Initial Study/Negative Declaration

Mid-San Joaquin Invasive Species Removal Project

July 12, 2019

Lead Agency:
East Stanislaus Resource Conservation District
3800 Cornucopia Way
Suite E
Modesto, CA 95358

Prepared By:
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Introduction

This Initial Study provides supporting information for a proposed invasive vegetation management and herbaceous enhancement project within the San Joaquin River watershed. The project will map, treat, and monitor infestations of invasive weeds to allow for the re-establishment of native species and increased river flows. Control of the invasive weeds will stop the infestation further downstream and allow for water to be properly conveyed through channels. The project area encompasses private, public, State and Federal Lands from the confluence with the Stanislaus River to the confluence with the Merced River including the main tributaries (Stanislaus River, Dry Creek, Tuolumne River, and Merced River); this document signifies compliance under the California Environmental Quality Act (CEQA). This Initial Study covers the proposed project and potential weed monitoring, control, and enhancement activities within the project area.

Background

Project Purpose

The purpose of the Project is to treat infestations of invasive plants as quickly as possible to discourage future encroachment throughout the watershed. Mapping these species on an ongoing basis will allow River Partners to identify the impact of treatment and understand the progression with which invasive plants spread across the main stem and tributaries to the San Joaquin River. Ongoing monitoring activities will identify the success of treatments, usage of treated areas by target wildlife species, and provide analysis of evapotranspiration rates that will help the conservation community to better understand the impact of invasive species on water use.

The current infestation of invasive weeds throughout the watershed poses a threat on multiple levels. As invasive weeds spread throughout the watershed, they outcompete natural vegetation and pose a higher risk of fire for surrounding communities. As observed from the Lower San Joaquin River in summer 2015 when multiple infested areas along the river corridor caught fire, the weeds covering the banks dry out leaving the area compromised. In addition, with higher river flows, the spread of invasive weeds increases. This can inhibit the flow of water downstream, especially in narrower waterways. Furthermore, invasive weed pressure has a direct negative effect on native wildlife. Invasive weeds consume the nutrients within the waterways affecting aquatic life and outcompete vegetation used by native species for food and shelter. If this project is successful, it has the potential to create beneficial change within the watershed as well as areas further downstream.

Project Objectives

Proposed project objectives are to:

- Implement control measures for invasive non-native plants.
- Reduce invasive weed recruitment sources on the San Joaquin River, benefiting native vegetation, wildlife, water conveyance, and agriculture.
- Promote native plant species recruitment.
- Enhance and restore wildlife habitat values

Regulatory Compliance

California Environmental Quality Act Compliance

The California Environmental Quality Act (CEQA) requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before taking action on those projects. Under CEQA, River Partners has prepared an initial study to determine whether an environmental impact report (EIR), a negative declaration, or a mitigated negative declaration is needed. An EIR would be required if any "potentially significant impacts" were identified that could not be mitigated to a less-than-significant level. A negative declaration may be adopted if impacts are considered "less than significant," and a mitigated negative declaration may be adopted if the project would result in less than- significant impacts with mitigation measures incorporated into the project.

The project initial study (Appendix A), modeled from Appendix G of the state CEQA Checklist Guidelines, and evaluates impacts of the proposed project. The result of this initial study suggests that a negative declaration is appropriate for the site.

Project Description

Project Area

The project area includes private and public lands ranging from the confluence of the San Joaquin River and Merced River to the San Joaquin's confluence with the Stanislaus River. The project area includes both the main stem of the San Joaquin as well as its tributaries, including the Stanislaus, Tuolumne, Dry Creek, and Merced Rivers. The eastern project boundary is defined by the border of Stanislaus County. In total, the project area encompasses thousands of acres of riparian zone owned by different landowners both public and private.

