation: Grading to enhance wetland hydrology as well as scraping up to maximum depth of 12" (Figure C) to provide material for elevated refugia in fields 22 and 24, excavated material would be moved to fields 22 and 24 to construct elevated refugia (Figure B). No more than 4 acres would be disturbed in Field 18. 100' buffers (no activity) around blue elderberry shrubs would be observed (see Figure 3). Planting native vegetation at 227 plants per acre Maintenance: weed control for 3 growing seasons	No activity funded

Field Number	CVPCP -funded activities	WRP-funded activities
19 30.6 acres	Irrigation installation (Figure A): install additional drip lines and emitters to service 318 plants per acre for a total density of 545 plants per acre Planting native vegetation at 318 plants per acre for a total planting density of 545* plants per acre Maintenance: deliver irrigation water to the plantings for 3 growing seasons (budgeted to service 318 plants per acre, and up to 2 irrigation events during project year 4); weed treatments across the field	Site preparation: clearing weeds and debris, shallow disking (4”) to prepare site for planting Irrigation installation (Figure A): install main lines, laterals, and drip lines to service 227 plants per acre for a total density of 545 plants per acre Planting native vegetation at 227 plants per acre for a total planting density of 545* plants per acre Maintenance: deliver irrigation water to the plantings for 3 growing seasons (budgeted to service 227 plants per acre); weed treatments across the field

Field Number	CVPCP -funded activities	WRP-funded activities
22 38 acres	Elevated refugia construction: scrape up to 4" from approximately 20 acres of field 22 and shape into elevated refugia approximately 4' in height (Figure B) – exact configuration TBD Irrigation installation: install main lines and associated drip irrigation system to service elevated refugia Planting native vegetation on elevated refugia at 644 plants per acre for a total planting density of 871* plants per acre on elevated refugia Maintenance: deliver irrigation water to the elevated refugia for 3 growing seasons, and up to 2 additional flood irrigation events during project year 4; weed control on elevated refugia for 3 growing seasons	Site preparation: clearing weeds and debris, leveling the field Irrigation installation: install/repair head ditch and drain ditch, install planting furrows at 16' spacing in a curved fashion consistent with the configuration of elevated refugia Planting native vegetation at 227 plants per acre across the entire field including elevated refugia Maintenance: deliver irrigation water to the field for 3 growing seasons via flood irrigation system; weed control across the field for 3 growing seasons

Field Number	CVPCP -funded activities	WRP-funded activities
24 68.8 acres	Elevated refugia construction: scrape up to 4” from approximately 20 acres of field 24 and shape into elevated refugia approximately 4’ in height (Figure B) – exact configuration TBD Irrigation installation: install main lines and associated drip irrigation system to service elevated refugia Planting native vegetation on elevated refugia at 644 plants per acre for a total planting density of 871* plants per acre on elevated refugia Maintenance: deliver irrigation water to the elevated refugia for 3 growing seasons, and up to 2 additional flood irrigation events during project year 4; weed control on elevated refugia for 3 growing seasons	Site preparation: clearing weeds and debris, leveling the field Irrigation installation: install/repair head ditch and drain ditch, install planting furrows at 16’ spacing in a curved fashion consistent with the configuration of elevated refugia Planting native vegetation at 227 plants per acre across the entire field including elevated refugia Maintenance: deliver irrigation water to the field for 3 growing seasons via flood irrigation system; weed control across the field for 3 growing seasons
27 7.5 acres	Site preparation: clearing weeds and debris, shallow disking (4”) to prepare site for planting Planting native vegetation to 227 plants per acre Maintenance: weed control for 3 growing seasons	No activity funded

Field Number	CVPCP -funded activities	WRP-funded activities
Project area 198 acres	Planning and permitting: write restoration plan detailing the planting and earthwork design; attain all necessary permits Maintenance: deliver irrigation water to the plantings in Fields 19, 22, and 24 for 3 growing seasons (as described above), and up to 2 additional flood irrigation events during project year 4; aquatic and terrestrial weed control (herbicide application and hand removal) within the project footprint as needed Monitoring: perform qualitative and quantitative monitoring of restoration performance for 4 years; submit semi-annual reports Management: track employee hours and equipment usage; host informational meetings with stakeholders; invoicing, accounting, etc Avian monitoring: conducted by PRBO Conservation Science	No activity funded

* WRP would contribute funding sufficient to plant 227 plants per acre (16'x12' spacing) across the entire Dos Rios Ranch, but in order to accomplish the specific habitat restoration goals of the CVPIA project (i.e. provide rapid establishment of habitat for riparian brush rabbits), we intend to plant specific locations as higher densities (elevated refugia within fields 22 and 24 would be planted to 871 plants per acre (16' x 5') while field 19 would be planted to 545 plants per acre (10' x 5'). These planting densities are the result of over 6 years of field trials and adaptive management creating riparian brush rabbit habitat at the SJRNWR.

Section 3 Affected Environment & Environmental Consequences

This section identifies the potentially affected environmental resources and the environmental consequences that could result from the Proposed Action and the No Action Alternatives.

