

**Initial Study and  
Proposed Mitigated Negative Declaration  
For the  
Ulatis Creek Habitat Restoration Project**

Prepared by:  
Solano Resource Conservation District  
Lead Agency

July 28, 2021



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## Acronyms and Abbreviations

BMPs	Best Management Practices
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPRC	California Public Resource Code
CVRWQCB	Central Valley Regional Water Quality Control Board
Delta	Sacramento-San Joaquin Delta
EIR	Environmental Impact Report
ESA	Endangered Species Act
GGs	Giant Garter Snake
GHG	Greenhouse Gas
NAHC	Native American Heritage Commission
NOx	Nitrogen Oxides
NMFS	National Marine Fisheries Service
PCA	Pest Control Advisor
PM10	Particulate Matter less than 10 micrometers in diameter
PM2.5	Particulate Matter less than 2.5 micrometers in diameter
QAC	Qualified Applicator Certificate
Solano RCD	Solano Resource Conservation District
ROG	Reactive Organic Gases
SR	State Route
USFWS	United States Fish and Wildlife Service
YSAQMD	Yolo-Solano Air Quality Management District

# Proposed Mitigated Negative Declaration

## Ulatis Creek Habitat Restoration Project

### Lead Agency

Solano Resource Conservation District  
1170 North Lincoln Street, #110  
Dixon, CA 95620

### Availability of Documents

The Initial Study and Proposed Mitigated Negative Declaration is available for review for 30 days from July 28, 2021. Questions or comments should be submitted no later than 5 p.m. on August 28, 2021 to:

Katherine Holmes, Deputy Executive Director  
Solano Resource Conservation District  
1170 North Lincoln Street, #110  
Dixon, CA 95620  
[katherine.holmes@solanorcd.org](mailto:katherine.holmes@solanorcd.org)  
707-678-1655 ext. 107

The document is available for review at the following locations:

- Solano RCD office at 1170 North Lincoln St. #110, Dixon, CA 95620. Please call 707-678-1655 x107 to schedule an appointment during regular business hours (Monday-Friday 8:00 am-5:00 pm)
- Online at <https://www.solanorcd.org/projects-and-programs/restoration/ulatis-creek-ceqa.html>

### Project Location

The project will take place within the primary Sacramento-San Joaquin Delta (Delta) in the Cache Slough Complex in eastern Solano County, California. The project is located along the north bank of Ulatis Creek just west of the confluence of Ulatis Creek with Cache Slough in the Cache Slough Complex in Solano County. It occurs within the Dozier Island U.S. Geological Survey 7.5-minute quadrangle, about 7.5 miles north of Highway 12 and 3 miles east of Highway 113 between latitudes of 38.298108° and 38.291074° and between longitudes of -121.780314° and -121.749141°. See Figure 1 for project location and project site boundaries.

### Project Description

The purpose of this project is to utilize a diverse suite of native plants to restore 20 acres of riparian woodland to the north bank of Ulatis Creek, thereby improving the ecological function of the area for the benefit of native species. This project will occur on either side of an existing habitat restoration site previously installed by Solano RCD between 2015 and 2020. The current project will consist of a three acre area (Site A) west (upstream) of the existing restoration site and a 17 acre area (Site B) east (downstream) of the existing project site for a total of 20 acres. The project will result in the installation of 1,880 native trees and shrubs, 25,000 native forb and sedge plugs and 100 pounds of native wildflower seed, while several species of invasive weeds will be controlled throughout the site.

### Findings

The Initial Study has been prepared to determine if the project could have a significant effect on the environment. Based on the Initial Study, it has been determined that the proposed project would not have any significant effects on the environment after implementation of mitigation measures. The

mitigation measures identified in the Initial Study and a Mitigation Monitoring and Reporting Plan will be adopted to ensure compliance with the required mitigation measures. This conclusion is supported by the following findings:

- The proposed project would result in **no impacts** to aesthetics, geology and soils, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems.
- The proposed project would result in **less-than-significant impacts** to agricultural resources, air quality, greenhouse gas emissions, hazards and hazardous materials, transportation and traffic, and utilities and service systems.
- With **implementation of mitigation measures**, the proposed project would have **less-than-significant impacts** on biological resources, cultural resources, and hydrology and water quality.

### **Mitigation Measures**

The following mitigation measures will be implemented by Solano RCD to avoid or minimize potential environmental impacts. Implementation of these mitigation measures would reduce the potential environmental impacts of the proposed project to a less-than-significant level.

### **Mitigation Measures for Biological Resources**

**BIO 1. Pre-construction Surveys.** A qualified biologist shall conduct wildlife surveys prior to 1) the use of mechanical equipment that disturbs the ground (augering, trenching), 2) Arundo biomass removal, or 3) mowing activities. Specific mitigation measures for GGS and nesting birds are listed below.

**BIO 2. Protection of Listed Species.** If a fully protected or listed animal species is encountered while performing work, all work shall be suspended until the fully protected or listed animal species has left the work area. The appropriate agencies shall be notified of all confirmed observations of any fully protected or listed species in or adjacent to any work area for the project. A qualified biologist will report any take of listed species to the appropriate agencies (USFWS/CDFW) immediately by telephone and by electronic mail or written letter within one (1) working day of the incident.

**BIO 3. Worker Environmental Awareness Training.** A Worker Environmental Awareness Training Program for personnel shall be conducted by a qualified biologist for all workers on restoration sites, including sub-contractors, prior to the commencement of restoration activities. The program shall consist of a presentation made by a qualified biologist that includes information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and project-specific protective measures included in this document.

**BIO 4. Giant Garter Snake Surveys and Avoidance.** During the GGS active season (May 1 – October 1), a qualified biologist shall conduct GGS surveys 24 hours prior to: 1) the use of mechanical equipment that disturbs the ground (augering, trenching), 2) Arundo biomass removal, or 3) mowing activities. Surveys will be repeated whenever 15+ days elapse without work at the site. If GGS are encountered during construction activities, construction crew shall immediately notify the qualified biologist who will then immediately notify CDFW/USFWS to determine the appropriate procedures related to the collection and relocation of the snake. A report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake, within one (1) business day.

**BIO 5. Ground Disturbance Work Window.** Ground disturbing activities (augering, trenching) will only be conducted during the GGS's active season between May 1 through October 1. Non-ground

disturbing work will continue into the snake's inactive season. Work activities during the active season will be continuous and are likely to deter GGS from using locations within the project area as brumation sites during the GGS inactive season.

**BIO 6. Nesting Bird Surveys and Avoidance.** During the nesting season (February 15-August 15), a qualified biologist shall conduct surveys for nesting birds 24 hours prior to: 1) the use of mechanical equipment that disturbs the ground (augering, trenching), 2) Arundo biomass removal, or 3) mowing activities. Surveys will be repeated whenever 15+ days elapse without work at the site. If nests are located, impacts shall be minimized by establishing appropriate non-disturbance buffer zones in consultation with CDFW/USFWS and monitoring nests to ensure that nests are not jeopardized.

**BIO 7. Native Plant Survey and Avoidance.** A qualified biologist shall conduct surveys for rare plants prior to restoration activities. If any are identified, the areas will be flagged and work around these rare plants will be avoided.

**BIO 8. Elderberry Survey and Avoidance.** A qualified biologist shall conduct surveys for elderberries prior to restoration activities. All identified elderberries shall be flagged, and measures developed by USFWS (2017) to avoid and minimize impacts to VELB will be implemented, including: elderberry branches will not be pruned or trimmed, ground disturbing activities will be avoided within 20 feet of elderberry shrubs, and herbicides & mechanical weed control will not be used within the dripline of the elderberry shrubs.

**BIO 9. Equipment Operation Speeds.** Construction crews shall operate vehicles on the levee roads accessing the site at 15 mph or less. Construction crews shall operate equipment used within the footprint of the project site (ATVs, mowers, skid steer bobcat, pickup trucks) at 5 mph or less.

#### **Mitigation Measures for Cultural Resources**

**CUL 1. Worker Cultural Resources Training.** A Worker Cultural Resources Training Program shall be conducted for all workers prior to the commencement of restoration activities. The program shall include information about how to recognize cultural resources, legal protections for those resources, and appropriate steps to take if cultural resources are discovered during implementation of restoration activities.

**CUL 2. Human Remains Discovered.** In the event human remains are found during project construction, such remains are subject to the provisions of California Public Resources Health and Safety Code Section 7050.5-7055. The required procedures will be implemented, including immediately stopping work within 100 feet of the find and promptly notifying the County Coroner/Medical Examiner, as well as all project partners with regulatory responsibilities. If the remains are determined to be Native American by the County Coroner/Medical Examiner, the NAHC will designate of the Most Likely Descendant (MLD) per California Public Resources Code (PRC) Section 5097.98.

Work within 100 feet of the find will restart only after the remains have been investigated, appropriate recommendations have been made by the MLD for the treatment and disposition of the remains, and the landowner has agreed to adhere to those recommendations to the satisfaction of project partners with regulatory responsibilities. As provided for by California Government Code Section 6254(r), the location of human remains is protected from any type of public disclosure.



**CUL 3. Archaeological/Paleontological Resources Discovered.** If historical or unique archaeological or paleontological resources are discovered during restoration activities, all work will stop within 100 feet of the find, and provisions will be made for a qualified archaeologist to immediately evaluate the find. Work may continue on other parts of the project while evaluation and mitigation take place (CEQA Guidelines §15064.5 [f]). If the find is determined to be an historical or unique archaeological or paleontological resource, time will be allotted to allow for implementation of avoidance measures or appropriate mitigation measure as determined through consultation with local tribes and other project partners with regulatory responsibilities.

As appropriate, and in consultation with the landowner, treatment of identified archaeological resources may include archaeological excavations by qualified archaeologists, analysis of artifacts and other constituents, and evaluation of the resource’s significance. This work will incorporate tribal religious beliefs, customs, and practices as determined through consultation with local tribes, and will be guided by the *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources* (Byrd et al 2017).

**Mitigation Measures for Hydrology/Water Quality**

**WQ1.** To reduce the chance of accidental overspray of herbicide into Ulatis Creek during control of invasive weeds, herbicide spraying will not be conducted within 10 feet of the water’s edge.

**Determination**

In accordance with section 21082.1 of the California Environmental Quality Act, Solano Resource Conservation District has independently reviewed and analyzed the Initial Study and proposed Mitigated Negative Declaration for the proposed project. Solano Resource Conservation District has determined that adoption of a Mitigated Negative Declaration is appropriate and that the preparation of an Environmental Impact Report (EIR) will not be required. Solano Resource Conservation District will adopt a Mitigation Monitoring and Reporting Plan to ensure compliance with the required mitigation measures for the proposed project. With implementation of these mitigation measures, the proposed project would have no significant effect on the environment.

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Kurt Balasek  
Board President  
Solano Resource Conservation District

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Date

# Initial Study, Including Mitigation Measures

## 1 Introduction

### 1.1 Background

This document is an Initial Study that provides an analysis of the Ulatis Creek Habitat Restoration Project. This document has been prepared in accordance with California Environmental Quality Act (CEQA), Public Resources Code §2100 et seq., and the State CEQA Guidelines, Title 14 California Code of Regulations (CCR) Section 15000 et seq.

The purpose of this Initial Study is to: (1) determine whether project implementation would result in potential significant or significant effects to the environment, and (2) incorporate mitigation measures into the project design, as necessary, to eliminate the project's potential significant or significant effects or reduce them to a less-than-significant level.

### 1.2 Lead Agency

As specified in CEQA Guidelines Section 15367, the lead agency for CEQA compliance is the public agency that has the principal responsibilities for carrying out or approving the project. Solano RCD has principal responsibility for carrying out the proposed project and is therefore the CEQA lead agency for this Initial Study.

### 1.3 Supporting Environmental Studies

Studies conducted for the project include: 1) Biological species review for potential impacts to special status species, 2) Programmatic Biological Opinion from US Fish and Wildlife and 3) Report on the HEC-RAS model evaluation of the increase in surface water elevation caused by tree and shrub plantings. These reports are available upon request during normal operating hours at Solano RCD, 1170 North Lincoln Street #110, Dixon, CA 95620 or by contacting Katherine Holmes at [katherine.holmes@solanorcd.org](mailto:katherine.holmes@solanorcd.org) or 707-678-1655 ext. 107.