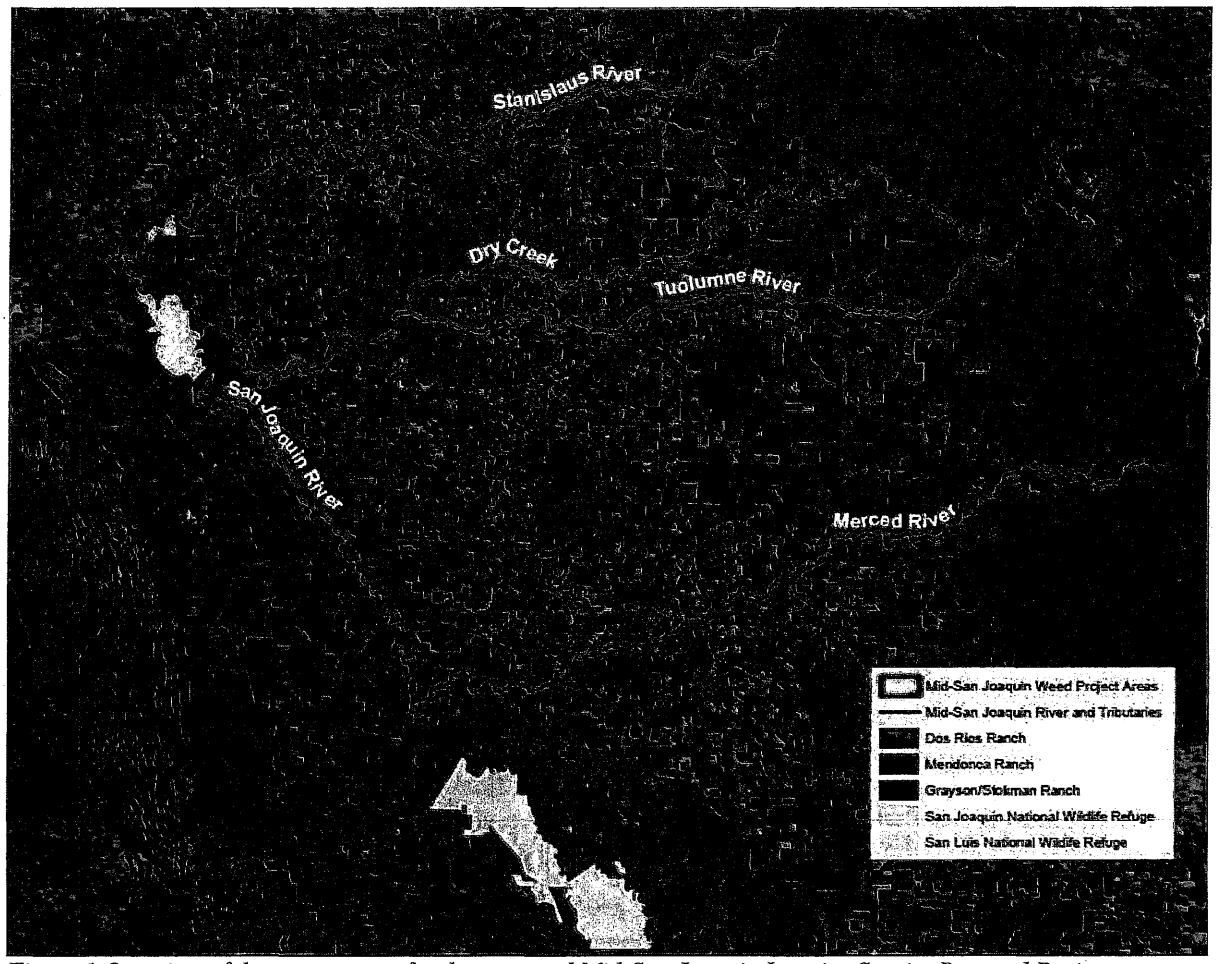

Figure 1 Overview of the project area for the proposed Mid-San Joaquin Invasive Species Removal Project

Project Background

The proposed project is a derivative of the highly successful San Joaquin River Invasive Species Removal and Jobs Creation project initiated in the upper reaches of the San Joaquin River (from Friant Dam to the Merced Confluence) in 2012. The upper San Joaquin River weed removal efforts have resulted in over 5,000 acres mapped and treated on several properties both publicly and privately owned. Given this success, River Partners and several landowners in the middle reaches of the San Joaquin River have identified multiple potential treatment sites totaling over 11,000 acres in size that would benefit from invasive species removal and provide enhanced conveyance and reduced spread to downstream reaches and the Delta.

Implementation Plan

The project activities will include mapping and planning, treatment (maintenance and retreatment), and monitoring. The duration of this project is scheduled for 5years with the potential to continue renewing funding and permits beyond the initial project lifetime if successful. A description of each planned activity can be found in the following sections:

Mapping and Planning

In the spring of each project year, River Partners will visit sites and map the distribution of target weeds. Access is provided by willing landowners. Biologists will travel down the river corridor and through tributaries in the Mid-San Joaquin Region (on State sovereign lands) to track the spread of target weeds for future landowner outreach.

Data will be collected in the field on handheld computers running ArcPad. Data will be submitted to all interested agencies and partners at the end of each treatment season.