3.1 Resources Not Analyzed in Detail

The following resources have minor or no impacts but are being described here due to Department of the Interior and Reclamation concerns:

3.1.1 **Cultural Resources**

A cultural resources records search, pedestrian field survey and Native American consultation concluded that there were no cultural resources in the project area of potential effect (APE).

In a letter dated July 25, 2012, Reclamation initiated consultation with the California State Historic Preservation Officer (SHPO), inviting the SHPO's comments regarding Reclamation's delineation of the APE and Reclamation's efforts to identify historic properties in accordance with the Section 106 regulations. Reclamation also requested the SHPO's concurrence that Reclamation's finding of no historic properties affected was appropriate pursuant to 36 CFR § 800.4(d)(1). The SHPO responded to Reclamation's request for consultation in a letter of August 6, 2012 commenting that Reclamation's APE determination and level of effort to identify historic properties were appropriate, and concurring with the finding of no historic properties affected. (See Appendix A.)

3.1.2 **Indian Trust Assets**

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individual Indians. Indian reservations, Rancherias, and Public Domain Allotments are common ITAs in California. The proposed action does not have a potential to affect ITAs. (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**

The site proposed for restoration includes 119 acres of farm fields behind federal levees, 31 acres of natural high ground, and 48 acres of degraded slough. The project site is currently farmed in tomatoes, corn, alfalfa and mixed row crops. The topography of the site is flat and varies from low floodplain terraces to high floodplain terraces and associated uplands. Individual fields have been leveled to facilitate irrigation and drainage.

Portions of the ranch have experienced periodic flooding, notably in 2011, 2006, 2005, 1997, 1995, 1986, and 1983. During these high water years, federal levees protected the project site from flooding; however groundwater seepage saturated the project area and created localized ponding in some locations. Future restoration phases may include restoration of flooding to these lands through levee modification. Such levee modification would be designed and installed in a manner compatible with the target wildlife benefits of the Phase 1 restoration project.

The project site includes the Steenstrup Slough, an historic slough that has been used to convey agricultural water for decades. It was bisected by the construction of the federal levees, altering its hydrology and creating a marsh at the northern end of the project site. In 1914, a colony of tricolored blackbirds (*Agelaius tricolor*), a bird species of species concern by the California Department of Fish and Game (DFG) as well as the U.S. Fish and Wildlife Service (FWS), was recorded in this slough; however no records of this colony are present in the California Natural Diversity Database, nor are any modern records known by project proponents.

Elderberry shrubs are present along the edges of the project footprint.

Lands proposed for restoration would be underlain by a perpetual conservation easement under WRP. This program allows farming for one year following enrollment, at which point lands must remain fallow until restoration funding can be raised. If left fallow, weeds would dominate the site and the existing irrigation infrastructure would deteriorate. This would significantly increase the expense of future habitat restoration. If restored immediately following farming, the extent and diversity of problematic weeds is lower and thus the cost to replace them with desirable natives is also lower.

3.2.2 **Environmental Consequences**

No Action

If Reclamation does not provide funding to River Partners for restoration and enhancement at the Ranch, River Partners would have to find additional funds from potential funding sources. The effects of no action would be the same as for the proposed action if the funds were obtained from another source.

If River Partners could not find another source of funds to replace the potential Reclamation funds, NRCS would still fund their restoration activities shown in Table 1. The impacts would be similar to

those of the proposed action described below. However, there would be no construction of elevated refugia for riparian brush rabbits - rabbits would not have any additional higher ground to escape to during flooding. There would be no weed control along the slough or roadsides; lack of weed control would make it more difficult for newly planted vegetation to become established. There would be lower planting densities; this would also make it more difficult or take longer for newly planted vegetation to become established.

Proposed Action

All riparian restoration and wetland enhancement work would occur in areas previously farmed including regular soil disturbance to 8 inches on average. Restoration activities proposed (disking, planting, irrigation, and weed control) are standard agricultural practices that have been used across this property since the 1930's.

The following are typical planting lists for the various fields of the Phase 1 project:

Field	**Habitat Type** – Typical Species
18, 27	**Forested/scrub wetland** - Oregon ash, black willow, sandbar willow, Fremont's cottonwood, buttonbush, box elder, hedge nettle, western goldenrod, mugwort, stinging nettle, cattails, bulrush
19	**Riparian scrub** – California blackberry, California rose, elderberry, mulefat, coyote brush, quailbush, gumplant evening primrose, telegraph weed, western goldenrod, milkweed and creeping wildrye
22, 24	**Riparian woodland** – Fremont's cottonwood, valley oak, arroyo willow, black willow, sandbar willow, buttonbush, coyote brush, mulefat, quailbush, box elder, Oregon ash, mugwort, gumplant, evening primrose, telegraph weed, western goldenrod, stinging nettle, and creeping wild rye

This project would restore and enhance native habitats to 198 acres of degraded farmlands at the Ranch. Restored habitats would provide a suitable reintroduction site for riparian brush rabbit as well as expanded habitat areas for riparian woodrat, least Bell's vireo, Valley elderberry longhorn beetle, 3 state-listed bird species and 5 California Species of Concern (See Table 2).