## 2 Project Description

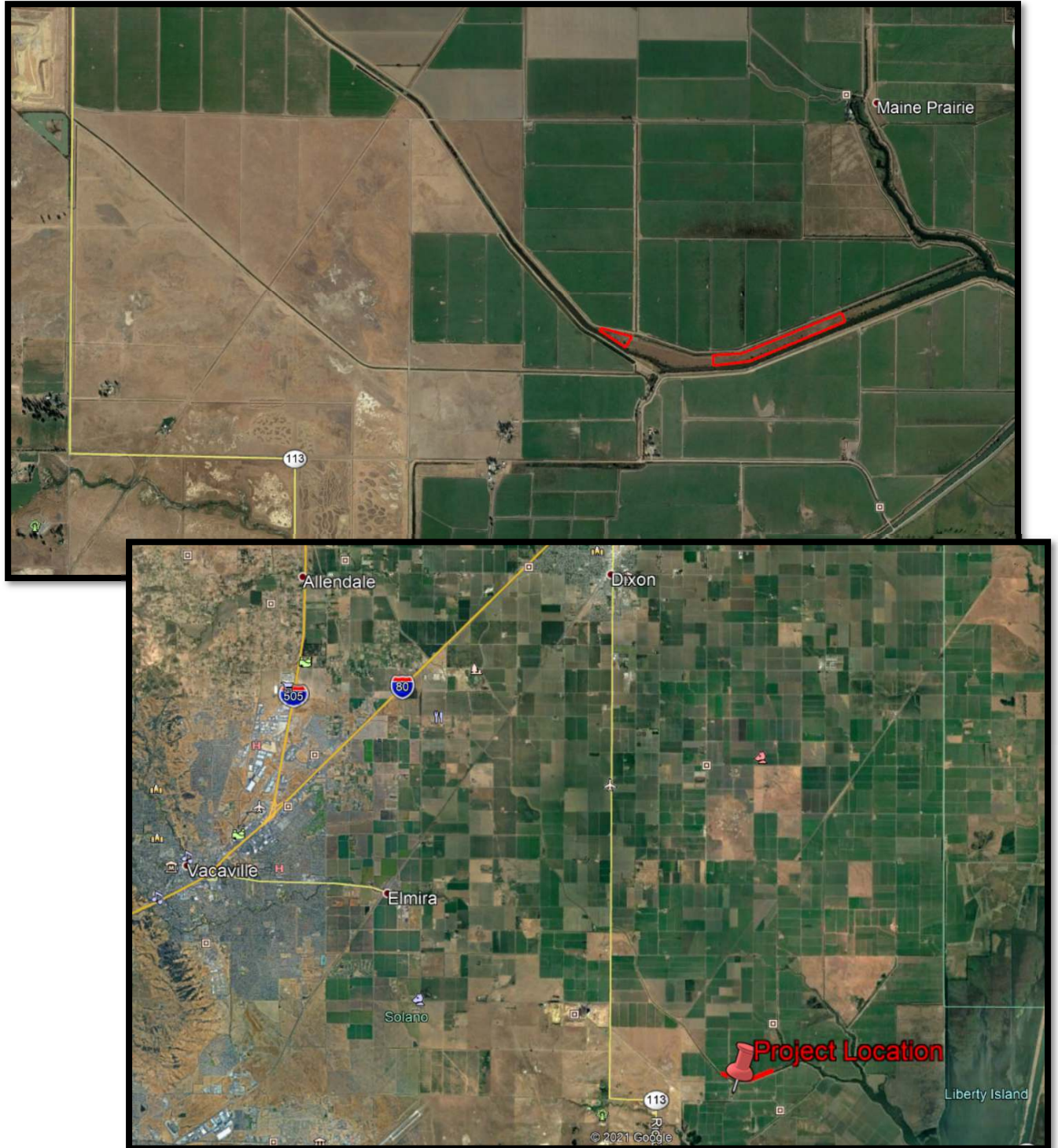
### 2.1 Project Location

The project will take place in Solano County, in the northwest reach of the Sacramento-San Joaquin Delta. The project is located along the north bank of Ulatis Creek just west of the confluence of Ulatis Creek with Cache Slough in the Cache Slough Complex in Solano County. It occurs within the Dozier Quadrangle, about 7.5 miles north of Highway 12 and 3 miles east of Highway 113 between latitudes of 38.298108° and 38.291074° and between longitudes of -121.780314° and -121.749141°.

The project occurs on a raised floodplain bench between Ulatis Creek and an irrigation ditch at the base of a non-federal levee. The site only inundates in high flow conditions, and all work will occur on dry land above the mean high water mark.

See Figure 1 for project location and project site boundaries.

Figure 1: Project Site Boundaries and General Location



## 2.2 Project Description

This project will occur on either side of an existing habitat restoration site previously permitted and installed by Solano RCD between 2015 and 2020. The current project will consist of a three acre area (Site A) west (upstream) of the existing restoration site and a 17 acre area (Site B) east (downstream) of the existing project site for a total of 20 acres.

The project will result in the installation of 1,880 native trees and shrubs, 25,000 native forb and sedge plugs and 100 pounds of native wildflower seed, while several species of invasive weeds will be controlled throughout the site. This project is proposed to be installed over a four year period, as detailed below.

### 2.2.1 Existing Conditions

The westerly 3 acres of the project (**Site A**) was heavily invaded by the invasive plant *Arundo donax* prior to 2015. Herbicide applications that were part of the previous restoration project have successfully controlled most of the *Arundo*, and only occasional, small live canes remain, often surrounded by significant dead material. In addition to the occasional *Arundo* resprouts, several types of invasive herbaceous species occur throughout the area, including poison hemlock (*Conium maculatum*), perennial pepperweed (*Lepidium latifolium*), and a variety of non-native thistles, including yellow star thistle (*Centaurea solstitialis*), blessed milk thistle (*Silybum marianum*), and Italian thistle (*Carduus pycnocephalus*). The water edge of the three acre area is bordered by dense stands of native willows (*Salix lasiolepis*, *S. laevigata*, *S. exigua*), northern CA black walnuts (*Juglans hindsii*) and occasional cottonwood trees (*Populus fremontii*) as well as other native understory species.

The 17 acres on the east side of the project site (**Site B**) is dominated by non-native grass species, including Russian wheatgrass (*Thinopyrum junceiforme*) and Harding grass (*Phalaris aquatica*), with a scattering of non-native herbaceous invasives and annual grasses. The water edge of Site B contains stands of native trees, as described above for Site A. Site B is currently grazed on a seasonal basis.

### 2.2.2 Year 1 – Site Preparation

Clearing of Weedy Biomass: Four biomass clearing activities will occur during Year 1: **1)** The landowner will continue to allow livestock to periodically graze forage in the project area to a low height in order to reduce non-native weed cover from mid to late spring (March-June). **2)** A flail mower, hand tools, and a CCC or a CDF work crew will be used to knock down dead *Arundo* canes and create burn piles with resulting biomass in summer (July-August). **3)** A small flail mower will be used to mow narrow (5 foot wide) strips along future planting lines and pods in late summer (September) in order to create space for future installation of irrigation driplines and native plants. **4)** *Arundo* slash piles will be burned in late fall/winter (November-February), in accordance with local air quality district regulations, including a Solano County burn permit.

Auguring planting holes: In September of Year 1, a skid steer bobcat with a front-mounted 12" bit auger will be used to dig 1,880 individual tree and shrub planting holes along the future planting lines and pods for subsequent native tree and shrub installation. Augur rotation direction will be reversed as the bit exits each hole to refill it with loosened soil. Follow up with a hoe crew will ensure that the holes are entirely refilled.

Installation of irrigation station and PVC line: In September, small frames (approximately 3 feet by 3 feet) will be built and installed at the northern edge of both Site A and Site B. These frames will be capable of holding a portable water pump with a mesh-screened intake hose that utilizes water from the

landowner's irrigation canal on the north edge of the property. At Site B, a 220 foot long, six inch deep trench will be cut running southeast from the irrigation station using a small, hand-operated trencher. A 1.5 inch PCV pipe with risers will be installed in the trench to act as a primary manifold for all irrigation lines. The trench will be refilled immediately after the irrigation pipe is installed. Risers will be connected to surface drip irrigation lines in year 2 of the project. Trench work is not needed at Site A.

Herbicide applications: Spot herbicide applications will be conducted to treat invasive non-native plants within the project boundaries with backpack sprayers and/or a handgun tank sprayer mounted on a small ATV. Herbicides will be specifically selected to target particular weed species including: Milestone (thistles), Vastlan (poison hemlock), Telar (perennial pepper weed) and Roundup Custom (Arundo). Broadleaf weeds will be treated in the spring (March-May), while Arundo will be treated in the late summer (August-September).

### 2.2.3 Year 2 – Major Installation and Beginning of Establishment

Herbicide applications: Depending upon the timing of the first rains, the immediate area around planting locations will be sprayed with Roundup Custom using either backpack sprayers or a small boom mounted on a lightweight ATV in winter (December-February) of Year 2 to reduce competition of weeds with native plantings.

Irrigation infrastructure: In early winter (December-January) of Year 2, three-quarter inch polyethylene driplines will be installed using an ATV towing a lightweight, hand-operated spooler. The dripline layout will consist of 6-8 main driplines, each running parallel to the creek for the length of the project site (approximately 400 feet in Site A and 3,300 feet in site B), with occasional pod areas that will require additional short lengths of dripline (25-50 feet long) to allow for higher planting density. Nine-inch long irrigation staples will be used on 10 foot intervals to ensure that the driplines remain in place during high water events. Drip emitters will be installed along the driplines at each tree and shrub.

Driplines in the western end of the planting area will be tied into *existing* driplines already installed during the earlier project. Driplines in the eastern side of the planting area (Site B) will be tied into the new irrigation station described above.

Native Plant Installation: After competing vegetation is controlled by mowing/herbicide application and the irrigation system has been installed, native trees and shrubs will be planted along the drip irrigation lines during the winter and early spring (January – March) in Year 2. Whenever possible, seeds and cuttings will be collected from local ecotypes and plants will be purchased from native plant nurseries that employ phytophthora sanitation measures. Restoration design will emphasize a diverse canopy structure and will combine a diverse mix of local native trees, shrubs, sub-shrubs and low growing herbaceous forbs where possible.

A total of 400 trees/shrubs will be installed in Site A and 1,480 trees and shrubs will be installed at Site B. Planting will be done both from seed (acorns), cuttings (willow and cottonwood), and container stock sized in the "depot" to one gallon range. Trees and shrubs will be planted in previously augured holes using hand tools such as shovels and hoes. A three foot by three foot weed mat will be placed around each tree or shrub and secured with four irrigation staples. See Table 1 for a list of trees and shrubs that will be planted.

**Table 1: Proposed Native Tree and Shrub Species and Numbers**

Species	Site A (3 acres)	Site B (17 acres)	Total
<b>Trees</b>			
Black willow ( <i>Salix gooddingii</i> )	5	40	45
Box elder ( <i>Acer negundo</i> )	10	40	50
California sycamore ( <i>Platanus racemosa</i> )	5	30	35
Cottonwood ( <i>Populus fremontii</i> )	35	90	125
Oregon ash ( <i>Fraxinus latifolia</i> )	5	30	35
Valley oak ( <i>Quercus lobata</i> )	10	100	110
White alder ( <i>Alnus rhombifolia</i> )	10	50	60
<b>Shrubs</b>			
Buttonwillow ( <i>Cephalanthus occidentalis</i> )	10	50	60
CA Blackberry ( <i>Rubus ursinus</i> )	20	250	270
CA Grape ( <i>Vitis californica</i> )	20	75	95
CA Rose ( <i>Rosa californica</i> )	50	350	400
Mule fat ( <i>Baccharis salicifolia</i> )	100	200	300
Red willow ( <i>Salix laevigata</i> )	100	100	200
Red stem dogwood ( <i>Cornus sericea</i> )	20	75	95
<b>Total</b>	<b>400</b>	<b>1,480</b>	<b>1,880</b>

A total of 25,000 native forbs and sedge plugs will be installed throughout the planting area in winter and early spring (January – March). Plugs will be planted using hand tools, such as dibbles and hoes. Species that will be planted from plugs may include: Santa Barbara sedge (*Carex barbarae*), slender sedge (*C. praegracilis*), California aster (*Aster chilensis*), evening primrose (*Oenothera elata* ssp. *hirsutissima*), frog fruit (*Phyla nodiflora*), mugwort (*Artemisia douglasiana*), California hibiscus (*Hibiscus lasiocarpus*), California hemp (*Hoita macrostachya*), Indian hemp (*Apocynum cannabinum*), gumplant (*Grindelia camporum*), blue eyed grass (*Sisyrinchium bellum*), CA fuchsia (*Epilobium canum*), licorice (*Glycyrrhiza lepidota*), coyote mint (*Monardella villosa*), CA loosestrife (*Lythrum californicum*), deergrass (*Muhlenbergia rigens*), button celery (*Eryngium aristulatum*), swamp mule fat (*Baccharis glutinosa*) and common muilla (*Muilla maritima*).

Herbicide applications: Particularly invasive weeds (arundo, perennial pepperweed, hemlock, thistles) will continue to be spot-treated with herbicide applications at biologically appropriate times during Year 2. If needed, herbicide may be used in small rings around planted trees and shrubs to control competing weeds during the spring of Year 2 (March-June). Timing of applications will depend upon weed growth, rain fall, and temperatures.

Mowing: A rotary or flail mower may be used to mow narrow (5 foot wide) strips along the planting lines to control non-native weeds up to three times during the spring of Year 2 (March-June), to allow the trees and shrubs to grow without competition and provide crew access for irrigation and maintenance activities.

