

# Description of the Proposed Action and Alternatives

## Location of the Proposed Action

The Jensen River Ranch project site is a 167-acre parcel owned by the Conservancy and located in the Woodward Park area of the City of Fresno. The site is bordered on the south by Woodward Regional Park, on the west by State Route (SR) 41 and Woodward Bluffs Mobile Home Estates, and on the north by the San Joaquin River (figure 2-1). Access to the site is provided through Woodward Park from the east via a 60-foot-wide easement from Rice Road and through a private access road from SR 41 via Perrin Road.

## Description of the Proposed Alternatives

### Preferred Alternative

#### Introduction

The preferred alternative is comprised of a total of thirteen project elements. Elements were developed based on existing site conditions, project goals, background studies, and planning workshops. Seven of these elements have the potential to cause impacts through earthwork and other activities and are subject to environmental analysis. The remaining elements, which involve planting, land management, or volunteer elements that build on the primary project elements involving earthwork, but do not directly involve earthwork themselves are:

- Plant Valley Oak/Sycamore Woodland,
- Plant Valley Oak/Sycamore Savannah,
- Establish Native Grassland,
- Construct Wildlife Enhancement Features,

- Control Nonnative Invasive Plants, and
- Return Limited Grazing for Weed Control.

These elements would not cause significant environmental impacts and are not included in this environmental analysis. Common features of these elements are described generally under “Implementation Strategies” below. For a detailed description of all proposed elements, refer to the *Revised Draft Conceptual Plan for Habitat Enhancement and Public Access on the Jensen River Ranch, 2001* (Conceptual Plan)

The overall goal of the preferred alternative as proposed by the Conservancy is to maximize both habitat enhancement and public access opportunities on the project site. The following sections separate the proposed action elements requiring environmental analysis into these two categories (habitat enhancement and public access).

For the purposes of this project, Habitat Protection and Enhancement elements are features or actions that, if implemented, would satisfy one or more of the project goals. Eleven elements in this category are proposed. Six of these elements will involve earthwork and will require environmental review. These six are:

- Excavate Seasonal and Perennial Wetland Oxbows
- Excavate the Wetland/Riparian Backwater Slough,
- Create Seasonal Wetland Depressions,
- Extend Woodward Park Drainage,
- Install Visual Buffer Plantings Near Adjacent Private Property, and
- Preserve and Expand Cottonwood and Mixed Riparian Forest along Intermediate Terrace.

The Public Access and Use elements include the construction of trails and bridges, maintenance roads, signs, and fencing. The description of these elements follows the description for Habitat Protection and Enhancement elements.

## Habitat Protection and Enhancement Elements

Overall, the proposed action expands habitat diversity through a number of creative restoration design features and requires a moderate amount of earthwork. The percent of the project site that is restored to each target habitat type is summarized in table 2-1.

**Table 2-1.** Percent of Project Site Restored to Each Habitat Type under the Proposed Action

Percent of Project Site	Habitat Type
5	Seasonal and perennial wetland
20	Mixed riparian woodland
21	Valley oak/sycamore woodland (includes buffer planting)
33	Valley oak/sycamore savannah
6	Native grassland
15	Existing preserved habitat

### Excavate Seasonal and Perennial Wetland Oxbows

The central feature of the proposed action is a redesign of the “DK” drainage area channel into a few shallow oxbows. Excavation of the oxbow features would create access to groundwater suitable for supporting riparian habitat. In addition, the oxbows would:

- create a combination of seasonal and perennial wetland habitat,
- incorporate existing sediment trap functions of the grassy swale, and
- maximize use of stormwater runoff by redirecting flows to other areas of the site (figure 2-2).

This project element proposes to use the treated urban stormwater from the “DK” drainage area channel by excavating an oxbow near the toe of the bluff. The oxbow feature would capture stormwater from the “DK” drainage area channel and, during the winter months, direct water through a series of shallow, excavated crescent features before returning it to the existing outfall structure and into the San Joaquin River. This element is an innovative means of expanding riparian and wetland habitat through a moderate level of excavation and providing this habitat with a mostly guaranteed water source.

The basic oxbow design is based on a simple model that predicts the water depth in each oxbow. The model accounted for precipitation, watershed area (2,179 acres), watershed urbanization or percent impermeable surface (33%), summer urban runoff, soil moisture, percolation, evapotranspiration, and surface area of the oxbow. According to the model, a minimum of 1 foot of water would be in oxbow 1 for more than 250 days each year (on average), and oxbow 1 would be full 35–45 days per year. However, the consistency of the inundation at different depths would vary. During the winter, the depth of water in the oxbow would typically be at least 1 foot, but it would rarely be more than 5 feet deep for more than a few days in a row. This variation indicates that the water level at the upper banks would fluctuate roughly 2 feet for most of the winter and then slowly draw down in the summer.