Table 2: Species Table for Riparian Habitat Restoration at Dos Rios Ranch

Common Name	**Scientific Name**	**Federal Status[a]**	**State Status[b]**	**Other Designated Species[c]**	**Species Verified Presence (Y/N)**
Mammals riparian woodrat	*Neotoma fuscipes riparia*	E			N

Table 2: Species Table for Riparian Habitat Restoration at Dos Rios Ranch					
Common Name	**Scientific Name**	**Federal Status[a]**	**State Status[b]**	**Other Designated Species[c]**	**Species Verified Presence (Y/N)**
riparian brush rabbit	*Sylvilagus bachmani riparius*	E	E		Y
Invertebrates valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T			N
Birds least Bell's vireo	*Vireo bellii pusillus*	E	E		N
willow flycatcher	*Empidonax traillii*		E		N
Swainson's hawk	*Buteo swainsoni*		T		Y
yellow warbler	*Dendroica petechia*			CSC	N
loggerhead shrike	*Lanius ludovicianus*			CSC	Y
northern harrier	*Circus cyaneus*			CSC	Y
yellow-breasted chat	*Icteria virens*			CSC	N
Lawrence's goldfinch	*Carduelis lawrencei*			CSC	N
yellow-billed cuckoo	*Coccyzus americanus*	C	E		N

[a]E = federally listed as endangered, T= federally listed as threatened, P=federally proposed for listing
[b]E = state listed as endangered, R = state listed as rare, T = state listed as threatened, C = state listed as candidate
[c]C=federally listed as candidate, CSC = California species of special concern, FP = California fully protected species

Potential Construction Impacts to Endangered Species

The project area is within the range of the San Joaquin kit fox (SJKF), and a search of the California Natural Diversity Data Base (CNDDB) yielded several historic and recent records of occurrences of SJKF in the general area of the project. Because of recent and on-going agricultural conversion on the site and in adjacent areas, habitats for SJKF in the project area are marginal, and it is unlikely that SJKF are present in the area to be affected by the implementation of the Ranch riparian restoration project. However, River Partners would follow the FWS standardized recommendations for protection of the SJKF prior to or during ground disturbance when implementing the project. Those actions would insure that SJKF are not affected by project implementation.

Though CNDDB search yielded no occurrences of the federally threatened giant garter snake (*Thamnophis gigas*) (GGS) in the project area, the Ranch lies within the historic range of the GGS. There are no known recent sightings of GGS in the region containing of project area. The nearest known populations are along White Slough in northern San Joaquin County near Stockton, and at the Volta Wildlife Area in Merced County near Los Banos. The project area contains emergent wetlands in and around the Steenstrup Drain which support a dense growth of emergent wetland plants. This drain contains no permanent open water that is a habitat requirement for GGS, and is hydrologically isolated and a great distance from suitable GGS habitat. Therefore, because there are no known occurrences of GGS in the project vicinity, and suitable habitat for GGS is not present in or near the project area, there is no possibility that habitats in the project area support GGS and project implementation would not affect GGS.

All elderberry shrubs, potential host plant for the Valley elderberry longhorn beetle (VELB), within 100 feet of the project have been identified (Figure 5), and a 100 foot avoidance buffer would be marked and observed for all restoration activities. As part of the project, the following measures would be implemented to avoid potential effects to VELB. These avoidance measures are derived, in part, from recommendations put forth by the FWS in their July 9, 1999, *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*, which is available on the Sacramento Fish and Wildlife Office's website.

- A biologist would clearly flag and define a 100 foot buffer zone around each elderberry shrub with exclusionary fencing;
- VELB protection signs would be posted every 50 feet along the edge of the 100' buffer zone;
- No activities would occur within the 100 foot buffer for each elderberry shrub, and where possible, buffer zones would be connected to prevent fragmentation and isolation of VELB populations;
- Contractors and work crews would be educated on VELB and informed of the need to avoid the 100 foot buffer zones;
- Vehicle speeds would be maintained at or below 15 miles per hour on farm roads, and if necessary, a water tender would be used to wet road surfaces to help suppress fugitive dust emissions;
- All herbicide application within the action area would be overseen by a California Department of Food and Agriculture-certified Pest Control Advisor trained and experienced in riparian and wetland weed treatment, and would not be applied during high winds.

Restoration and enhancement activities would occur in areas previously farmed, including regular soil disturbance up to 8 inches on average. Disking, planting, irrigation, and weed control involved with the project are standard agricultural practices that have been used across the Ranch property since the 1930s. The project would not affect VELB or its habitat due to implementing the above avoidance measures.

There are no vernal pools or other seasonal wetlands for vernal pool species or the California tiger salamander.

The least Bell's vireo (LBVI) has been documented as nesting at the nearby San Joaquin River National Wildlife Refuge (NWR) in recent years. However, the project area supports only prior

converted and farmed uplands supporting a dense to sparse growth of ruderal non-native plants, and drainages and wetlands along the Steenstrup Drain that support a dense growth of *Scirpus*, *Fragmites*, and other emergent wetland plants that do not constitute breeding or foraging habitat for LBVI. Therefore, the project would not affect the LBVI.

The nearby SJRNWR and Caswell Memorial State Park support populations of the riparian brush rabbit (RBR) and riparian woodrat (RWR). None of the habitat features needed by the RBR and RWR are present on, or adjacent to, the project area. Therefore, project implementation would not affect RBR or RWR.