Irrigation: On a weekly basis between April and September, small portable pumps will be set up (one at Site A and one at Site B) and each native plant will be irrigated with 5-10 gallons of water pulled from the landowner’s irrigation canal. The strategy behind the frequency and duration of irrigation events will be to drive root growth of the native vegetation to reach deeper soil moisture.

#### 2.2.4 Year 3 – Minor Installation and Continued Establishment

Native Plant Installation: Depending upon native plant mortality experienced in Year 2, a second round of trees, shrubs and plugs may be planted to bring the total number of native plants established up to 400 trees/shrubs at Site A, 1,480 trees at Site B, and 25,000 native forbs and sedge plugs throughout both sites. Plants will be installed in late winter to early spring (January – March) using the methods described in Year 2.

Herbicide applications and mowing activities: If needed to control invasive weeds and permit native tree and shrub growth, herbicide applications and mowing activities similar to those described for Year 2 may be repeated in Year 3.

Irrigation: Irrigation activities similar to those described for Year 2 will be repeated in year 3, although the frequency of irrigation will be reduced to bi-weekly rather than weekly.

Broadcast wildflowers: In September of Year 3, wildflower seed will be broadcast on Site A and Site B at a rate of 5 pounds to the acre using an ATV mounted electric broadcast seeder. Species that will be planted from seed may include: California poppy (*Eschscholzia californica*), gumplant (*Grindelia camporum*), turkey mullein (*Croton setigerus*), yarrow (*Achillea millefolium*), mugwort (*Artemisia douglasiana*), goldfields (*Lasthenia californica*), red maids (*Calandrinia ciliata*), tidy tips (*Layia chrysanthemoides*), primrose (*Oenothera elata*) and mule ears (*Wyethia angustifolia*).

#### 2.2.5 Year 4 – Final Establishment

Herbicide applications, mowing activities and irrigation: If needed to control invasive weeds and permit native tree and shrub growth, herbicide applications and mowing activities similar to those described for Year 3 may be repeated in Year 4. Irrigation activities similar to those described for Year 3 will be repeated in year 4.

**Figure 2: Calendar of Site Preparation, Installation and Establishment Activities**

<b>Mahoney Ulatis Creek Restoration Project</b>												
<b>Year 1</b>	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Continue seasonal grazing to keep down weeds												
Create Arundo slash piles												
Mow planting lines and pods												
Augur planting holes												
Install irrigation station												
Burn Arundo slash piles												
Spot treat invasive weeds with herbicide			Annuals					Perennials				
<b>Year 2</b>												
Herbicide spray planting lines and pods												
Install irrigation driplines												
Install native trees, shrubs and plugs												
Spray herbicide rings around trees & shrubs												
Mow planting lines and pods												
Spot treat invasive weeds with herbicide			Annuals					Perennials				
Use portable pumps to irrigate (weekly)												
<b>Year 3</b>												
Replace dead native trees, shrubs and plugs												
Spray herbicide rings around trees & shrubs, if necessary												
Mow planting lines and pods, if necessary												
Spot treat invasive weeds with herbicide, if necessary			Annuals					Perennials				
Use portable pumps to irrigate (bi-weekly)												
Broadcast seed wildflower seed												
<b>Year 4</b>												
Spray herbicide rings around trees & shrubs, if necessary												
Mow planting lines and pods, if necessary												
Spot treat invasive weeds with herbicide, if necessary			Annuals					Perennials				
Use portable pumps to irrigate (bi-weekly)												



## 2.3 Best Management Practices

The following best management practices, most of which are standard practices observed by Solano RCD during implementation of any native habitat restoration project, will be utilized to protect sensitive and special status species during site preparation, installation, and establishment activities.

### Wildlife surveys

- Surveys for giant garter snakes, nesting birds, and other wildlife will be completed 24 hours prior to any ground disturbance or mowing activities, with particular attention focused during nesting season (February 15 - August 15) and GGS active season (May 1-September 30)

### Mowing

- Mowing will be restricted to one swath along planted lines, to allow for maintenance activities around trees and shrubs
- To help prevent wildfire, fire extinguishers will be carried on all ATVs, and fire extinguishers plus a 5 gallon backpack fire pumps will be carried on all mowers. National Weather Service Advisories will be monitored and mowing and other activities that could ignite a wildfire will be curtailed on designated red flag warning days.

### Timing of ground disturbance

- Work with the potential to disturb the ground (creating arundo burn piles, auguring planting holes, trenching for PVC line installation) will be conducted during the window when Giant Garter Snakes are active and can escape disturbance (May 1-September 30)

### Equipment operational speeds

- All vehicles utilizing the levee road to reach the site will maintain speeds of 15 mph or less
- All equipment used within the footprint of the project site (ATVs, mowers, skid steer bobcat, pickup trucks) will be operated at 5 miles per hour or less
- Vehicles use within the site will be limited whenever possible

### Herbicide application

- Herbicide applications will be supervised by an applicator that holds a current California Qualified Applicator Certificate (QAC)
- The least toxic, but still effective, herbicides and adjuvants will be selected whenever possible
- A pest control advisor (PCA) will prepare a written recommendation for the use of herbicides on the project, including application rates
- Herbicides will be applied in accordance with manufactures' labels as well as State and Federal laws
- Herbicide applications will be conducted in a way that minimizes herbicide drift, including:
  - Dye will be added to all herbicide mixes to facilitate visual observation of application
  - Foliar applications will occur only when winds are less than 10 miles per hour
- Herbicides will not be applied within 10 feet of the water's edge along Ulatis Creek

### Irrigation operation

- Gas-powered portable irrigation pumps will be stationed over drip pans, and will be removed between irrigation events

### Worker Training Program

- All staff and hired crew will be trained about potential sensitive wildlife and plant species in the area and what to do if one is encountered
- All staff and hired crew will be trained about legal protection for cultural resources and appropriate steps to take if cultural resources are discovered during implementation of restoration activities
- All staff and hired crew will be trained on protocols for hazardous materials (fuel and herbicides) that minimize the potential for soil and water contamination, including:
  - Transportation and on-site handling procedures
  - Storage requirements
  - Spill cleanup procedures and location of spill containment and cleanup kit
  - Notification requirements in the event of a spill
- All staff and hired crew will be trained on all best management practices and mitigation measures for the proposed project

## **2.4 Proposed Equipment**

The following equipment is proposed for use during project installation and plant establishment:

- Flail mower (5 feet wide) – for cutting down standing dead arundo biomass and mowing planting lines
- Small skid steer bobcat with 12” auger bit – for augering tree/shrub planting holes
- Hand-operated trencher – for digging one 220 foot long by 6 inch deep trench for 1.5” PVC pipe at the northern edge of Site B
- ATV/UTV with mounted tank/small boom/spray gun – for herbicide applications
- Backpack sprayers and weed whackers – for herbicide applications
- Portable irrigation pumps – for operating drip irrigation in summer months during the first 2-3 years of establishment

## 2.5 Required Permits

Potential permits and agreements from state and federal agencies with jurisdiction over the project activities and locations, along with Solano RCD's initial analysis of whether or not these permits will be required for this project, are listed below.

Regulatory Agency	Permit or Agreement	Initial Assessment of Requirement
California Department of Fish and Wildlife	California Fish and Wildlife Code section 1602, Streambed Alteration Agreement.	Likely NOT required since project site is: 1) outside the Ulatis Creek bed, channel, and bank and 2) does not currently contain native riparian vegetation
Central Valley Flood Protection Board	Encroachment Permit	Required because of woody species planted on floodplain bench on the waterside of the levee
Solano County Water Agency	Local Endorsement of Encroachment Permit	Required because of woody species planted on floodplain bench on the waterside of the levee
Army Corps of Engineers	Section 404 Permit	Likely NOT required since: 1) project involves only incidental fallback of soil and 2) activities fall within "standard NRCS conservation practices"
State Water Resources Control Board	Section 401 Water Quality Certification	Likely NOT required since: 1) project involves only incidental fallback of soil and 2) there is no discharge to waterways
U.S. Fish and Wildlife Service	Letter of Concurrence/Biological Opinion for terrestrial species that are protected under the Endangered Species Act	Required due to presence of special status species in the region
National Oceanic and Atmospheric Administration, Fisheries	Letter of Concurrence/Biological Opinion for aquatic species that are protected under the Endangered Species Act	Likely NOT required due to terrestrial nature of proposed activities

### 3 Resources and Environmental Analysis

#### 3.1 Environmental Factors Potentially Affected

Although the environmental factors checked below could create a "Potentially Significant Impact", mitigation measures reduce those impacts to less than significant, as indicated by the checklist on the following pages.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry Resources	<input type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Geology and Soils
<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards and Hazardous Materials	<input checked="" type="checkbox"/>	Hydrology and Water Quality
<input type="checkbox"/>	Land Use and Planning	<input type="checkbox"/>	Mineral Resources	<input type="checkbox"/>	Noise
<input type="checkbox"/>	Population and Housing	<input type="checkbox"/>	Public Services	<input type="checkbox"/>	Recreation
<input type="checkbox"/>	Transportation and Traffic	<input type="checkbox"/>	Utilities and Service Systems	<input type="checkbox"/>	Mandatory Findings of Significance

#### 3.2 Determination

On the basis of this initial evaluation:

<input type="checkbox"/>	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
<input checked="" type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
<input type="checkbox"/>	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
<input type="checkbox"/>	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
<input type="checkbox"/>	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required

\_\_\_\_\_  
Kurt Balasek  
Board President  
Solano Resource Conservation District

\_\_\_\_\_  
Date

### 3.3 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In nonurbanized areas, substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

Visual resources consist of the natural and manmade features that give a particular environment its aesthetic qualities. The primary areas of concern generally are associated with changes to prominent topographic features, changes in the character of an area with high visual sensitivity, removal of vegetation, or blockage of public views of a visually sensitive landscape. The proposed project site is on agricultural lands. Most of the adjacent area is agricultural. The scenic character of the project area is defined mostly by riparian habitat along the banks of the creek and agricultural areas visible from levee roads. There are no State-designated visual resources within or near the potential project sites.

#### Discussion

##### a) Have a substantial adverse effect on a scenic vista?

**No Impact.** The project will not result in a substantial adverse effect on scenic vistas because the project is restricted to replacing non-native plants with a diverse suite of native plants in an area with no public access.

##### b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**No Impact.** The proposed project is not located within a state scenic highway and it will improve scenic resources by replacing non-native weeds with native trees and other native vegetation.

##### c) Substantially degrade the existing visual character or quality of the site and its surroundings?

**No Impact.** The existing visual character and quality of the project area can be characterized as an agricultural field dominated by non-native weeds. Although the project will disturb some of this non-native vegetation, this disturbance is expected to be temporary and minor as selected non-native plants are controlled and re-vegetation with native plants occurs. The proposed project will not result in the construction of any structures that will block views or be incompatible with the existing visual environment.

##### d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

**No Impact.** The proposed project will not use outdoor lighting or cause the construction of new buildings or facilities that would create a new source of light reflection or glare which would adversely affect day or nighttime views.

### 3.4 Agriculture and Forest Resources

Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
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In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

Agricultural lands can be found throughout the Sacramento-San Joaquin Delta. The proposed activities will take place on the water side of a levee within the Cache Slough Complex. The project site is currently seasonally grazed by livestock. Although livestock will be removed from the project site during plant installation, seasonal grazing will resume once the native plants are well-established and can tolerate occasional seasonal grazing. The project activities will not conflict with any existing zoning or involve changes in the existing environment.

#### Discussion

**a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**Less than Significant Impact.** Although the proposed project will require the temporary discontinuation of seasonal livestock grazing for several years to allow the native plants to become established, seasonal grazing will be resumed once the native plant community has become well enough established to tolerate seasonal grazing. The proposed project’s impacts are therefore less than significant since they will not permanently convert farmland to non-agricultural use.

**b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**No Impact.** The proposed project will not result in a conflict with zoning for agricultural land uses since seasonal grazing will not be permanently displaced as a result of the project. The project area is not under a Williamson Act contract.

**c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

**No Impact.** The project area is not zoned for forest or timberland production and the proposed project will therefore not conflict with forest or timberland zoning.

**d) Result in the loss of forest land or conversion of forest land to non-forest use?**

**No Impact.** The proposed project will result in an increase in riparian woodlands and will not result in the loss or conversion of forest land to non-forest use.

**e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

**No impact.** The project will not involve other changes in the existing environment that could result in the conversion of farmland to non-agricultural use or the conversion of forest land to non-forest use.

### 3.5 Air Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

The project area is within Solano County, which is under the jurisdiction of Yolo-Solano Air Quality Management District (YSAQMD) (YSAQMD 2009). Because YSAQMD was designated as “non-attainment” for both federal and state ozone standard and state PM10 Standard, ozone precursors and particulate matters (PM10 and PM2.5) are pollutants of greatest concern at YSAQMD.