The oxbows would incorporate the same water quality function as the existing grassy swale and accompanying settling basin, settling 75% of sediment and particulate matter from stormwater runoff. Existing DK drainage area channel infrastructure would be maintained or appropriately modified, including the settling basin (or clean-out basin), concrete weir, the inlet and outfall structures, and the underground diversion pipe. The engineering of the oxbow features would be coordinated with the Fresno Metropolitan Flood Control District (FMFCD).

The side slopes and benches of the oxbows would be planted with willow and cottonwood riparian species. Portions of the oxbow bottoms would be planted with perennial and herbaceous wetland species. The oxbows may require periodic maintenance and removal of overgrown herbaceous wetland species including common tule, and cattail. The periodic disturbance may be necessary to minimize mosquito populations and ensure proper function of the oxbows. Coordination with the FMFCD and the Consolidated Mosquito Abatement District (Consolidated MAD) during detailed design will focus on identifying features (i.e., expanded settling and clean-out basin, increased side slopes of the oxbows, and positive drainage) to minimize maintenance and periodic disturbance.

## **Excavate the Wetland/Riparian Backwater Slough**

This project element proposes to excavate a backwater slough from the active floodplain in order to bring a finger of floodplain, seasonal wetland, willow riparian, and cottonwood riparian habitat into the site. The primary goals of this project element are to create greater habitat diversity within the site and expand the site's connection with the river floodplain. This element creates unique opportunities for interpretive exhibits and wildlife viewing. River water would back up into the slough during high-flow events, creating seasonal wetland habitat and naturally irrigating a fringe of cottonwood riparian forest. Dominant trees would include Fremont cottonwood (*Populus fremontii*) and Goodding's black willow (*Salix goodingii*). Midstory species would include California wild grape (*Vitis californica*), Oregon ash (*Fraxinus latifolia*), California box elder (*Acer negundo* ssp. *californicum*), buttonbush (*Cephalanthus occidentalis* var. *californicus*), and willow species (*Salix* sp.). Potential benefits to wildlife species include:

- providing additional nesting and foraging habitat and cover for wildlife; and,
- providing seasonal wetland habitat for pacific tree frogs, herons, egrets, killdeer, and greater yellowlegs.

The slough would be a gradually sloping channel with an approximately 1% slope, from 18 inches deep at the head to 10 feet deep at the river floodplain. The side slopes would vary from 1:3 to 1:5, and the channel width would vary, depending on the location and size of this feature.

## **Create Seasonal Wetland Depressions**

This restoration element focuses on creating small depressions (approximately 0.25–0.5 acre) that would pond water during winter storms and support seasonal wetland vegetation. Each depression or group of depressions would hold water for 2–3 months, depending on the amount of precipitation that year. Initially, the depressions may pond water only slightly longer than the surrounding landscape, providing some additional natural irrigation for valley oak and sycamore trees planted near the perimeter of the depressions. It is anticipated, however, that over time the soils in the depressions may naturally seal and pond water long enough to support seasonal wetland vegetation.

The seasonal wetlands are a series of 2–3 depressions approximately 18–24 inches deep at the center and linked together by shallow swales that would allow each depression to fill and then spill into the lower pool. The construction of these seasonal depressions would be similar to techniques used to create vernal pools, compacting the underlying soils in a series of lifts to promote ponding. However, these seasonal wetlands would not and are not intended to have the floristic diversity found in natural Central Valley vernal pool habitats. The depressions could be actively managed by manually flooding the areas using irrigation water in spring or summer. This flooding could also be a method of providing supplemental irrigation for trees planted near the perimeter.

## **Extend Woodward Park Drainage**

This design element would extend a drainage in Woodward Park through the project site and link the 2 properties visually by the swath of cottonwood and willow trees lining the banks. A substantial amount of irrigation runoff in Woodward Park flows into a drainage lined with cottonwood and willow trees, which creates a pleasant amenity within the park. This drainage flows into a ditch on the project site adjacent to the main access road. The extended drainage created by this project element would meander along the edge of the multiuse trail and connect to the second oxbow, providing supplemental water to vegetation in the second oxbow. The amount of flow in the existing Woodward Park drainage would be measured using a hydrometer to allow for more accurate sizing of the extended swale and greater understanding of the amount of vegetation that could be supported by the existing seasonal runoff.

## **Install Visual Buffer Plantings near Adjacent Private Property**

This project element would protect the privacy of adjacent land owners from trail users and restoration activities. Because land uses adjacent to the east and west of the project site may not be wholly compatible with public access and restoration activities on the site, an irrigated and managed buffer planting of native oak woodland and riparian plants could provide appropriate visual

screening into and out of the project site. Excess soil excavated for the proposed action would be used to create a low, naturally shaped berm along the east and west edges of the site. Figure 2-3 is a conceptual illustration of the visual buffer near the western edge of the site.