Field data collection will include:

1. Area descriptions with the owner and other contacts, permission, and instructions for access;
2. A survey for each area, noting and describing the presence or absence of weed species, other (native) plant populations, and disturbances;
3. Weed occurrence descriptions, with species and GPS data (centroid point);
4. A Weed Assessment for each Weed Occurrence using a standard data dictionary developed specifically for this project, with a GPS polygon showing the extent of the population, and data describing the status of the weed such as percent cover, distribution, and phenological stage;
5. Photos of the surveyed areas and weed populations mapped in Google Earth or other online mapping tools.

Following field data collection, a complete mapping dataset will be compiled and stored in the project database and used to prioritize treatment areas. Treatment prioritization will use a modified WHIPPET (Weed Heuristics: Invasive Population Prioritization for Eradication Tool developed by Cal-IPC) method built through years of field trials and experience with weed removal efforts underway on the upper San Joaquin River. A Treatment Prioritization Plan will be prepared to facilitate the development of logistics for large-scale groundwork. The Treatment Prioritization Plan includes information regarding landowner contacts, site access, anticipated labor needs, resource sensitivity issues, and methods to be used. Once the Treatment Prioritization Plan is vetted by the project team, contact will be made with landowners to schedule access and treatments with the CCC (California Conservation Corps) and RCC (Regional Conservation Corp) labor crews to schedule work.

Treatment

Treatments of prioritized weed infestations will occur annually with the development of treatment logistics including modifying the treatment schedule to accommodate plant phenology, labor supply, landowner access, and timing preferences, permit conditions, and biological clearance needs.

Prior to initiation of treatments, biology staff will perform site clearances per permit conditions. Additionally, field staff will perform job training for labor crews. The training exceeds the required safety training, to include valuable skills in agricultural techniques, equipment usage, and riparian plant ecology.

River Partners will use the following guidelines for invasive plant management in its project locations:

Weed removal will be done by hand removal methods including hand pulling and hand tools such as weed wrenches, weed eaters, loppers, chainsaws, hand picks, and shovels. In some cases, mechanical equipment will be used to remove invasive plants when there are large stands to be removed. Mechanical equipment will include flail mowers, masticators, and chippers, which will cut invasive plant stands and chip material for removal or mulch.

Herbicides include aquatic and terrestrial formulations of glyphosate, imazapyr, aminopyralid, and chlorsulfuron. These commercial formulations are approved for use by the U.S. Environmental Protection Agency, with the aquatic formulations of these herbicides being approved for use over or near waterways. These herbicides are documented to be of low toxicity to fish, other aquatic organisms, and wildlife and will be used in accordance with label directions by licensed applicators approved by the California Department of Pesticide Regulation. All herbicide formulations proposed for use were previously approved and reviewed by NMFS and CDFW.

Herbicide application methods include cut and paint stumps, foliar spray or spot spray, cut and paint of regrowth, prep-and-spray, and stem injection. Applicators will use hand bottles, backpack sprayers, or truck or ATV-mounted power sprayer with low-drift methods.

Treatment within 20 feet of an active waterway (stream with flowing or standing water) will be done using aquatic formulations of glyphosate and imazapyr only.

Following herbicide applications, dead biomass will be left on-site to decompose standing upright, bent over, or cut and laid in piles. If necessary and feasible, biomass may be removed by hauling away the cut vegetation, chipping them in place (if stands are close to existing access roads), or by mulching the standing vegetation with masticators and/or flail mowers. Cut stems can also be piled and burned in place during the winter months or mulched in place during other seasons.

No new roads or access paths will be created.

In-stream work involving hand methods or machinery will be performed during summer and fall low-flow or dry periods only.

Approved stream crossing protocol includes: The project will not create any new roads or crossings. Crossings will occur during the summer and fall low-flow or dry periods. When crossing using a boat, the operator will launch the boat from an existing access point or a location identified during the project area survey.

Specific avoidance and minimization measures are outlined in the Project EA and 1600 Streambank Alteration permit.

Following treatments, most sites are seeded with native grasses and herbs to facilitate revegetation and reduce the incidence of re-infestation. Target species are known to require several years of follow-up monitoring and treatment to achieve management or eradication.

Monitoring

Monitoring data collected at the time of treatments include:

1. Weed Assessment for each Weed Occurrence being treated;
2. Treatment record describing the eradication or revegetation methods used;
3. Session record, recording the crew and staff time required to accomplish the treatments and observations;
4. Photos of the treated areas and weed populations associated with a GPS point and compass direction.