3.3 Environmental Justice

Title VI of the Civil Rights Act and Executive Order 12898, Environmental Justice, requires Federal agencies to identify minority and low income populations in areas where the effects of a proposed action on human health and the environment would be disproportionately high or adverse.

3.3.1 Affected Environment.

Table 1 summarizes population composition by ethnic group for the of the nearby cities of Ceres and Modesto, as well as Stanislaus County and the State of California. Table 2 summarizes the median household income and number of households in poverty in those same areas.

Table 1. Population Composition by Ethnic Group[1]

Ethnic Group	City of Ceres	City of Modesto	Stanislaus County	California
White	31.4%	49.4%	46%	39.7%
Black	2.6%	4.2%	3.3%	6.6%
Hispanic or Latino	56%	35.5%	42.6%	38.1%
Asian	6.8%	6.7%	5.7%	13.6%
Other	3.2%	4.2%	3.4%	2%

[1]U.S. Census Bureau, 2010.

Table 2. Income Near Project Area[1]

	City of Ceres	City of Modesto	Stanislaus County	California
Median household income, 2007-2011	$48,550	$49,852	$50,671	$61,632
Persons below poverty level, 2007-2011	18.6%	18.5%	18%	14.4%

[1]U.S. Census Bureau, 2010.

3.3.2 Environmental Consequences

No Action. The No-Action Alternative would not impact low income or minority populations, or affect population trends in the action area because it would not create any new employment opportunities, or require construction activities with a potential to affect low income or minority populations.

Proposed Action. The amount of labor hours required by the existing farming and by the proposed restoration was estimated based on information from the current farming tenant and observations of the labor hours required to perform farming and restoration activities. (Julie Rentner, personnel communication, June 20, 2013). The number of hours was converted to number of workers per year or full time equivalents (FTEs):

Farming:

Winter wheat/corn rotation - ~2 FTE annually, tractor operators, hand labor, management and oversight

Assume that 1 in 10 years the fields will be fallow.

Restoration:

Year 1 - ~7 FTE, planning and management, site preparation (tractor and hand labor), irrigation installation (tractor and hand labor), planting (hand labor), irrigation and weed control (tractor and hand labor)

Year 2 - ~5 FTE, planting (hand labor), irrigation and weed control (tractor and hand labor), monitoring (science staff)

Year 3 - ~4 FTE, planting (hand labor), irrigation and weed control (tractor and hand labor) , monitoring (science staff)

Year 4 - ~3 FTE, irrigation and weed control (tractor and hand labor) , monitoring (science staff)

Year 5 and beyond - ~0.25 FTE, maintenance and enforcement (access, firebreaks, trash, vandalism, etc.)

Long-term:

10 years:

Farming = 18FTE

Restoration = 23FTE

20 years:

Farming = 36 FTE

Restoration = 25.5 FTE

No formal, commonly accepted significance criteria have been adopted for Environmental Justice impacts. Application of Executive Order 12898 to NEPA documentation suggests that the following two questions should be examined:

• Is a federal project with significant adverse environmental impacts being proposed in a community comprised largely of minority or low-income persons?

• Would any significant adverse human health or environmental effects of the project disproportionately affect minority or low-income persons?

The proposed action would not result in any disproportionately high and adverse human health or environmental effects on minority or low-income populations. Construction-related impacts at the restoration area are more than 20 miles away from Ceres, the only major city with a minority population exceeding 50%. (The Environmental Justice Threshold for minority populations is 50 percent.)

As described above, only two FTEs would no longer be able to work at farming in the areas to be restored. However, more hand labor workers would be hired initially for restoration. Over the first 10 years of restoration, 18 FTEs would be lost and 23 FTEs would be gained. Over a 20 year period, there would be a net loss of 10.5 FTEs, which is less than one person per year.

3.4 Cumulative Effects

NCRS is planning Phase II of the Dos Rios restoration at the fields adjacent to the Phase I fields. CVPCP funds have not been allocated to Phase II. Figure 6 below shows in green the anticipated extent of future restoration actions at the Ranch. Activities envisioned for these areas include similar actions as described for Phase I. Minor grading to improve hydrology and provide elevated refugia for terrestrial wildlife would occur across the extended project area, as well as planting native vegetation, irrigation, weed control (mowing, herbicide application, disking, etc). The anticipated start date for such activities is fall 2013; however it may be necessary to further phase these actions per permitting and funding timelines.

It is anticipated that future restoration would provide 807.3 acres of restored habitats, including riparian forests (about 75% or 605 acres), shrub lands (about 15% or 121 acres), and forested wetlands (about 10% or 80.7 acres). The exact composition, configuration, and extent of each habitat type is yet undetermined. Target wildlife species include: riparian brush rabbit, riparian woodrat, least Bell's vireo, Valley elderberry longhorn beetle, willow flycatcher, riparian focal species of the Partners in Flight, northern harrier, loggerhead shrike, yellow warbler, yellow-breasted chat, Lawrence's goldfinch, Swainson's hawk, tricolored blackbird, Central Valley steelhead, Fall-run Chinook salmon, and green sturgeon.