## **Preserve and Expand Cottonwood and Mixed Riparian Forest along Intermediate Terrace**

This project element would preserve and expand cottonwood and mixed riparian forest along intermediate terrace. The existing riparian forest is limited to the floodplain and intermediate terrace along the river edge where grazing has been restricted. Several areas on the intermediate terrace have been actively grazed, suppressing the natural recruitment of riparian vegetation. The existing riparian corridor would be expanded along the intermediate terrace by:

- moderate grading to expand the terrace into the adjacent upland,
- actively planting riparian species, and
- eliminating grazing.

This project element is consistent with recommended treatment of the “Wildlife Corridor” zone described in the Parkway Plan.

Typical dominant tree species consistent with the mixed riparian forest vegetation association (Holland 1986) include Fremont cottonwood, box elder, Goodding’s black willow, Oregon ash, white alder (*Alnus rhombifolia*), California sycamore (*Platanus racemosa*), and valley oak (*Quercus lobata*); shrub species include red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), and buttonbush; and understory vegetation includes native grasses and forbs, such as creeping wildrye (*Elymus triticoides*), stinging nettle (*Urtica dioica*), and Santa Barbara sedge (*Carex barberae*).

## **Implementation Strategies**

Typical implementation strategies include all activities necessary to achieve the Habitat Protection and Enhancement and Public Access and Use elements of the project. Activities addressed are site preparation and earthwork, irrigation, and planting. A summary discussion of these activities is provided below.

### **Site Preparation**

Site preparation is a key component to facilitating plant establishment and reducing the weed seedbank. The entire site would be mowed, control-burned, or chemically treated before it is planted. Major site preparation, such as disking, removal of weedy topsoil, or the addition of soil amendments, will not be necessary. Site preparation will be coordinated with construction phasing and land use management practices, such as grazing.

### **Earthwork**

The primary features requiring excavation are the settling basin, oxbows, the backwater slough, and the extended Woodward Park drainage. Excavation of the oxbows would generate the most fill. This fill material would be used on-site for other design elements, including the new weir, the berm in the visual buffer area, access ramps for maintenance equipment in the oxbows, and trails. If more fill is generated than can be reasonably accommodated on-site, the material may be sold to another construction project in need of fill material. Standard practices to reduce noise and air pollution, such as coordination with the local air quality district, would be implemented.

### **Irrigation**

A standard practice on most restoration projects is to provide newly installed plants with some form of supplemental irrigation during the first 3–5 years of establishment. The supplemental water is generally reduced during the third summer to “wean” the young plants from the additional water. It is assumed that, by this time, the plant’s roots are strong enough to find sufficient water to survive during the dry season. Numerous irrigation methods are available: flood, drip, temporary overhead spray, or truck watering. In cases where water is not available, restoration projects may not be irrigated or may use synthetic time-release water capsules to irrigate plants.

It is anticipated that most plantings would be irrigated for the first 2–3 years following installation using drip or synthetic irrigation. The exceptions would be the seasonal wetlands, permanent wetlands, and herbaceous uplands, which would rely on runoff and rainfall.

### **Planting**

On most restoration projects, selected areas are planted or seeded with native trees, shrubs, vines, and groundcovers to facilitate plant establishment. Another option is to allow nature to take its course and gradually recolonize the project sites. However, planting seeds, acorns, cuttings, and rooted plants (nursery-grown container plants) creates the desired wildlife habitat much faster, reduces competition from invasive exotic plant species, and establishes a broader seed source for natural recruitment.

It is anticipated that all target habitats would be actively planted or seeded. Mixed riparian woodland habitat would be planted with cuttings and rooted plants. Seasonal wetland and herbaceous upland habitat would be seeded. Permanent wetland habitat would be planted with rhizomes. The valley oak/sycamore woodland and savannah habitat would be planted with a combination of acorns and rooted plants.

Grazing portions of the site could be an important method for grassland management to facilitate the establishment of woodland and savannah habitat. If this management method is used, the schedule for grazing would be developed after planting occurs.

## Public Access and Use Elements

### Public Access

#### Trails

The site would be accessible to the public from Woodward Park and the existing Lewis S. Eaton trail by a shared-use trail extending through most of the project site. The trail, named the Tom MacMichael Sr. Loop Trail, was previously analyzed and approved by the City of Fresno (City of Fresno Development Department 1998). The trail would bring visitors to the main public use area and river overlook and reconnect with the Lewis S. Eaton Trail at Rice Road, north of the project site. The portion of the trail that links to Rice Road, approximately 1,000 linear feet, would use the Conservancy's access easement at the toe of the bluff. The construction of this trail segment would be coordinated with the habitat restoration activities proposed above. A shorter equestrian and hiking trail loop off the Tom MacMichael Sr. Loop Trail into the west portion of the site would also be developed. A short section of the trail may cross the proposed Wetland/Riparian Backwater Slough feature via a pedestrian bridge to increase the opportunities for wildlife viewing. If constructed, the bridge would be designed to accommodate emergency vehicle access.