#### Discussion

The proposed restoration project uses several pieces of equipment that create emissions:

- Passenger vehicles to bring staff to/from the project site (9,080 miles)
- ATV to perform weed control and planting activities (368 hours)
- Compact tractors/bobcats (25-50 HP) to mow weeds (62 hours) and auger planting holes (70 hours)
- Weed whackers to control weeds (60 hours)

- Small trencher to bury drip irrigation line (1 hour)
- 2" portable pumps to irrigate plantings (315 hours)

The YSAQMD encourages the use of the CalEEMod emissions model to calculate the amount of pollutant emissions generated by a land use project. However, the CalEEMod model is not designed to calculate emissions from small restoration equipment such as that listed above and used in habitat restoration projects, and thus could not be used to estimate emissions from this project.

Emissions from this project would consist of combustion emissions of criteria air pollutants (ROG, NO<sub>x</sub>, carbon monoxide, carbon dioxide, PM<sub>10</sub>, and PM<sub>2.5</sub>) primarily from operation of restoration equipment and worker commute trips. However, the relatively infrequent use of that equipment over the course of the project will not have a significant impact on local or regional air quality. While worker vehicles and restoration equipment will create minor amounts of air pollutants of concern, this project will establish over 1,800 native trees and shrubs in the project area. These plantings are expected to improve air quality and reduce pollutants over time (see Section VII Greenhouse Gases) for a net air quality benefit to the region.

**a) Conflict with or obstruct implementation of the applicable air quality plan?**

**Less than Significant Impact.** Project activities will be carried out using equipment such as mowers, ATV/UTVs, weed whackers, and portable irrigation pumps. Operation of these equipment and trips for worker commute would generate air pollutant emissions such as particulate matters (PM<sub>10</sub> and PM<sub>2.5</sub>), ROG, NO<sub>x</sub> and CO. The project will not generate emissions after the project is completed. Because the emissions will be temporary and minor, the project will not exceed the threshold values set by YSAQMD, nor would it conflict with or obstruct implementation of YSAQMD's air quality plans.

**b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

**Less than Significant Impact.** As discussed above, the project will generate minor air pollutant emissions. The emissions include criteria air pollutants such as ROG, NO<sub>x</sub>, carbon monoxide, PM<sub>10</sub>, and PM<sub>2.5</sub> from fugitive dusts and combustion emissions. Emissions are not predicted to exceed the threshold values set by YSAQMD; therefore, the project's contribution to an existing or projected air quality violation would not be considered substantial.

**c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

**Less than Significant Impact.** The pollutant emissions from the habitat restoration equipment used for the project will be less than significant.

**d) Expose sensitive receptors to substantial pollutant concentrations?**

**No Impact.** No sensitive receptors are identified within close proximity to the project area. This project does not propose uses or activities that would result in exposure of sensitive receptors to significant pollutant concentrations.

**e) Create objectionable odors affecting a substantial number of people?**

**No Impact.** No potential sources of objectionable odors have been identified in association with the project, and there will not be a substantial number of people in the project area. As such, no impact from odors is anticipated.



### 3.6 Biological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

The project site is located within the Cache Slough Complex on a floodplain bench on the waterside of the levee along a tidally influenced waterway. The topography over the project area is approximately 10 feet above mean sea level. The site only inundates in high flow conditions, and all work will occur on dry land above the mean high water mark. The westerly 3 acres of the project site (**Site A**) was heavily invaded by the invasive plant *Arundo donax* prior to 2015. Herbicide applications have successfully controlled most of this *Arundo*, and only occasional, small live canes remain, often surrounded by significant dead material. In addition to the occasional *Arundo* resprouts, several types of invasive herbaceous species occur throughout the area, including poison hemlock (*Conium maculatum*), perennial pepperweed (*Lepidium latifolium*), and a variety of non-native thistles, including yellow star thistle (*Centaurea solstitialis*), blessed milk thistle (*Silybum marianum*), and Italian thistle (*Carduus pycnocephalus*). The water edge of the three acre area is bordered by dense stands of native willows (*Salix lasiolepis*, *S. laevigata*, *S. exigua*), northern CA black walnuts (*Juglans hindsii*) and occasional cottonwood trees (*Populus fremontii*) as well as other native understory species.

The 17 acres on the east side of the project site (**Site B**) is dominated by non-native grass species, including Russian wheatgrass (*Thinopyrum junceiforme*) and Harding grass (*Phalaris aquatica*), with a scattering of non-native herbaceous invasives and annual grasses. The water edge of Site B contains stands of native trees, as described above for Site A. Site B is currently grazed on a seasonal basis.

#### 3.6.1 Methods

Solano RCD staff reviewed the following information to gather information regarding biological resources in the project area:

- California Natural Diversity Database (CNBDD) records for all special status species within a three mile radius of project site (CDFW 2021)
- Biological Assessment for US Army Corps of Engineers and National Marine Fisheries Service, Ulatis Creek Arundo Control and Restoration Project. (Delta Conservancy 2015)
- Biological Assessment for Natural Resources Conservation Service and U.S. Fish and Wildlife Service, Ulatis Creek Arundo Control and Restoration Project. (Delta Conservancy 2015)
- USFWS Critical Habitat Data for: 1) California red-legged frog (*Rana draytonii*), 2) California tiger salamander (*Ambystoma californiense*), 3) Delta green ground beetle (*Elaphrus viridis*), 4) Delta smelt (*Hypomesus transpacificus*), 5) Vernal pool fairy shrimp (*Branchinecta lynchi*) (USFWS 2021)
- CDFW Wildlife Habitat Relationship Data for California red-legged frog (CFDW 2021)
- 2015 CDFW Streambed Alteration Agreement for Ulatis Creek Arundo Control and Restoration Project, Notification No. 1600-2015-0181-R3 (CDFW 2015)
- The U.S. Fish and Wildlife Service’s species list for the Dozier and Liberty Island 7.5-minute USGS quadrangles (USFWS 2015)
- The California Native Plant Society’s (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021)
- Calflora, Observation Search (Calflora 2021)

### Special-status Species Definition

For the purposes of this analysis, “special-status species” is a collective term that refers to plants and animals that are legally protected under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), or other regulations, as well as species that are considered sufficiently rare by the scientific community to qualify for such listing. Special-status plants and animals fall into the following categories:

- Species listed or proposed for listing as threatened or endangered under ESA (50 CFR [Code of Federal Regulations] 17.12 [listed plants], 50 CFR 17.11 [listed animals], and in various notices in the Federal Register [FR][proposed species]);
- Species that are candidates for possible future listing as threatened or endangered under ESA (USFWS 2015);
- Species listed or proposed for listing by the State of California as threatened or endangered under CESA (14 CCR 670.5);
- Species that meet the definitions of “rare” or “endangered” under CEQA (State CEQA Guidelines, Section 15380);
- Plants listed as rare under the California Native Plant Protection Act (California Fish and Game Code, Section 1900 *et seq.*);
- Plants considered by CNPS to be “rare, threatened, or endangered in California and elsewhere (CNPS List 1B)” (CNPS 2021);
- Plants listed by CNPS as plants about which more information is needed to determine their status and plants of limited distribution, which may be included as special-status species on the basis of local significance or recent biological information (CNPS 2021);
- Animal species of special concern to the CDFW (Williams 1986, CDFG 1994, and CDFG 2008); and
- Animals fully protected in California (California Fish and Game Code, Sections 3511, 4700, and 5050).

The information sources listed above were used to develop lists of sensitive species that occur in the general region of the project site. These sensitive plant and wildlife species are listed in Tables 2 and 3.

Species from the lists were evaluated for their likelihood to occur at the project site by taking into consideration whether they are known to occur within a three-mile radius of the project site (using CNDDDB data) and whether suitable habitat for the species is present at the project site. For each special status species with the potential to occur at the project site, impacts due to the project were assessed and mitigation measures proposed **below**.

<b>Table 2. Special Status Plant Species with the Potential to Occur in the General Region</b>				
<b>Common Name</b>	<b>Status (F/S/X/CNPS)</b>	<b>Habitat</b>	<b>Potential to Occur at Project Site</b>	<b>Potential for Project Impacts</b>
<b>PLANTS</b>				
<b>Ferris' milk-vetch</b> <i>Astragalus tener</i> var. <i>ferrisiae</i>	--/--/--/1B.1	Meadows and seeps (vernally mesic), valley and foothill grassland (subalkaline flats)	<b>Moderate</b> — Occurrences documented in USGS Liberty and Dozier quads. Appropriate habitat may exist in isolated patches within the project area.	<b>Low</b> — Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Alkali milk-vetch</b> <i>Astragalus tener</i> var. <i>tener</i>	--/--/--/1B.2	Alkaline soils, vernal pools, playas, alkali sinks, valley, and foothill grassland (especially on adobe clay). Occurs usually in wetlands, occasionally in non-wetlands.	<b>Low</b> — Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> — Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Brittlescale</b> <i>Atriplex depressa</i>	--/--/--/1B.2	Alkaline clay in chenopod scrub, playas, meadows and seeps, vernal pools, alkali sinks, riparian wetland, valley, and foothill grasslands; western and eastern Central Valley and adjacent foothills on west side of Central Valley.	<b>Low</b> — Occurs within CNDDDB 3 mi radius. Appropriate habitat may exist in isolated patches within the project area.	<b>Low</b> — Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Bolander's water-hemlock</b> <i>Cicuta maculate</i> var. <i>bolanderi</i>	--/--/--/2B.1	Found in marshes and swamps, and coastal, fresh, or brackish water habitats.	<b>None</b> — Occurs within CNDDDB 3 mi radius, however, no appropriate habitat exists within the project area.	<b>None</b>
<b>San joaquin spearscale</b> <i>Etriplex joaquinana</i>	--/--/--/1B.2	Alkaline. Chenopod scrub, alkali meadow and seeps, playas, alkali valley and foothill grassland, saltbush scrub.	<b>Low</b> — Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> — Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Boggs Lake hedge-hyssop</b> <i>Gratiola heterosepala</i>	--/E/--/1B.2	Clay soils in vernal pools and areas of shallow water, lake margins, swamps, and marshes.	<b>None</b> — Occurs within CNDDDB 3 mi radius, however, no appropriate habitat exists within the project area.	<b>None</b>
<b>Hogwallow starfish</b> <i>Hesperervax caulescens</i>	--/--/--/4.2	Valley and foothill grassland (mesic clay) and wetland-riparian, vernal pools	<b>Low</b> — Occurrences in Dozier and Liberty USGA quads. Appropriate habitat may exist in isolated patches within the project area.	<b>Low</b> — pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.

<b>Table 2. Special Status Plant Species with the Potential to Occur in the General Region</b>				
<b>Common Name</b>	<b>Status (F/S/X/CNPS)</b>	<b>Habitat</b>	<b>Potential to Occur at Project Site</b>	<b>Potential for Project Impacts</b>
<b>Woolly rose-mallow</b> <i>Hibiscus lasiocarpus</i> <i>var. occidentalis</i>	--/--/--/1B.2	Found in freshwater marsh and swamp, and wetland-riparian habitats, in riprap on sides of levees.	<b>Low</b> —Known from Rio Vista Quad. Appropriate habitat may exist in isolated patches within the project area.	<b>None</b> —Occurs only at water-line, no project work occurring in that zone.
<b>Northern California black walnut</b> <i>Juglas hindsii</i>	--/--/--/1B.1	Found in riparian forest and riparian woodland habitats.	<b>High</b> —This species occurs along riparian areas within project area. However, individuals in this area are not known to be part of historical populations and may be of hybrid origin.	<b>None</b> —Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected. No CA black walnut trees will be removed or harmed.
<b>Delta tule pea</b> <i>Lathyrus jepsonii</i> <i>var. jepsonii</i>	--/--/--/1B.2	Found in wetlands, freshwater and brackish marsh and swamp, and riparian habitats.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Heckard's pepper-grass</b> <i>Lepidium latipes</i> <i>var. heckardii</i>	--/--/--/1B.2	Found in wetlands, riparian, and valley and foothill grassland (especially alkaline flats).	<b>Low</b> —Appropriate habitat may exist in isolated patches within the project area.	<b>Low</b> —pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Legenere</b> <i>Legenere limosa</i>	--/--/--/1B.1	Found in vernal pool and wetland habitats.	<b>None</b> — Occurs within CNDDDB 3 mi radius, however, no appropriate habitat exists within the project area.	<b>None</b>
<b>Mason's lilaeopsis</b> <i>Lilaeopsis masonii</i>	--/--/--/1B.1	Found in wetlands, riparian, freshwater and brackish marsh and swamp.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Delta mudwort</b> <i>Limosella australis</i>	--/--/--/2B.1	Found in wetlands, freshwater and brackish marsh and swamp, riparian, usually mud banks.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —Occurs primarily at water-line, no project work occurring in that zone. Also, pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Baker's navarretia</b> <i>Navarretia leucocephala</i> <i>ssp. bakeri</i>	--/--/--/1B.1	Found in mesic areas, cismontane woodland, lower montane coniferous forest, meadow and seep, valley and foothill grassland, vernal pool, and wetland habitats.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.