Metrics tracking will be performed by biology and administrative staff to document and evaluate the success and costs of weed control and revegetation efforts, allow a comparison of methods employed, and to link treatments with job provision, flood conveyance, and water supply benefits. Monitoring includes collection and data analysis of actual biomass removal by species, annual climate variables for treatment sites, and distribution of dense treatment areas relative to known flood management issues and infrastructure, and correlation of biomass removal with published water use models. Results of metrics tracking will be presented in Annual Project Reports and will guide future treatment prioritization.

Appendix A
CEQA Initial Study / Environmental Checklist Form

1. **Project title:**

   Mid-San Joaquin Invasive Species Removal Project

2. **Lead agency name and address:**

   East Stanislaus Resource Conservation District
   3800 Cornucopia Way
   Suite E
   Modesto, CA 95358

3. **Contact person and phone number:**

   Trina Walley
   209-491-9320

4. **Project location:**

   The project area encompasses the San Joaquin River watershed within Stanislaus County, extending from the Merced River confluence to Stanislaus River confluence with the San Joaquin. The project area includes both private and public lands.

5. **Project sponsor's name and address:**

   River Partners
   121 W. Main Street, Suite H
   Turlock, CA 95380

6. **General plan designation:**

   San Joaquin River Floodplain

7. **Zoning:**

   Agriculture/Floodplain

8. **Description of project:**

   The Mid-San Joaquin Invasive Species Removal Project will map and treat invasive weed infestations throughout the project area. The project aims to reduce invasive species pressure on the river banks and eliminate the spread of invasive species downstream. The primary goal of the Project is to enhance the habitat quality for the common and special-status plant, wildlife, and fish species and to restore habitats that have been degraded by the presence of invasive plants. Removal will be accomplished through hand removal, mechanical removal, and chemical application to targeted invasive species.

9. **Surrounding land uses and setting:**

Agriculture/Public Land (San Joaquin River, Stanislaus River, Dry Creek, Tuolumne River, and Merced River)/Rural Residential/Quasi-Public/Private: This project encompasses a large area of San Joaquin River floodplain spanning from the Merced River confluence to the Stanislaus River confluence with the San Joaquin in the North. Surrounding land uses through this area include agriculture, gravel mining, residential communities, and recreation. Public State Parks, Federal National Wildlife Refuge lands, and State Recreation Areas are lands included in this project area and may be used for recreation by the public.

10. **Other public agencies whose approval is required:**

California Department of Fish and Game Lands: A letter of authorization to conduct work on non-hunt days is needed to implement project activities on CDFG lands. To obtain a letter of authorization the Department of Fish and Game must review the project description with specific attention to the invasive weed removal methods. River Partners will coordinate with the Department of Fish and Game to ensure project activities are in line with Wildlife Management Area objectives. A Letter of Authorization to conduct work on land managed by the California Department of Fish and Game will be obtained prior to conducting work.

United States Fish and Wildlife Service Lands: National Wildlife Refuge System General Special Use Application and Permit (FWS Form 3-1383-G) is needed to implement project activities on USFWS lands (e.g. San Joaquin River National Wildlife Refuge lands). River Partners is in communication with USFWS Refuge staff to ensure such access is appropriately permitted.

Department of Parks and Recreation Lands: A Right of Entry permit is needed to conduct project activities on State Parks lands. A draft ROE is appended to this project description. An Application and Permit to Conduct Biological, Geological, or Soil Investigations/Collections will be filed with State Parks prior to the commencement of any monitoring activities.

Temporary Entry Permit: To conduct project activities on private lands, project staff will work with private landowners to develop Temporary Entry Permits or TEP's. TEP's will specify how environmental surveys will be conducted, detail the controls landowners retain for entry to their property for surveys and weed control activities, and detail the private property rights under the TEP. Project partners will work with willing landowners to develop a form TEP for this project. Until a form TEP is agreed upon between project partners and landowners, access to private lands will be conducted on a one-on-one basis with willing landowners.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?

Native American tribes traditionally and culturally affiliated with the project area have not requested any form of consultation to the lead agency.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality
☐ Land Use / Planning	☐ Mineral Resources	☐ Noise
☐ Population / Housing	☐ Public Services	☐ Recreation
☐ Transportation / Traffic	☐ Tribal Cultural Resources	☐ Utilities/Service Systems
☐ Mandatory Findings of Significance		

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ 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.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ 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.

☐ 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.