#### Maintenance Roads

There are several existing unpaved maintenance access roads on the site. The existing maintenance access road to the current DK drainage area channel settling basin would be maintained to allow continued access to this area. Other areas of the site will be accessible via the Tom MacMichael Sr. Loop trail and not require a separate maintenance road.

### Public Use

A public use area would be developed near the hay barn. This area naturally provides visual access to the river and is the best location for picnic shelters, horse hitching, bicycle parking, restroom and drinking water facilities, and other public access amenities.

#### Signs

Interpretive signs would be located appropriately throughout the project site, but signs would generally be concentrated at entrance points to the ranch, at trail intersections, and in the primary public use area. Public use and safety signs would be sited at appropriate locations to remind people of local laws and ordinances, as well as special circumstances associated with the site. These would include topics such as:

- use restrictions,
- share-the-trail messages,
- notice of local leash laws,

- restrictions to public access,
- sensitivity of particular wildlife habitat areas, and
- notice not to harass grazing animals.

### **Fencing**

The site is currently divided into 3–4 pastures; each fenced with 3-strand barbed wire. If grazing is continued as a land management tool, these fences would need to be replaced and/or relocated to accommodate the proposed trail layout. The fence should be removed if grazing is eliminated. If the fences are removed, new barbless wire fencing may be necessary in some locations, such as along the river’s wildlife corridor, to control public access.

## **Environmental Commitments**

Of the design elements in the proposed action, only 2 potentially trigger environmental regulations: excavation of the oxbows and excavation of the backwater slough. The site does not support natural jurisdictional wetlands or waters of the United States and therefore will not trigger Section 401 or Section 404 of the Clean Water Act. Appendix A contains a list of special-status species with the potential to occur at the project site (USFWS \_\_\_\_date\_\_) [Request for species list sent (12-21-01) to USFWS, waiting for reply, will be reconciled in Final IS/EA]. A rare plant survey will be conducted prior to beginning detailed design and construction documents.

In addition to Conservancy and USBR approvals, this IS/EA will be used by the appropriate agencies to process the following permits/agreements:

- a National Pollution Discharge Elimination System State General permit for Construction Activities would be required from the Regional Water Quality Control Board because grading of more than 5 acres (specifically, for the design element to excavate seasonal and perennial wetland oxbow);
- a Section 1601 Agreement with the California Department of Fish and Game (DFG) (stream or lakebed alteration agreement) for proposed activities that may impact a stream, river, or lake (specifically, for the design element to excavate wetland/riparian backwater slough);
- consultation with the State Lands Commission (SLC) regarding the design and location of construction of the backwater slough because SLC has jurisdiction over beds of navigable rivers;
- city of Fresno encroachment permits for road work within city streets;
- grading permits and building permits from the city of Fresno;
- drainage plan approval from the city of Fresno;
- conditional use permit from the city of Fresno;

- Section 7, of the federal Endangered Species Act for the possible “take” of a species listed as endangered or threatened; and
- consultation under Section 106 of the Natural Historic Preservation Act, for possible impacts on cultural resources’.

Other environmental commitments include:

- Compliance with Regulation VIII of the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) for the control of fugitive dust and fine particulate matter (PM-10) emissions and
- Location and proper abandonment of the septic tank possibly located near the former residence, prior to any earthwork.

## No-Action Alternative

The no-action alternative, required by NEPA, would leave the site in its current condition as irrigated pasture and seasonal grazing land. The site would not be actively altered to promote riparian or woodland expansion. However, natural regeneration may occur along the periphery of existing habitats if grazing is eliminated in these areas. The “DK” drainage area channel would also be maintained in its current condition.

The site as it is currently managed requires substantial mosquito abatement measures from the Consolidated MAD. Both the irrigated pasture and the DK drainage area channel harbor mosquito populations. Controlling mosquito population on the flood-irrigated pasture is the most difficult, costly, and time-consuming area of the site. This is primarily due to poor water management practices and lengthy irrigation periods. Consolidated MAD control mosquito larvae by applying insect growth regulator or bacterial agents to the water. If pupae or adults are discovered a petroleum based insecticide or aerosol fogging compound must be used. The DK drainage area channel has permanent standing water allowing mosquitoes to be controlled with mosquito fish or through periodic maintenance of the channel (i.e., mowing the grassy swale). (Smith, 2001)

It is reasonably foreseeable that future management of the Jensen River Ranch could employ improved water management practices to provide suitable pasture, minimize the production of pest mosquitoes and reduce pest management costs incurred by Consolidated MAD.