<b>Table 2. Special Status Plant Species with the Potential to Occur in the General Region</b>				
<b>Common Name</b>	<b>Status (F/S/X/CNPS)</b>	<b>Habitat</b>	<b>Potential to Occur at Project Site</b>	<b>Potential for Project Impacts</b>
<b>Colusa grass</b> <i>Neostapfia colusana</i>	T/E/X/1B.1	Found in vernal pool and wetland habitats.	<b>None</b> — Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within project area.	<b>None</b>
<b>Bearded popcorn flower</b> <i>Plagiobothrys hystriculus</i>	--/--/--/1B.1	Mesic grassland, wetlands, riparian, vernal pools.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Suisun Marsh aster</b> <i>Symphotrichum lentum</i>	--/--/--/1B.2	Found in serpentinite and clay, freshwater and brackish marsh and swamp, wetland and riparian habitats, slough edges, serpentinite and clay valley and foothill grassland and cismontane woodland.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Saline clover</b> <i>Trifolium hydrophilum</i>	--/--/--/1B.2	Valley and foothill grassland (mesic, alkaline), wetland-riparian, vernal pools, marshes, and swamps.	<b>Low</b> —Occurs within CNDDDB 3 mi radius, however, project area does not provide appropriate habitat; suitable habitat may exist in isolated patches at project site.	<b>Low</b> —Pre-activity surveys will be conducted and avoidance measures implemented if the species is detected.
<b>Crampton's tuctoria or Solano grass</b> <i>Tuctoria mucronata</i>	E/E/X/1B.1	Found in valley and foothill mesic grassland, vernal pool, and wetland habitats.	<b>None</b> — Occurs within CNDDDB 3 mi radius, however, no appropriate habitat exists within the project area.	<b>None</b>
<p><b>Status</b>  <b>Federal (F)</b> : E = listed as endangered under the Federal Endangered Species Act  T = listed as threatened under the Federal Endangered Species Act  <b>State (S)</b> : E = listed as endangered under the State Endangered Species Act  T = listed as threatened under the State Endangered Species Act  <b>CA Native Plant Society Listing (CNPS)</b>  <b>Critical Habitat Designation (X)</b></p>				

Table 3. Special Status Fish and Wildlife Species with the Potential to Occur in the General Region				
Common Name	Status (F/S/X)	Habitat	Potential to Occur at Project Site	Potential for Project Impacts
<b>INVERTEBRATES</b>				
<b>Blennosperma vernal pool andrenid bee</b> <i>Andrena blennospermatis</i>	--/--/--	Upland areas near vernal pools	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>
<b>Conservancy Fairy Shrimp</b> <i>Branchinecta conservation</i>	E/--/--	Large, cool-water vernal pools with moderately turbid water.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>
<b>Western bumble bee</b> <i>Bombus occidentalis</i>	-- /candida te E/--	Species requires blooming plants that provide adequate nectar and pollen throughout the spring, summer, and fall); suitable nesting sites in underground wildlife cavities, and suitable overwintering sites for the queens.	<b>Mod-</b> Occurs within CNDDDB 3 mi radius, suitable floral resources may exist in isolated patches at project site.	<b>Low-</b> Only invasive weeds and non-native grassland vegetation will be removed. Native flowering species will be increased.
<b>Midvalley fairy shrimp</b> <i>Banchinecta mesovallensis</i>	--/--/--	Found in small short-lived vernal pools and grass-bottomed swales.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>
<b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i>	T/--/X	Vernal pools; also sandstone rock outcrop pools.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>
<b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i>	T/--/X	Riparian and oak savanna habitats with blue elderberry shrubs; elderberries are the host plant. Primary beetle habitat occurs in healthy riparian vegetation with dense elderberry clumps.	<b>Mod</b> —Potential elderberry habitat is present within the project area, however only three elderberry bushes have recruited on their own in the last 3 years on the western end of the site.	<b>Low</b> —Pre-activity surveys for elderberry shrubs will be conducted, and mitigation measures will be implemented to avoid damaging any elderberries growing at the project site.
<b>Delta Green Ground Beetle</b> <i>Elaphrus viridis</i>	T/--/X	Species is only known to occur in south-central Solano County, near Jepson Prairie Preserve. Habitat requirements not well developed, believed that the species prefers habitats in the grassland-playa or vernal pool matrix.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, the project area does not provide vernal pools it is associated with.	<b>None</b>
<b>Ricksecker's water scavenger beetle</b>	--/--/--	Aquatic, known to occur in vernal pools. Recorded in central coastal CA and southern Sacramento Valley, known to	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>

Table 3. Special Status Fish and Wildlife Species with the Potential to Occur in the General Region				
Common Name	Status (F/S/X)	Habitat	Potential to Occur at Project Site	Potential for Project Impacts
<i>Hydrochara rickseckeri</i>		occur in Solano County near Jepson Prairie		
<b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardi</i>	E/--/X	Occupies a variety of vernal pool habitats in Central Valley and San Francisco Bay Area.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>
<b>California linderiella</b> <i>Linderiella occidentalis</i>	--/--/--	Vernal pools, swales, and other ephemeral wetlands. Central Valley and central coastal CA.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, vernal pool habitat does not occur within the project area.	<b>None</b>
FISH				
<b>Green Sturgeon-Southern DPS</b> <i>Acipenser medirostris</i>	T/--/--	Large, main stem rivers with cool water and cobble, clean sand, or bedrock for spawning.	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>Delta Smelt</b> <i>Hypomesus transpacificus</i>	T/E/X	Tidal areas from fresh water up to 18 ppt, but primarily near and upstream of the brackish zone where bottom salinity is approximately 2 ppt. Spawning occurs in tidal areas, most commonly upstream of salinity at 2 ppt. High turbidity levels (e.g. >10 ntu) and moderate temperatures (<25°C) are required for all life stages.	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>River Lamprey</b> <i>Lampetra ayresi</i>	SC/SSC/- -	Anadromous parasitic species found in coastal streams and upper reaches of San Francisco estuary and tributaries; spawn in streams in spring; adults may migrate briefly to ocean before returning in fall.	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>Hardhead</b> <i>Mylopharodon conocephalus</i>	--/SSC/--	Low- to mid-elevations in relatively undisturbed habitats of larger streams with high water quality (clear, cool)	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.



<b>Table 3. Special Status Fish and Wildlife Species with the Potential to Occur in the General Region</b>				
<b>Common Name</b>	<b>Status (F/S/X)</b>	<b>Habitat</b>	<b>Potential to Occur at Project Site</b>	<b>Potential for Project Impacts</b>
<b>Steelhead - Central Valley DPS</b> <i>Oncorhynchus mykiss irideus</i>	T/--/X	Central Valley main river systems. Spawn in small, freshwater tributaries. Juveniles remain in freshwater for several years before returning to the ocean. Main rearing habitat is in stream/river systems	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>Central Valley Spring-run Chinook Salmon</b> <i>Oncorhynchus tshawytscha</i>	T/T/X	Low- to mid-elevation rivers and streams with cold water, clean gravel of appropriate size for spawning, and suitable rearing habitat; typically rear in freshwater for one or more years before migrating to the ocean	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>Sacramento River Winter-run Chinook Salmon</b> <i>Oncorhynchus tshawytscha</i>	E/E/X	Low- to mid-elevation rivers and streams with cold water, clean gravel of appropriate size for spawning, and suitable rearing habitat; typically rear in freshwater for one or more years before migrating to the ocean	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>Longfin Smelt</b> <i>Spirinchus thaleichthys</i>	C/T/--	Euryhaline (capable of tolerating a wide range of salinities), pelagic and anadromous species found in scattered bays and estuaries from CA to Alaska	<b>None</b> —Project area does not include aquatic habitat. Activities are restricted to a floodplain bench above the mean high water mark, and outside of a 10-foot waterway buffer.	<b>None</b> —Project has been designed to avoid impacts to adjacent aquatic habitat. See discussion of <b>Fish</b> below.
<b>AMPHIBIANS</b>				
<b>California Tiger Salamander</b> <i>Ambystoma californiense</i>	T/T/X	Vernal pools or seasonal ponds and in burrows in adjacent uplands in parts of the Central Valley grasslands and low foothills. Vernal pools or ephemeral ponds required for breeding.	<b>None</b> —Occurs within CNDDDB 3 mi radius, however, required vernal pool matrix habitat does not occur within the project area.	<b>None</b>
<b>California Red-legged Frog</b> <i>Rana draytonii</i>	T/SSC/X	Permanent and semi-permanent aquatic habitats such as creeks and cold-water ponds, with emergent and submergent vegetation and in cracks and burrows in adjacent uplands.	<b>None</b> —California Red Legged Frog species range extends only to more westerly portion of Solano County. Species reported in USGS Dozier quadrangle, however this occurrence was in western portion of the quad. USFWS designated critical habitat for this species occurs in western Solano County, at least 20 miles west of the project site.	<b>None</b>

Table 3. Special Status Fish and Wildlife Species with the Potential to Occur in the General Region				
Common Name	Status (F/S/X)	Habitat	Potential to Occur at Project Site	Potential for Project Impacts
<b>REPTILES</b>				
<b>Western Pond Turtle</b> <i>Emys marmorata</i>	--/SSC/--	Variety of permanent and intermittent aquatic habitats throughout the state, including rivers, streams, lakes, marshes, vernal pools, and human-constructed environments such as ponds associated with waste-water, stock, and logging operations. Nest in grassy uplands and overwinter under mud, dirt, or leaf litter	<b>Mod</b> —Western pond turtles are relatively common throughout the rivers, sloughs, ponds, and irrigation ditches in the project area.	<b>Low</b> — In-stream or water-line work will not be conducted and project has been designed to avoid impacts aquatic habitats. Pre-activity surveys will be conducted and mitigation measures implemented if the species is detected.
<b>Giant Garter Snake</b> <i>Thamnophis gigas</i>	T/T/--	Sloughs, canals, low-gradient streams, and marsh habitats; irrigation ditches and rice fields; grassy banks and emergent vegetation for basking; high ground with cracking or burrows protected from flooding in the Central Valley.	<b>Mod</b> —Species occurs within CNDDDB 3 mi radius. Project. However, the site is considered to be marginal habitat for the species because it has been utilized for fairly high intensity grazing for decades and giant garter snakes prefer areas where grazing is excluded. Also, bank of Ulatis Creek adjacent to the project lacks emergent wetland vegetation (such as tules and cattails) that GGS prefer.	<b>Low</b> — Pre-activity surveys will be conducted and mitigation measures implemented. Construction activities will be restricted to GGS's active period of the year. Comprehensive GGS species-specific protective measures have been developed for this project (and approved for the USFWS-NRCS Programmatic BO covering GGS for Solano County).
<b>MAMMALS</b>				
<b>Western Red Bat</b> <i>Lasiurus blossevillii</i>	--/SSC/--	Roosts primarily in tree foliage, occasionally shrubs; roosts in small family groups rather than large colonies as other bats; prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging, including grasslands, shrublands, and open woodlands.	<b>Mod</b> —Year-round range spans the entire Central Valley and coast Ranges. Documented foraging in most habitat types in the Delta. Roosting documented in the Delta at Brannan Island State Recreation Area. However, project site currently has limited numbers of potential roosting trees due to grazing history.	<b>Low</b> —Trees will not be removed or trimmed.
<b>BIRDS</b>				
<b>Tricolored Blackbird</b> <i>Agelaius tricolor</i>	BCC/E/--	Nests colonially in large, dense stands of freshwater marsh, riparian scrub, and other shrubs and herbs; forages in grasslands and agricultural fields	<b>High</b> —Occurs within CNDDDB 3 mi radius. Appropriate nesting and foraging habitat is present within the project area and the species is known to exist near the project area	<b>Low</b> — Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if nesting is detected.

<b>Table 3. Special Status Fish and Wildlife Species with the Potential to Occur in the General Region</b>				
<b>Common Name</b>	<b>Status (F/S/X)</b>	<b>Habitat</b>	<b>Potential to Occur at Project Site</b>	<b>Potential for Project Impacts</b>
<b>Grasshopper Sparrow</b> <i>Ammodramus</i> <i>savannarum</i>	--/SSC/--	Nests and forages in short to mid-height, moderately open grasslands; favors a mix of native grasses, forbs, and scattered shrubs.	<b>Mod</b> —Appropriate nesting and foraging habitat is present within the project area.	<b>Low</b> — Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if a nest is detected.
<b>Golden Eagle</b> <i>Aquila chrysaetos</i>	--/FP,WL /--	Nests on cliffs or in the largest trees of forested stands that often afford an unobstructed view of the surrounding habitat; nests are constructed of sticks and soft material to create flat or bowl-shaped platforms.	<b>Low</b> —This species is known to forage in the vicinity and appropriate forage habitat exists within the project area, but is not likely to nest here due to the limited availability of mature trees.	<b>Low</b> — Trees will not be removed or trimmed. Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if a nest is detected.
<b>Burrowing Owl</b> <i>Athene cunicularia</i>	BCC/SSC /--	Level, open, dry, heavily grazed, or low stature grassland or desert vegetation with available rodent burrows	<b>Mod</b> —Occurs within 3 mi CNDDDB radius, and grassland foraging habitat is present within the project area.	<b>Low</b> —Pre-activity surveys will be conducted and mitigation measures implemented if an active burrow is detected.
<b>Swainson's Hawk</b> <i>Buteo swainsoni</i>	BCC/T (nesting) /--	Nests peripheral to riparian systems or lone trees in agricultural fields or along roadsides when adjacent to suitable foraging habitat such as grasslands or agricultural fields, particularly alfalfa.	<b>Mod</b> — Occurs within 3 mi CNDDDB radius, and appropriate foraging habitat is present within the project area. Nesting in project area is less likely due to limited number of mature trees.	<b>Low</b> — Trees will not be removed or trimmed. Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if nests are detected.
<b>Northern Harrier</b> <i>Circus cyaneus</i>	--/SSC (nesting) /--	Nests and roosts on the ground among primarily in open wetlands, but also in a wide variety of habitats, wet pastures, and grasslands.	<b>High</b> —Appropriate nesting and foraging habitat is present within the project area and the species has been observed near the project area.	<b>Low</b> — Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if nests are detected.
<b>White-tailed Kite</b> <i>Elanus leucurus</i>	--/FP (nesting) /--	Forages in open areas such as grasslands, oak savannahs, and woodlands, scrublands, and marshes; nests in trees and tall shrubs adjacent to foraging habitat.	<b>High</b> —Appropriate nesting and foraging habitat is present within the project area and the species is known to exist near the project area.	<b>Low</b> — Trees will not be removed or trimmed. Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if nests are detected.