Immediately adjacent to the Ranch, River Partners has been designing and implementing floodplain habitat restoration since 2001 at the SJRNWR, as shown in Figure 7. This 2500-acre floodplain restoration project has been implemented in phases with consultation from a team of wildlife restoration experts at the FWS, DFG, Department of Water Resources, Reclamation, PRBO, and the Endangered Species Recovery Program at CSU Stanislaus. These projects have increased habitat for many species, including those in Table 2.

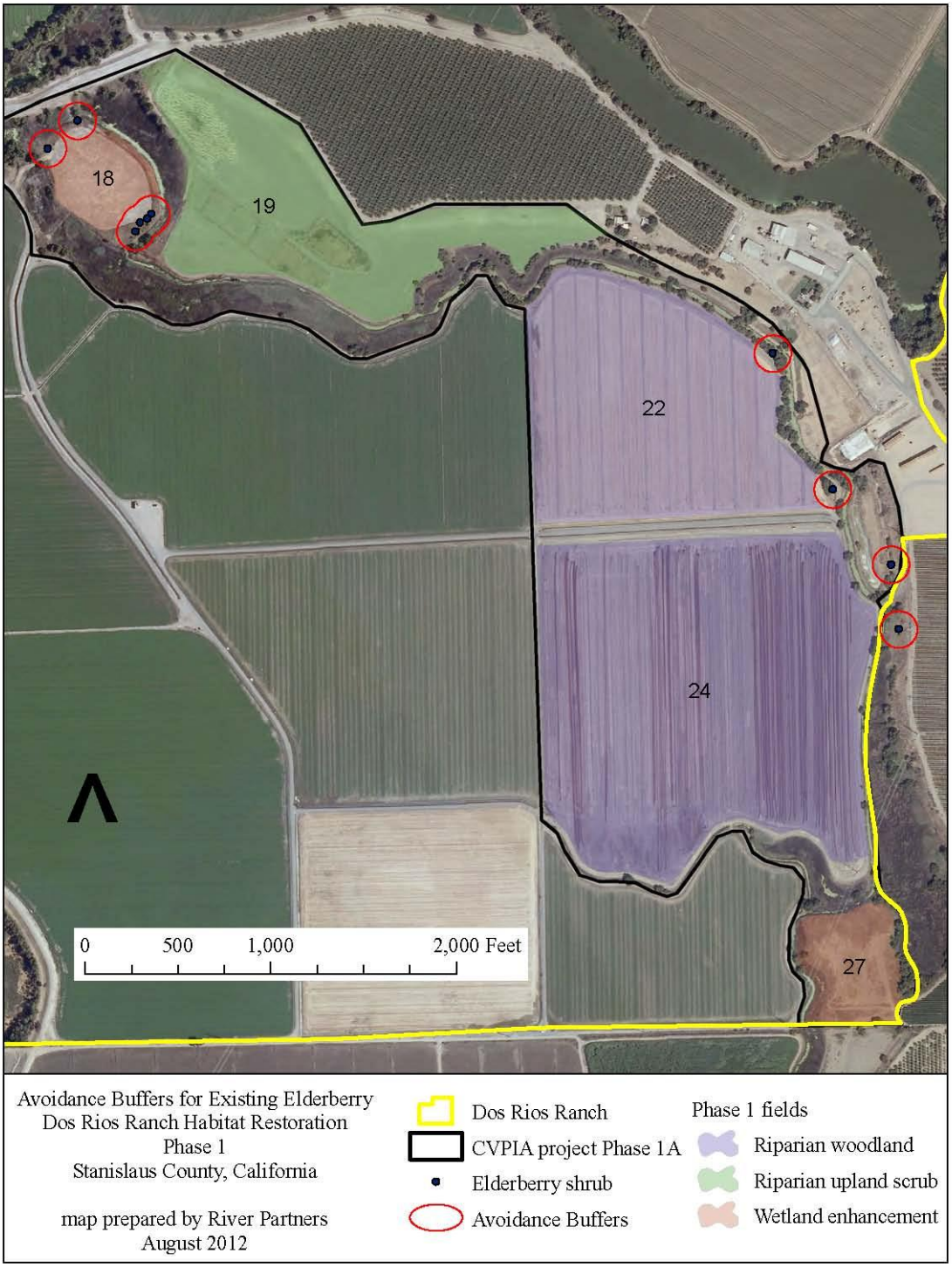
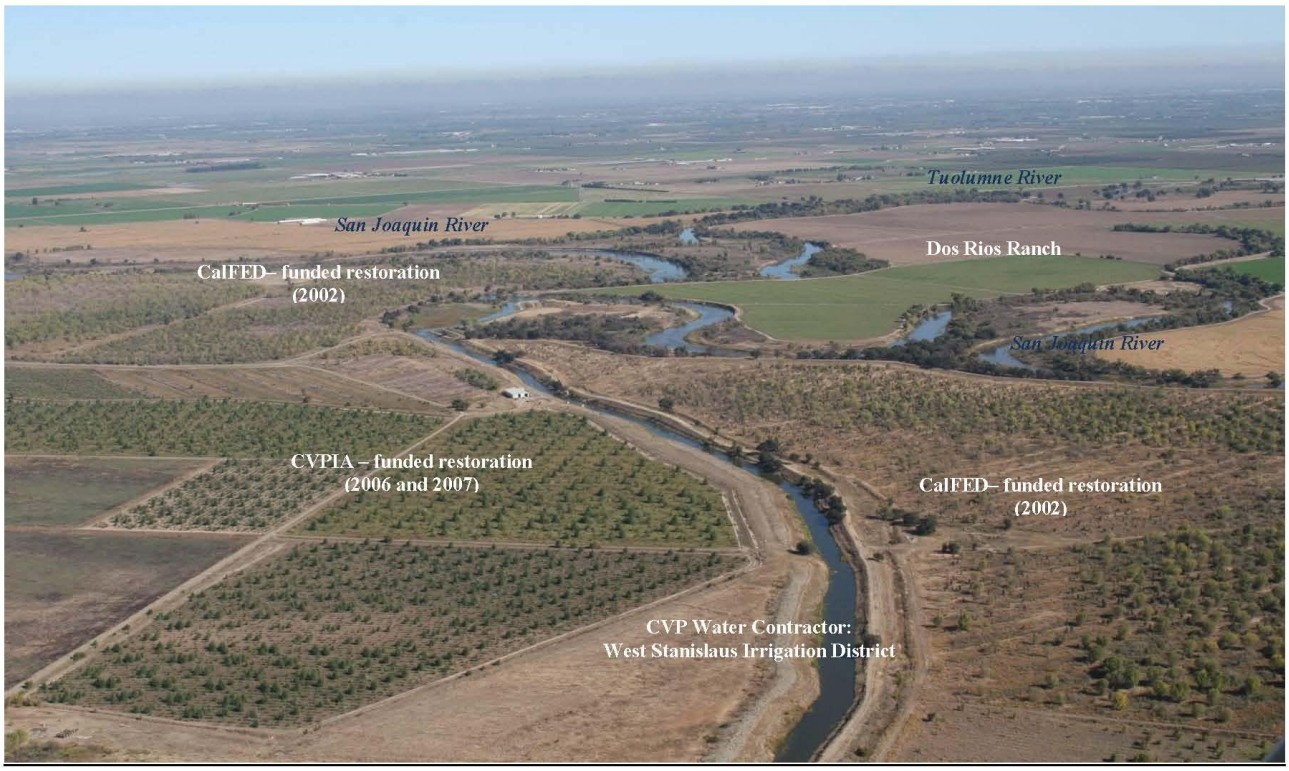