<b>Table 3. Special Status Fish and Wildlife Species with the Potential to Occur in the General Region</b>				
<b>Common Name</b>	<b>Status (F/S/X)</b>	<b>Habitat</b>	<b>Potential to Occur at Project Site</b>	<b>Potential for Project Impacts</b>
<b>Yellow-breasted Chat</b> <i>Icteria virens</i>	--/SSC/--	Uses several habitats, especially riparian thickets, and brush.	<b>Mod</b> -- Appropriate habitat occurs within riparian thickets along irrigation ditch in the project area, but species is not known to exist in the project area.	<b>Low</b> —Ditch-side thicket vegetation will remain intact. Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if a nest is detected.
<b>Loggerhead Shrike</b> <i>Lanius ludovicianus</i>	--/SSC/--	Prefers open habitats with scattered shrubs, trees, fences, posts, utility lines, or other perches. Nest in dense or thorny vegetation.	<b>Mod</b> —Appropriate habitat for perching and foraging exists within the project area. Species is not known to nest within project area.	<b>Low</b> —Ditch-side thicket vegetation will remain intact. Pre-activity surveys will be conducted and mitigation measures implemented if a nest is detected.
<b>CA Black Rail</b> <i>Laterallus jamaicensis coturniculus</i>	--/T & FP/--	Salt and freshwater marshes. Shallower water and drier portions of wetlands than other rail species. Nests in marsh vegetation.	<b>None</b> - Occurs within CNDDDB 3 mi radius, however no appropriate habitat exists at project site.	<b>None</b>
<b>Yellow-headed Blackbird</b> <i>Xanthocephalus xanthocephalus</i>	--/SSC (nesting) /--	Nests in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds	<b>High</b> —Appropriate nesting and foraging habitat is present within the project area.	<b>Low</b> — Construction activities requiring mechanized equipment will be timed to occur outside of nesting season. Pre-activity surveys will be conducted and mitigation measures implemented if nests are detected.
<p><b>Status</b></p> <p><b>Federal (F) :</b> E = listed as endangered under the Federal Endangered Species Act T = listed as threatened under the Federal Endangered Species Act SC = species of concern C = candidate species D = delisted BCC = Birds of Conservation Concern</p> <p><b>State (S) :</b> E = listed as endangered under the State Endangered Species Act T = listed as threatened under the State Endangered Species Act SCC = species of special concern BCC = Birds of Conservation Concern FP = Fully Protected WL = Watch List</p> <p><b>Critical Habitat Designation (X)</b></p>				

## Discussion

**Plants** Based upon the results of the database searches described above, 12 special-status plant species were considered in this analysis. Of these 12 total species, two have a moderate or high potential to occur in the project area (Table 2). Several species are not likely to occur because habitats are not present within the project site, such as mesic areas (vernal pools) and/or in alkaline soils. The habitat at the project sites is currently of low quality for special-status plants because of disturbance by agricultural activities and lack of native riparian vegetation. Pre-construction surveys will be conducted before all ground disturbing and mowing activities and mitigation measures will be implemented if any special-status plant species is detected.

**Fish** Based on existing information, eight special-status fish species were identified that potentially occur in waterways in the general region of the project. However, none of these species will occur within the project site as the project area is restricted to a terrestrial above the mean high water mark. The project was designed to avoid impacts to aquatic habitat. There will be no in-stream or streambank work, no major soil disturbance (no tilling or disking), and a 10 foot no-herbicide-spray waterway buffer will be adhered to.

**Wildlife** Based on a review of existing information, 26 special-status wildlife species (invertebrates, amphibians, reptiles, mammals, and birds) were considered for this analysis. Of these 26 total species, five non-avian wildlife species have a moderate potential to occur in the project area (Table 3). These are western bumble bee, valley elderberry longhorn beetle, giant garter snake, western pond turtle, and western red bat. (None of these five is likely to have a high potential to occur at the site.)

Western bumble bees were once widespread across central California but have undergone tremendous declines in the past two decades. Western bumble bees depend on blooming plants that provide adequate nectar and pollen throughout the spring, summer, and fall. The project site has a history of grazing, and appropriate flowering plants are only available in small patches, making it less than ideal habitat for this species. The potential to negatively impact western bumble bee is low because native flowering plants will be increased at the site, and only invasive weeds and non-native grassland vegetation will be removed.

Valley elderberry longhorn beetles (VELB) are dependent upon elderberry shrubs (*Sambucus* ssp.), which are the sole host plant for VELB larvae. Populations of VELB are associated with healthy riparian vegetation that supports dense clumps of elderberry shrubs. The project site has a history of grazing, which has reduced woody species recruitment; only three elderberry shrubs (*Sambucus nigra*) currently occur at the site. Although the potential for these isolated elderberry shrubs to provide suitable habitat for VELB populations is low, species-specific avoidance measures developed by USFWS (USFWS 2017) have been incorporated as mitigation measures for the project.

Western pond turtle is relatively common in local streams and sloughs and is moderately likely to in the project area. The likelihood of project impacts to western pond turtle is low because the project has been designed to avoid impacts aquatic habitats and there will be no in-stream or water-line work. Additionally, pre-construction survey will be conducted before all ground disturbing and mowing activities and mitigation measures will be implemented if the species is detected.

Giant garter snake (GGS) has the potential to occur in the project area where appropriate habitat exists, but the site is considered to be marginal habitat for the species because it has been utilized for fairly

high intensity grazing for decades and GGS prefer areas where grazing is excluded. Also, the bank of Ulatis Creek adjacent to the project lacks emergent wetland vegetation (such as tules and cattails) that GGS prefer. To ensure that potential impacts to GGS are low, species-specific mitigation measures for GGS have been developed for the project.

Western red bats are widespread, and the site could provide suitable foraging and roosting habitat; however, due to the site's grazing history the number of trees that could be used as roost sites is limited. None of the existing trees will be removed or trimmed, making the likelihood of impacts to western red bats low.

Bird species Nine special-status bird species have a moderate or high potential to occur in the project area, including Swainson's hawk, northern harrier, white-tailed kite, burrowing owl, tricolored blackbird, yellow-headed blackbird, grasshopper sparrow, yellow-headed blackbird, and loggerhead shrike. These species may forage in appropriate habitat at the project site and may nest within the project sites if appropriate nesting habitat exists. Depending on the species, appropriate nesting habitat may be comprised of riparian trees, artificial platforms, shrubs, riparian thicket, emergent aquatic vegetation, grasses, or burrows. Many additional avian species could use the project site, including raptor species, songbirds, and wintering migrants. The likelihood of project impacts to either the special-status bird species or other avian species at the site is low. The majority of project work will occur across the floodplain bench that comprises the grazed pasture area, with very limited work occurring near existing vegetation that could support nesting (along Ulatis Creek or the site's irrigation ditch). No trees will be removed or trimmed. Additionally, mitigation measures specifically for nesting birds have been designed for the project.

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

**Less Than Significant with Mitigation.** This project will restore native riparian plants to the site, improving habitat quality for wildlife species that depend upon riparian habitat. The BMPs incorporated into the project description, along with the mitigation measures described at the end of this section, will bring potential impacts to candidate, sensitive or special status species to less than significant.

**b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations or by the CDFW or USFWS?**

**Less Than Significant Impact.** The type of restoration activities carried out in this project are considered by CDFW, USFWS and the Army Corps of Engineers to be mitigation for impacts to riparian habitat. This project will provide a net benefit through the removal of non-native plants and the restoration of the native riparian plant community. Project activities will only occur in areas of the site where grazing has eliminated woody riparian vegetation. Intact riparian vegetation will not be removed or altered. The best management practices incorporated into the project description will reduce any adverse effects on riparian habitat to less than significant.

**c) Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**No Impact.** The project site falls within waters of the U.S. under the U.S. Army Corps of Engineers (USACE) jurisdiction through section 404 of the Clean Water Act. However, project activities also fall within the "standard conservation practice standards" and "normal farming activities" outlined in the

2014 MOU between the Army Corps and NRCS, which exempts these activities from section 404 permitting requirements. No compensatory mitigation is needed because the project will result in a net improvement to wetland resource functions and services.

**d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Less than Significant Impact.** This project will restore native riparian plants to the site, improving long-term wildlife movement, wildlife corridors and wildlife nursery sites for species that depend upon riparian habitats. The best management practices incorporated into the project description, along with the mitigation measures described at the end of this section, including scheduling installation activities to occur during times of the year when wildlife is less likely to occur in the project area, will reduce short term impacts to wildlife movement to less than significant.

**e) Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance?**

**No Impact.** The project activities will not conflict with any local policies or ordinances protecting biological resources.

**f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?**

**No Impact.** The proposed project would not conflict with the provisions of any adopted Habitat Conservation Plan, Natural Communities Conservation Plan, other approved local, regional, or state habitat conservation plan or any other local policies or ordinances that protect biological resources. The project would support elements found in the Solano Multispecies Habitat Conservation Plan (Solano County Water Agency 2012) as the project enhances riparian habitat and enhances habitat value for target species covered in the plan, including giant garter snake, Swainson's hawk, and northern harrier. The Solano Multispecies Habitat Conservation Plan was developed with participation by surrounding local municipalities and agencies, including the cities of Dixon, Vacaville, and Rio Vista, and the Maine Prairie Water District and Reclamation District 2068.

### 3.6.2 Mitigation Measures for Biological Resources

Solano RCD staff and contractors will implement the following mitigation measures to avoid or minimize potential environmental impacts to biological resources. Implementation of these mitigation measures will reduce the potential environmental impacts of the proposed project to a less-than-significant level. The resulting impacts to the habitat are minor and temporary while the resulting benefit of the restoration work is substantial, long-lasting, and will improve a range of ecological functions at the site.

**BIO 1. Pre-construction Surveys.** A qualified biologist shall conduct wildlife surveys prior to 1) the use of mechanical equipment that disturbs the ground (augering, trenching), 2) Arundo biomass removal, or 3) mowing activities. Specific mitigation measures for GGS and nesting birds are listed below.

**BIO 2. Protection of Listed Species.** If a fully protected or listed animal species is encountered while performing work, all work shall be suspended until the fully protected or listed animal species has left the work area. The appropriate agencies shall be notified of all confirmed observations of any fully protected or listed species in or adjacent to any work area for the project. The qualified biologist will report any take of listed species to the appropriate agencies (USFWS/CDFW) immediately by telephone and by electronic mail or written letter within one (1) working day of the incident.

**BIO 3. Worker Environmental Awareness Training.** A Worker Environmental Awareness Training Program for personnel shall be conducted by a qualified biologist for all workers on restoration sites, including sub-contractors, prior to the commencement of restoration activities. The program shall consist of a presentation made by a qualified biologist that includes information about the distribution and habitat needs of any special status species that may be present, legal protections for those species, penalties for violations, and project-specific protective measures included in this document.

**BIO 4. Giant Garter Snake Surveys and Avoidance.** During the GGS active season (May 1 – October 1), a qualified biologist shall conduct GGS surveys 24 hours prior to: 1) the use of mechanical equipment that disturbs the ground (augering, trenching), 2) Arundo biomass removal, or 3) mowing activities. Surveys will be repeated whenever 15+ days elapse without work at the site. If GGS are encountered during construction activities, construction crew shall immediately notify the qualified biologist who will then immediately notify CDFW/USFWS to determine the appropriate procedures related to the collection and relocation of the snake. A report will be submitted, including date(s), location(s), habitat description, and any corrective measures taken to protect the snake, within one (1) business day.

**BIO 5. Ground Disturbance Work Window.** Ground disturbing activities (augering, trenching) will only be conducted during the GGS's active season between May 1 through October 1. Non-ground disturbing work will continue into the snake's inactive season. Work activities during the active season will be continuous and are likely to deter GGS from using locations within the project area as brumation sites during the GGS inactive season.

**BIO 6. Nesting Bird Surveys and Avoidance.** During the nesting season (February 15-August 15), a qualified biologist shall conduct surveys for nesting birds 24 hours prior to: 1) the use of mechanical equipment that disturbs the ground (augering, trenching), 2) Arundo biomass removal, or 3) mowing activities. Surveys will be repeated whenever 15+ days elapse without work at the site. If nests are located, impacts shall be minimized by establishing appropriate non-disturbance buffer zones in consultation with CDFW/USFWS and monitoring nests to ensure that nests are not jeopardized.

**BIO 7. Native Plant Survey and Avoidance.** A qualified biologist shall conduct surveys for rare plants prior to restoration activities. If any are identified, the areas will be flagged and work around these rare plants will be avoided.

**BIO 8. Elderberry Survey and Avoidance.** A qualified biologist shall conduct surveys for elderberries prior to restoration activities. All identified elderberries shall be flagged, and measures developed by USFWS (2017) to avoid and minimize impacts to VELB will be implemented, including: elderberry branches will not be pruned or trimmed, ground disturbing activities will be avoided within 20 feet of elderberry shrubs, and herbicides & mechanical weed control will not be used within the dripline of the elderberry shrubs.

**BIO 9. Equipment Operation Speeds.** Construction crews shall operate vehicles on the levee roads accessing the site at 15mph or less. Construction crews shall operate equipment used within the footprint of the project site (ATVs, mowers, skid steer bobcat, pickup trucks) at 5mph or less.



### 3.7 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### **Environmental Setting**

The term “cultural resources” as used in this document refers to all “built environment” resources (structures, bridges, levees, etc.), culturally important resources (sacred places and locations associated with traditional activities), and archaeological resources (both indigenous and historic, on land and submerged), regardless of significance.

Cultural resource is a general term that encompasses CEQA’s definition of historical resources (CPRC §21084.1) and unique archaeological resources (CPRC §21083.2). CEQA requires that alternative plans or mitigation measures must be considered if a project would result in significant effects on important cultural resources. Only significant cultural resources, however; need to be addressed (CEQA Guidelines 15064.5 [a][3]). Therefore, prior to the development of mitigation measures, the significance of cultural resources with the potential to be impacted by the project must be determined.

In 2015, the California legislature added a new requirement regarding tribal cultural resources in Assembly Bill 52. This law requires lead agencies to notify and consult early in the CEQA process with any California Native American tribe that requests consultation and to consider measures to mitigate any substantial adverse impacts to a tribal cultural resources.

#### **Discussion**

The proposed project site is located on active agricultural lands and contains no known cultural resources. A cultural resources field survey was conducted by two NRCS Archaeologists on April 29, 2021 and a draft Cultural Resources Study has been prepared that identifies no cultural resources found within the project site. A previous cultural resources study prepared by NRCS in June 2015 also identified no cultural resources found in an area that overlaps approximately 50% of the currently proposed project site.

A Sacred Lands File check conducted by the Native American Heritage Commission (NAHC) on April 5, 2021 was negative. Solano RCD sent notification of the proposed project to 12 California Native American Tribal Representatives registered with NAHC on April 9, 2021 via USPS certified letter. In addition, electronic notifications were sent to 11 of the 12 Tribal Representatives who also provided NAHC with e-mail addresses. Only the Yocha Dehe Wintun Nation Cultural Resources Manager responded to these notifications. The Yocha Dehe Wintun Nation traditionally occupied lands in Yolo, Solano, Lake, Colusa and Napa Counties and the project site lies within its aboriginal territories. On May 12, 2021, a site visit was conducted with a Yocha Dehe Wintun Nation Tribal Monitor, two NRCS Archeologists and the Solano RCD Deputy Director. Subsequently, the Yocha Dehe Wintun Nation Tribe

provided project partners with a list of mitigation measures, the salient features of which have been incorporated herein.

**a) Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?**

**Less than Significant With Mitigation.** Installing native plants will disturb the soil and could have the potential to impact unknown historical resources. Mitigation measures listed below will be incorporated to prevent any significant impact.

**b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

**Less than Significant With Mitigation.** Installing native plants will disturb the soil and could have the potential to impact unknown archaeological resources. Mitigation measures listed below will be incorporated to prevent any significant impact.

**c) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less than Significant With Mitigation.** The project area does not contain any unique geologic features nor does the project area support any known geologic characteristics that have the potential to support unique geologic features. The project will not modify any geologic features. Installing native plants will disturb the soil and could have the potential to impact unknown paleontological resources. Mitigation measures listed below will be incorporated to prevent any significant impact.

**d) Would the project disturb any human remains, including those interred outside of formal cemeteries?**

**Less than Significant With Mitigation.** Although indigenous human remains are often found outside of formal cemeteries, they are usually found in association with villages and residential bases. Since none of these are known to be located within the project area, it is unlikely human remains will be disturbed. Mitigation measures listed below will be incorporated to prevent any significant impact.

### 3.7.1 Mitigation Measures for Cultural Resources

Solano RCD staff and contractors will implement the following mitigation measures to avoid or minimize potential impacts to cultural resources. Implementation of these mitigation measures will reduce the potential impacts of the proposed project to a less-than-significant level.

**CUL 1. Worker Cultural Resources Training.** A Worker Cultural Resources Training Program shall be conducted for all workers prior to the commencement of restoration activities. The program shall include information about how to recognize cultural resources, legal protections for those resources, and appropriate steps to take if cultural resources are discovered during implementation of restoration activities.

**CUL 2. Human Remains Discovered.** In the event human remains are found during project construction, such remains are subject to the provisions of California Public Resources Health and Safety Code Section 7050.5-7055. The required procedures will be implemented, including immediately stopping work within 100 feet of the find and promptly notifying the County Coroner/Medical Examiner, as well as all project partners with regulatory responsibilities. If the remains are determined to be Native American by the County Coroner/Medical Examiner, the NAHC will designate of the Most Likely Descendant (MLD) per California Public Resources Code (PRC) Section 5097.98.

Work within 100 feet of the find will restart only after the remains have been investigated, appropriate recommendations have been made by the MLD for the treatment and disposition of the remains, and the landowner has agreed to adhere to those recommendations to the satisfaction of project partners with regulatory responsibilities. As provided for by California Government Code Section 6254(r), the location of human remains is protected from any type of public disclosure.

**CUL 3. Archaeological/Paleontological Resources Discovered.** If historical or unique archaeological or paleontological resources are discovered during restoration activities, all work will stop within 100 feet of the find, and provisions will be made for a qualified archaeologist to immediately evaluate the find. Work may continue on other parts of the project while evaluation and mitigation take place (CEQA Guidelines §15064.5 [f]). If the find is determined to be an historical or unique archaeological or paleontological resource, time will be allotted to allow for implementation of avoidance measures or appropriate mitigation measure as determined through consultation with local tribes and other project partners with regulatory responsibilities.

As appropriate, and in consultation with the landowner, treatment of identified archaeological resources may include archaeological excavations by qualified archaeologists, analysis of artifacts and other constituents, and evaluation of the resource’s significance. This work will incorporate tribal religious beliefs, customs, and practices as determined through consultation with local tribes, and will be guided by the *San Francisco Bay-Delta Regional Context and Research Design for Native American Archaeological Resources* (Byrd et al 2017).

### 3.8 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Environmental Setting

The project is located in the Sacramento-San Joaquin River Delta within the Great Valley geomorphic province of California, a wide alluvial plain bounded to the east by the Sierra Nevada mountain range and to the west by the Coast Range mountain range (California Geologic Survey 2002). The geology of the project area is dominated by Quaternary (1.8 million years ago – present) basin deposits and alluvium eroded from the adjacent mountain ranges. Hydraulic mining debris generated during the gold rush in the mid to late 1800s also has contributed significant material to the vicinity as hundreds of millions of tons of silt washed down from the Sierra Nevada and deposited within the Delta. The soils in the project area are dominated by moderately to poorly drained, alluvial clay soils.

### Discussion

**a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving i) through iv) above?**

**No Impact.** This project area does not fall within an Alquist-Priolo Earthquake Fault Zone or Seismic Hazard Mapping Act Zone as shown on the State Geologist's seismic hazard online mapping system at: <https://maps.conservation.ca.gov/cgs/informationwarehouse/regulatorymaps/>

**b) Result in substantial soil erosion or the loss of topsoil?**

**No Impact.** Although spot-treatment of invasive weeds may result in some small, bare patches of soil throughout the project site, these areas will be minor in size and will be replanted with deeply-rooted native trees, shrubs, forbs, and sedges as part of the habitat restoration efforts. The project will not result in the substantial soil erosion or the loss of topsoil.

**c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

**No Impact.** The project area is not located near unstable geologic units. The activities on the site will not result in onsite or offsite landslides, lateral spreading, liquefaction, or collapse.

**d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

**No Impact.** Soils in the area include heavy basin soils with the capacity to shrink and swell with changing moisture levels, such as Capay and Clear Lake soils, however the project does not involve construction of structures or landform alteration and therefore will not create a substantial risk to life or property.

**e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?**

**No Impact.** The proposed project will not generate wastewater and does not involve the use of septic tanks or alternative wastewater disposal systems. Therefore, no impacts would result with implementation of the project.

### 3.9 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

Greenhouse gases (GHGs) are recognized by wide consensus among the scientific community to contribute to global warming/climate change and associated environmental impacts because of their ability to trap heat in the atmosphere and affect climate. The major GHGs that are released from human activity include carbon dioxide, methane, and nitrous oxide (Governor’s Office of Planning and Research 2008). The primary sources of GHGs are vehicles (including planes and trains), energy plants, and industrial and agricultural activities (such as dairies and hog farms).

California has demonstrated its intent to address global climate change through research, adaptation, and GHG inventory reductions. In response, the California Legislature enacted the California Global Warming Solutions Act of 2006 (AB 32, Health and Safety Code Section 38500 et seq.) to implement standards that will reduce GHG emissions to 1990 levels. In the act, the Legislature found that “[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California.” Senate Bill 97, adopted in 2007, required the Governor’s Office of Planning and Research to develop CEQA guidelines “for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions,” and the Resources Agency certified and adopted the amendments to the guidelines on December 30, 2009. The Yolo-Solano Air Quality Management District (YSAQMD) has not established guidelines for evaluating GHG emissions from proposed projects and does not have thresholds for assessing the significance of impacts.

#### Discussion

Using standard emissions numbers for fuel (regular gasoline emits 19.64 lbs CO<sub>2</sub>/gal and diesel fuel emits 22.38 lbs CO<sub>2</sub>/gal) (USDOE 2016), the CO<sub>2</sub> emissions from project activities were estimated and are shown in Table 4. These activities will release approximately 8.6 metric tons (18,918 lbs) of carbon dioxide to the atmosphere over the course of the project.

As a result of habitat restoration activities, however, 1,880 native trees and shrubs will be established in the project area. The US Department of Energy (1998) quantified CO<sub>2</sub> uptake by a wide variety of trees, many of which are close relatives of the species to be planted at this site. Using these estimates, and assuming that shrubs take up 10 percent of the CO<sub>2</sub> that trees do, the plantings at this site will take up approximately 1,120 metric tons of carbon dioxide over 20 years, providing a net benefit of 1,111 tons of CO<sub>2</sub> uptake by the project.

**Table 4. Estimated Pounds of CO<sub>2</sub> Emissions from Project Vehicles and Equipment**

<b>VEHICLE EMISSIONS</b>				
<b>Vehicle</b>	<b>Travel (miles)</b>	<b>Mileage (miles/gal)</b>	<b>Lbs CO<sub>2</sub>/gal</b>	<b>Emissions (Lbs CO<sub>2</sub>)</b>
SRCD 150	6840.00	18.00	19.64	7464.34
SRCD 250	1440.00	12.00	19.64	2356.80
ATV/UTV	368.00	15.00	19.64	481.83
CCC crew	800.00	15.00	19.64	1047.63
<b>Sub-Total Vehicle CO<sub>2</sub> Emissions (Lbs)</b>				<b>11350.60</b>
<b>EQUIPMENT EMISSIONS</b>				
<b>Equipment</b>	<b>Run time (hours)</b>	<b>Mileage (gal/hr)</b>	<b>Lbs CO<sub>2</sub>/gal</b>	<b>Emissions (Lbs CO<sub>2</sub>)</b>
Irrigation pump	315.00	0.50	19.64	3093.77
Skid steer	70.00	2.00	22.38	3133.20
Flail mower	62.00	0.75	22.38	1040.67
Small trencher	1.00	0.25	19.64	4.91
Weed whackers	60.00	0.25	19.64	294.60
<b>Sub-Total Equipment CO<sub>2</sub> Emissions (Lbs)</b>				<b>7567.15</b>
<b>Total CO<sub>2</sub> Emissions (Lbs)</b>				<b>18917.75</b>

**a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less than Significant Impact.** While GHG emissions will be produced from the restoration equipment and vehicles used to install the project, there will be no generation of emissions after project implementation is complete. Emissions of GHGs resulting from the use of equipment and vehicles would be short-term and minor. Furthermore, over a 20 year period, the native trees and shrubs are projected to sequester 1,120 metric tons of CO<sub>2</sub>, a net benefit of 1,111 metric tons.