Figure 5. Avoidance Buffers for Elderberry Shrubs, Dos Rios Ranch

Figure 6. Dos Rios Ranch Phases 1 and 2



2009 – Floodplain habitat restoration at the adjacent San Joaquin River National Wildlife Refuge.
Dos Rios Ranch in the background.
These restored forests and shrublands have been shown to provide habitat for several special-status species.

Figure 7. Habitat Restoration Adjacent to Dos Rios Ranch

Section 4 Consultation and Coordination

CVPCP and Central Valley Project Improvement Act Habitat Restoration Program (HRP) managers are guided by a Technical Team of biologists and natural resource specialists from Reclamation, the Service, and CDFG. During the period of December 2011 through March 2012, members of the Technical Team reviewed and scored proposals submitted to the CVPCP and HRP for consideration for funding. The Dos Rios restoration proposal ranked in the top tier of proposals, and was selected for funding following evaluation by the Team. On March 29, 2012, Reclamation and the Service's management approved the proposal for funding.

On November 19, 2012, Reclamation requested FWS to concur that the Dos Rios restoration may affect but is not likely to affect the federally listed as threatened valley elderberry longhorn beetle or the endangered riparian brush rabbit. On April 25, 2013, FWS concurred with Reclamation's finding. (See Appendix C).

Section 5 References

Central Valley Joint Venture [CVJV]. 2006. Central Valley Joint Venture Implementation Plan – Conserving Bird Habitat. U.S. Fish and Wildlife Service, Sacramento, CA.

Natural Resources Conservation Service. 2012. Dos Rios Ranch Wetland Reserve Program Conservation Plan.

Natural Resources Conservation Service. 2012. Compatible Use Authorization for Dos Rios Ranch Wetland Reserve Program Conservation Plan.

River Partners. 2008. 2008 Monitoring Program Plan for River Partners. Chico, California

Riparian Habitat Joint Venture [RHJV]. 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.

U.S. Census Bureau. 2013. Income and population data.

Appendix A
Cultural Resources Compliance

From: Soule, William E
Sent: Friday, August 10, 2012 9:03 AM
To: Stefani, Rosemary A
Cc: Strait, Daniel H; Kleinsmith, Douglas H; BOR MPR Cultural Resources Section
Subject: RE: Dos Rios Ranch Habitat Restoration Project
Attachments: 12-SCAO-183 SHPO Response.pdf

Rose, et al:

Re: 12-SCAO-183 Completion of Section 106 Compliance for the Dos Rios Ranch Habitat Restoration Project

Reclamation's proposed undertaking of providing Federal funds to Rivers Partners for the Dos Rios Ranch Restoration Project was determined to be the type of undertaking that could cause effects to historic properties pursuant to 36 CFR Part 800. The area of potential effects consists of approximately 198 acres within the Dos Rios Ranch where Reclamation-funded restoration activities would occur. Section 106 compliance efforts by Reclamation included a cultural resources records search and pedestrian field survey completed by Solano Archaeological Services and documented in their report of July, 2011, and Native American consultation completed pursuant to 36 CFR §§ 800.3(f)(2) and 800.4(a)(4). These efforts concluded that there were no cultural resources in the project APE.

In a letter dated July 25, 2012, Reclamation initiated consultation with the California State Historic Preservation Officer (SHPO), inviting the SHPO's comments regarding our delineation of the APE and our efforts to identify historic properties in accordance with the Section 106 regulations. Reclamation also requested the SHPO's concurrence that our finding of no historic properties affected was appropriate pursuant to 36 CFR § 800.4(d)(1). The SHPO responded to Reclamation's request for consultation in a letter of August 6, 2012, commenting that our APE determination and level of effort to identify historic properties were appropriate, and concurring with our finding of no historic properties affected.

This email is intended to convey the completion of Reclamation's Section 106 responsibilities for this undertaking. Please retain a copy of this email in the administrative record of the NEPA action for this project. Thank you for the opportunity to comment. Be aware that additional Section 106 review, including additional consultation with the SHPO, may be necessary pursuant to 36 CFR § 800 if there is a change in project design or if historic properties are discovered during project implementation.

Sincerely,

Bill

William E. Soule, M.A., Archaeologist
U.S. Bureau of Reclamation, Mid-Pacific Region
Email: wsoule@usbr.gov
2800 Cottage Way, MP-153, Sacramento, CA 95825
Phone: 916-978-4694
Fax: 916-978-5055

Appendix B
Indian Trust Assets Compliance

From: Rivera, Patricia L
Sent: Tuesday, September 25, 2012 5:51 PM
To: Kleinsmith, Douglas H; Robbins, Eleanor J (Ellie); Williams, Mary D (Diane)
Subject: **RE: ITA request for Dos Rios Ranch**

Doug,

I reviewed the proposed action where Reclamation would provide $577,000 from the Central Valley Project Conservation Program (CVPCP) to River Partners to restore and enhance riparian and wetland habitats and conduct avian monitoring on 198 acres of floodplain to benefit endangered riparian wildlife at Dos Rios Ranch. Restored habitats would provide a suitable reintroduction site for riparian brush rabbit (FE) as well as expanded habitat areas for riparian woodrat (FE), least Bell's vireo (FE), Valley Elderberry Longhorn Beetle (FT), 3 state-listed bird species, and 5 California Species of Concern.

The proposed action does not have a potential to affect Indian Trust Assets.

Patricia

Appendix C
Endangered Species Act Compliance

United States Department of the Interior

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

In Reply Refer To:
08ESMF00-2013-I-0134-1

APR 25 2013

BUREAU OF RECLAMATION
OFFICIAL FILE COPY
RECEIVED
APR 26 2013
CODE | ACTION | SURNAME & DATE
150 ✓ 4/29

Memorandum

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

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

Subject: Informal Consultation of the Dos Rios Ranch Habitat Restoration Project (Reclamation File Number MP-152 ENV-7.00)

This memorandum is in response to the Bureau of Reclamation's (BOR) November 19, 2012, memorandum (November Memorandum) requesting concurrence from the U.S. Fish and Wildlife Service (Service) with a "may affect, but not likely to adversely affect" determination the BOR made for the Dos Rios Ranch Habitat Restoration project's (proposed project) potential effects on the federally-listed as threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) and the federally-listed as endangered riparian brush rabbit (*Sylvilagus bachmani riparius*). Your letter was received in our office November 23, 2012. This response is provided pursuant to section 7(a) of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*) (Act), and is in accordance with the regulations governing interagency consultations (50 CFR §402).

The BOR proposes to provide grant funding to River Partners through the Central Valley Project Conservation Program (CVPCP) to help fund habitat restoration in Stanislaus County, California. The grant applicant, River Partners, proposes to restore riparian floodplain habitat on 198 acres within the Dos Rios Ranch, a 1,603-acre parcel. Restoration activities will include clearing and grading of farmland, construction of elevated "bunny mounds," installation of above- and below-ground irrigation systems, riparian vegetation planting, site maintenance, and after-project site monitoring. Individual activities are described below. All descriptions reference Figures 1 – 4 of the *Attachment - Dos Rios Habitat Restoration Project* document submitted to the Service with the November Memorandum.

Field 18: Activities will include grading to enhance wetland hydrology and scraping, to a maximum depth of 12 inches, to provide material for the construction of "bunny mounds" *that* will be constructed in fields 22 and 24, planting of native vegetation at 227 plants per acre, and

SCANNED
Classification ENV-7.00
Project 214
Control No. 13018639
Folder I.D. 1222677
Date Input & Initials 4-26-13 RM

weed control for 3 growing seasons. These bunny mounds are being constructed to provide high-ground refugia from flood events.