**b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**No Impact.** The project will not generate significant emissions of GHGs and, therefore, will not conflict with any applicable plans, policies, or regulations adopted for the purpose of reducing the emission of GHGs. This project is consistent with the Delta Conservancy's Climate Change Policy, which promotes the implementation of practices that take up CO<sub>2</sub>.

### 3.10 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### Environmental Setting

Hazardous materials are defined in Section 66260.20, Title 22 of the California code of Regulations as a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics may either (1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating reversible, illness, or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported, or disposed of or otherwise managed.

#### Discussion

**a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous material?**

**Less than Significant Impact.** Fuel and herbicides will be transported and used on site during weed control and restoration activities. No disposal of materials will occur at project sites. The BMP measures incorporated into the project description will ensure that there are no significant impacts to the environment through transport, use or disposal of hazardous materials.

**b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

**Less than Significant Impact.** The BMPs incorporated into the project description will ensure that the project does not create a significant hazard to people or the environment through reasonably foreseeable accidental release of hazardous materials.

**c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**No Impact.** There are no schools within one-quarter mile of the project area.

**d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**No Impact.** The project site is not on a list of known hazardous materials site.

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

**No Impact.** The project site is not within an airport land use planning area or within two miles of a public airport.

**f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

**No Impact.** The project site is not located within the vicinity of a private airstrip.

**g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**No Impact.** The project activities take place on agricultural lands and do not necessitate closing or blocking roads or restricting their use. Project activity would not alter emergency response or emergency evacuation routes.

**h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

**Less Than Significant Impact.** The project activities will take place on agricultural lands with no structures, urbanized areas, or residences nearby. The BMPs incorporated into the project description will reduce the risk of igniting a wildfire during the use of restoration equipment to a less than significant level.



### 3.11 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Inundation by seiche, tsunami, or mudflow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

The Central Valley Regional Water Quality Control Board (CVRWQCB) has Federal- and State-mandated regulatory jurisdiction for control of water quality in the project area. The Water Quality Control (Basin) Plan for the Central Valley (CVRWQCB 2011) outlines water quality standards to be protected. Water quality standards are beneficial uses of water, water quality objectives, and the State anti-degradation policy.

The project area is in the Cache Slough Complex and is located on the water side of the levees that bound Ulatis Creek. Site hydrology is influenced by occasional flood waters from Ulatis Creek that overtop the bank and flood the project site.

#### Discussion

In addition to the mitigation measure discussed below, a number of best management practices, most of which are standard practices observed by Solano RCD during implementation of any native habitat restoration project, will be utilized to protect water quality during site preparation, installation, and establishment activities. These include conducting herbicide applications in ways that minimize drift and implementing a robust Worker Training Program on proper procedures for handling hazardous materials. Please refer to the project description in the Initial Study for details.

**a) Violate any water quality standards or waste discharge requirements?**

**Less than Significant with Mitigation.** It is possible that impacts to water quality standards could conceivably occur from overspray of herbicides during invasive plant control efforts. The BMPs incorporated into the project description, along with the mitigation measures described at the end of this section, will reduce potential impacts to water quality standards to less than significant.

**b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?**

**No Impact.** Project activities will not affect groundwater quality, supplies, or recharge. No wells will be drilled, no pumping will occur, and no new facilities will be created that could affect groundwater.

**c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?**

**No Impact.** Project activities will not alter the existing drainage pattern of the project site nor alter the course of waterways in the area.

**d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?**

**No Impact.** Project activities will not create or contribute to any runoff water.

**e) Otherwise substantially degrade water quality?**

**No Impact.** See answer and elaboration to possible impact (a). No additional impacts to water quality are anticipated.

**f) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

**No Impact.** The project does not construct houses.

**g) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?**

**No Impact.** The project does not involve the constructions of any structures.

**h) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

**Less Than Significant Impact.** The project does not involve the creation of any structures, levees, or dams. NRCS engineers ran a Hydrologic Engineering Center River Analysis System (HEC-RAS) model and determined that the potential for water surface elevation change due to the proposed tree and shrub plantings was less than 0.09 feet during a 100-year storm event and therefore caused a less than significant impact.

**i) Inundate by seiche, tsunami, or mudflow?**

**No Impact.** The area is flat and located away from the coast and foothills. It is not subject to inundation by large waves or mud flows.

### 3.11.1 Mitigation Measures for Hydrology/Water Quality

Solano RCD staff and contractors will implement the following mitigation measures to avoid or minimize potential impacts to water quality. Implementation of these mitigation measures will reduce the potential impacts of the proposed project to a less-than-significant level.

**WQ1.** To reduce the chance of accidental overspray of herbicide into Ulatis Creek during control of invasive weeds, herbicide spraying will not be conducted within 10 feet of the water’s edge.

## 3.12 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Environmental Setting

The project area is located in the eastern portion of Solano County, which is unincorporated. It is an area that is zoned for agriculture and is sparsely populated. Land use in the surrounding area is primarily agriculture with some residential and open space areas.

### Discussion

#### a) Physically divide an established community?

**No Impact.** The project does not propose the introduction of new infrastructure such as major roadways or water supply systems, or utilities to the area and will not, therefore, disrupt or divide an established community.

#### b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

**No impact.** The project activities will not conflict with any applicable land use plan, policy, or regulation.

#### c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

**No Impact.** The proposed project is within the plan area for the Solano Multispecies Habitat Conservation Plan but the project activities will not conflict with the plan as the project restores habitat and ecological function.

### 3.13 Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

Mineral resources mined or produced within Solano County include mercury, sand, gravel, clay, stone products, calcium, and sulfur. None of these resources are mined or produced in the project area. There are no active mines or mineral processing facilities and no recorded past mine locations at the project site. There are no Mineral Resource Zones (MRZ) within the project vicinity.

#### Discussion

##### a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

**No impact.** The proposed project will not be extracting large amounts of earthen material. At most, minor surface disturbance for planting activities will be performed. Therefore, the proposed project will not have any impacts on mineral resources.

##### b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

**No impact.** There are no locally important mineral resource recovery sites delineated within the project boundary.

### 3.14 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### **Environmental Setting**

Noise- and vibration-sensitive land uses generally include those uses where exposure would result in adverse effects (e.g., sleep disturbance, annoyance), as well as uses where quiet is an essential element of their intended purpose. Residences are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other sensitive land uses include hospitals, convalescent facilities, parks, hotels, churches, libraries, and other uses where low interior noise levels are essential. The project area is an isolated agricultural area. There are no sensitive receptors in close proximity to the project sites.

### **Discussion**

#### **a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**No Impact.** Noise generated from the restoration activities are insignificant due to their short duration and low levels in comparison to highway/road noise and surrounding land uses (agricultural operations – which use similar types of equipment). Furthermore, there are few residences or businesses in the project area. Therefore, the proposed project will not expose people to or generate any noise levels that exceed the allowable limits set by local, State, and Federal noise control regulations.

#### **b) Exposure of persons to or generation of excessive ground-borne vibrations or ground-borne noise levels?**

**No Impact.** Equipment utilized for restoration activities does not have the potential to generate excessive ground-borne vibration or noise levels.

#### **c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

**No Impact.** The proposed project will not result in any permanent increases in ambient noise levels. The project is short-term in duration.

#### **d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

**No Impact.** The proposed project will increase ambient noise levels in the project vicinity for a short duration, but noise levels will not be in excess of established standards.

#### **e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels?**

**No Impact.** The closest municipal airport is approximately 7.5 miles from the southern end of the project area and project activities will not expose people in the area to excessive noise levels.

#### **f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

**No Impact.** There are no private airstrips nearby and project activities will not expose people in the area to excessive noise levels.

### 3.15 Population and Housing

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

The project area is located in the eastern portion of Solano County, which is unincorporated. It is an area that is zoned for agriculture and is sparsely populated, with few residences within the project vicinity.

#### Discussion

**a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**No Impact.** The proposed project would not directly or indirectly induce human population growth since the project involves the installation of native plants and not facilities associated with housing or businesses.

**b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

**No Impact.** The proposed project does not have the potential to displace housing.

**c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

**No Impact.** There are not people residing at the project site and project activities will not displace people.

### 3.16 Public Services

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Environmental Setting**

Public services for the project area are under the jurisdiction of the Solano County Sheriff’s Department, CAL FIRE, and the Dixon Fire Protection District. There are no schools, parks, or other public facilities in the vicinity of the project site. No federal or state regulations are applicable to police or fire protection in the project area.

**Discussion**

**a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services included above?**

**No Impact.** The proposed project would not result in the need for new or physically altered government facilities, is not associated with a structure that would require fire protection services and will not impact the officer to population ratio of the Solano County Sheriff’s Department or the demand for additional law enforcement facilities.

**3.17 Recreation**

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Environmental Setting**

The project location is on private property bordered by Ulatis Creek.

**Discussion**

**a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**No Impact.** The proposed project does not propose actions that will increase the use of existing parks or other recreational facilities.

**b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

**No Impact.** The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities.

### 3.18 Transportation and Traffic

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Environmental Setting

The project area is an isolated area with two-lane rural roads and a private dirt levee road. The project area can be accessed from SR 113. SR 113 is a rural minor arterial road serving local traffic and operating at Level of Service B. Caltrans defines Level of Service B as roads with traffic speeds at or near free-flow speed, with light to moderate volumes (Kimley-Horn and Associates 2009). Agriculture is the dominant land use activity near SR 113.

#### Discussion

**a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

**No Impact.** The proposed project will not conflict with any applicable plans, ordinances, or policy establishment performance of circulation systems.

**b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

**No Impact.** The proposed project will not conflict with any congestion management plans.

**c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

**No Impact.** The proposed project would not affect air patterns.



**d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**No Impact.** The project will not alter traffic patterns, roadway design, create or place curves, slopes or walls which impede adequate sight distance on a road, or cause significant traffic/transportation hazards. Work crews will use skid steer bobcats, ATVs, and mowers, but in unimproved areas and staging areas. Any temporary movement of equipment will observe state transportation laws and crews will not stop or divert traffic.

**e) Result in inadequate emergency access?**

**No Impact.** The proposed project does not propose changes to access in the surrounding area and will not result in inadequate emergency access.

**f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

**No Impact.** Project implementation will not result in any construction or new road design features; therefore, will not conflict with policies regarding alternative transportation.

### 3.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Environmental Setting**

The project is located in a remote part of the county and there are no utility or service systems for the project sites.

**Discussion**

**a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

**No Impact.** The proposed project will not create any discharge of wastewater to sanitary sewer or on-site wastewater systems (septic).

**b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**No Impact.** The proposed project does not cause the construction of any new facilities that would require any type of water or wastewater treatment.

**c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

**No Impact.** The proposed project does not include or require new or expanded storm water drainage facilities.

**d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

**No Impact.** The proposed project will not change existing water supplies availability.

**e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

**No Impact.** The proposed project will not use sewer services or generate wastewater.

**f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

**No Impact.** Very little solid waste will be generated by the project and the nearby Recology Hay Road Landfill has sufficient permitted capacity to accommodate the disposal needs generated by the project.

**g) Comply with federal, state, and local statutes and regulations related to solid waste?**

**No Impact.** Implementation of the project will generate very little solid waste. Any solid waste generated deposited at a permitted solid waste facility and will comply with Federal, State, and local statutes and regulations related to solid waste.

### 3.20 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Discussion

This Initial Study was prepared to assess the proposed project's potential effects on the environment and significance of those effects. Based on the Initial Study, it has been determined that the proposed project would not have any significant environmental effects on human beings and will have less-than-significant cumulative impacts. The potential, short-term adverse environmental effects related to restoration activities would be minimized or avoided through the use of best management and the implementation of mitigation measures that reduce impacts to less than significant.

**a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

**Less than Significant with Mitigation.** The project does have the potential to temporarily degrade the quality of the immediate environment during installation due to construction activities, but will not substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number of or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. Best management practices and mitigation measures have been proposed to reduce impacts to less-than-significant levels and are described in full detail in the project description and after each resource discussion. While the potential impacts are minor and temporary, the resulting benefit of the restoration work is substantial, long-lasting and will improve the quality of the environment and increase wildlife habitat.

**b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

**Less than Significant Impact.** As discussed in the analysis provide in this Initial Study, the environmental commitments that are incorporated into the project maintain all potential impacts on resources at a less-than-significant level. The proposed project would not result in cumulatively considerable impacts.

**c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

**No Impact.** The proposed project would not result in substantial adverse effects on human beings.

## **4 Document Preparation**

The following people assisted in the preparation of this document:

- Katherine Holmes, Solano Resource Conservation District, Deputy Executive Director
- Andrea Mummert, Solano Resource Conservation District, Conservation Project Manager
- Amy King, Solano Resource Conservation District, Watershed Project Manager

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