Field 19: Activities will include clearing weeds and debris and disking at 4 inches deep to prepare the site for planting, trench excavation up to 18 inches deep to accommodate irrigation lines, installation of irrigation lines and drip lines, planting of native vegetation at 545 plants per acre, and weed treatments for 3 growing seasons.

Field 22: Activities will include clearing and leveling the field, trench excavation to accommodate irrigation pipelines, creation of planting furrows at 16 inches apart along bunny mounds that will be created from material borrowed from Field 18, scraping the site at 4 inches deep to provide additional material for the construction of bunny mounds, irrigation and drip system installation, planting of 871 plants per acre on the bunny mounds, weed control for 3 growing seasons.

Field 24: Activities are the same as for Field 22.

Field 27: Activities include clearing and disking the field to a depth of 4 inches, planting native vegetation at 227 plants per acre, and weed control for 3 growing seasons.

Steenstrup Slough: Weed control will be performed for 3 growing seasons.

Aquatic and terrestrial weeds will be treated with an aquatic formulation of Imazapyr, a terrestrial or aquatic formulation of glyphosphate depending on the treatment site, or 2-4D on terrestrial sites only.

Irrigation lines will be installed above-ground (meaning laid on top of the existing ground level) between fields 19 and 22 and 24. The lines are 4-inch PVC. In the space between fields 19, 22, and 24 where the 4-inch PVC will be laid on the ground surface without planned clearing and leveling, the installation will be overseen by a qualified biologist with experience in riparian brush rabbit monitoring and assessment. It is unlikely that riparian brush rabbits will be encountered during any of these activities, and if they are encountered, it is unlikely that any activities associated with the installation of the PVC irrigation pipe will disturb the species to such an extent that adverse effects would result. Should a riparian brush rabbit be discovered within the proposed project area during the installation of above-ground pipeline (or any ground-disturbing activity), the project biologist will be alerted, and will evaluate the potential for adverse effects. If adverse effects are reasonably likely to occur, work will cease, and the Service will be notified pending reinitiation of consultation.

Fields 22 and 24 have been in active agricultural cultivation for decades and were farmed in 2012. Native vegetation communities are not present in the fields and currently the fields are devoid of all vegetation. In the zones between field 19 and fields 22/24 where main line installation will proceed by laying 4 inches PVC on the ground surface, vegetation disturbance will be minimized and where necessary, vegetation will be slightly pushed out of the pathway of

the line to allow the line to sit on the ground surface. Such vegetation movement will be done by hand under the supervision of a qualified biologist.

Ten elderberry shrubs (*Sambucus mexicana*) are present within the project area, but the applicant will be avoiding them entirely and there will be no disturbance to any of these shrubs as a result of the proposed project.

In considering the proposed action, the Service has reviewed the following: (1) the November 19, 2012, letter from the BOR requesting initiation of informal consultation on the proposed project; (2) the *Attachment – Dos Rios Ranch Habitat Restoration Project* document submitted to the Service attached to the November 19, 2012 initiation letter; (3) communications between the BOR and the Service; and (4) other information available to the Service.

The BOR has determined that the proposed action may affect, but is not likely to adversely affect the valley elderberry longhorn beetle and the riparian brush rabbit. While potentially suitable habitat for the valley elderberry longhorn beetle exists within the proposed project area in the form of 10 elderberry shrubs, all project activities will take place at least 20 feet from the drip line of these shrubs, and there will be no disturbance to them as a result of any project related activities. Riparian brush rabbits have been discovered on the far western portion of the Dos Rios Ranch, and habitat for this animal exists in small, fragmented strips within the proposed project area. Although there is habitat for this species within the proposed project area, this habitat will not be significantly disturbed or encroached upon during any project related activities. Most activity will take place within agricultural fields that are currently barren. These fields are not riparian brush rabbit habitat. A small portion of the project will involve placing an above-ground, temporary irrigation line within the potential riparian brush rabbit habitat that exists in the form of small, fragmented strips surrounding the agricultural fields. This activity is unlikely to result in take of any riparian brush rabbits, and will not appreciably impact its habitat in a manner that will prevent the riparian brush rabbit from using the habitat for feeding, breeding, or sheltering, or that will annoy it to an extent that will significantly disrupt its normal behavior. Based on this information, the Service anticipates that any impacts to valley elderberry longhorn beetles and riparian brush rabbits will be of an insignificant or discountable nature, while the project will result in a net benefit to the riparian brush rabbit in the form of increased habitat and increased protection from flood events. The Service has reviewed your request, as well as the above named items, and other information available to the Service. The Service concurs with the determination that the proposed action is not likely to adversely affect the valley elderberry longhorn beetle or the riparian brush rabbit within the proposed project area.

This concludes the Service's review of the proposed project in Stanislaus County, California, and no further coordination with the Service under the Act is necessary at this time. Please note, however, that this letter does not authorize take of listed species. As provided in 50 CFR §402.14, initiation of formal consultation is required where there is discretionary Federal involvement or control over the action (or is authorized by law) and if: 1) new information reveals the effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review; 2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not

considered in this review; or 3) a new species is listed or critical habitat designated that may be affected by the action.

Please contact Fish and Wildlife Biologist Joshua Emery at (916) 414-6692 if you have questions regarding this response.