_____ _____

Signature Date

_____ _____

Printed Name For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from ~~Section XVII,~~ "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c) (3) (D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:
   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	Beneficial or No Impact
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?				X
Summary: *Even though access through Farmland may be required based on the treatment site, through access agreements with the private and public landowners, the project will* ***not*** *have a negative impact on current agriculture activities and zoning.*				
III. AIR QUALITY -- 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?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
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)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X
Summary: *The proposed project does not involve the construction of infrastructure that would result in a long-term increase in air emissions that would result in changes to regional air quality. Temporary impacts to air quality could result from earthmoving activities and vehicle travel on unpaved roads. Dust can be emitted by the action of equipment and vehicles and as a result of wind erosion over exposed earth surfaces. Traffic and general disturbance of the soil will be the only causes of dust emissions. Short-term impacts would be mostly related to particulate matter emissions, but a minor increase in exhaust emissions produced during the transport of workers and machinery to and from the site may also occur. These impacts are temporary and therefore considered to be less than significant with the implementation of best management practices identified measures described in Environmental Commitments.*				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	Beneficial or No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X
Summary: *The project will beneficially affect the aesthetics of the project area by removing invasive vegetation and replanting native vegetation. This will enhance the visual character of treated sites by allowing native flora and fauna to benefit from the reduction of invasive weed pressure on the ecosystem. Recreational users will experience improved views of riparian vegetation and wildlife in the San Joaquin corridor.*				
II. AGRICULTURE RESOURCES: 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 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?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X

IV. BIOLOGICAL RESOURCES -- 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 Wildlife or U.S. Fish and Wildlife Service?				X
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 Wildlife or US Fish and Wildlife Service?				X
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?				X
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?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
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?				X
Summary: *Despite the possibility of resident species being affected, per project guidelines, River Partner's biologist will conduct pretreatment surveys to ensure nesting or resident species will not be threatened in any negative way. The project will allow for the revegetation of native species providing an overall environmental benefit. The project will have a beneficial effect on the riparian habitat eliminating invasive weed pressure allowing it to restore back to its natural state.*				

Several special-status species and sensitive habitats are known from or have the potential to occur in the respective project locations, based on information from:

- *The Draft EIR/S for the San Joaquin River Restoration Program*
- *California Natural Diversity DataBase (CNDDB 2019)*
- *California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2006)*
- *USFWS County lists of sensitive species for Merced, Madera and Fresno Counties*
- *Various project reports and biological assessments prepared by NGOs and SJRRP consultants*

Because invasive plant removal will take place near or within the potential habitat of protected species, avoidance measures are included in the project to prevent short term direct or indirect adverse effects on the species, if present. Importantly, the overall project is aimed at improving habitat quality for native plant, fish and wildlife species as well as restoring the integrity of sensitive native riparian communities.

For the purposes of CEQA, all special-status species are evaluated for potential presence. These include the federally- and state-listed threatened, endangered, candidate, and proposed species, federal species of concern, California species of special concern, California fully protected species, and plant species ranked by CNPS as list 1B (rare, threatened, or endangered in California and elsewhere) or list 2 (rare, threatened, or endangered in California, but common elsewhere). However, the following sections only discuss the federally- and state-listed wildlife and plant species that need to be avoided by project activities.

With respect to non-listed special-status species (federal species of concern, California species of special concern, California fully protected species, and CNPS list 1B and list 2 plant species) the project activities would not have an adverse effect on these species.

The activities will have limited habitat disturbance and will not reduce habitat for wildlife or fish species. The removal of invasive plant species may result in a temporary reduction of vegetative cover in the riparian zone; however, the overall riparian habitat will not be reduced. Conversely, in the case of arundo, removal will result in improved habitat quality for aquatic species by improving water flow and fish passage in streams. Because most of the invasive plant removal methods will involve hand crews using weed wrenches, chain saws, and loppers, disturbance to the overall riparian habitat will be minimal. In cases where flail mowers and masticators will be used, this equipment will be restricted to use adjacent to existing roads, levees, or access paths where there is clear access to invasive plant stands. If stands are located where native vegetation separates the stands from existing roads, levees, or access paths, this equipment will not be used and hand methods will be implemented instead.

Project activities are not expected to contribute to special-status species population decreases below self-sustaining levels or reduce the number or range of any rare or endangered plant or animal. Removal of invasive species will be done by hand and using hand tools such as weed wrenches, loppers, weedeaters, and chainsaws. No heavy equipment will be used and no large ground disturbance is planned for the project. The herbicides used are not expected to result in population decreases in wildlife and fish species. The herbicides used near water will be aquatic-approved formulations of glyphosate and imazapyr. Special-status plant species typically do not co-occur with dense stands of arundo or other invasive plants. In areas with less dense stands arundo or other invasive plants, where native habitat is present around the stands, special-status plant species will be identified by a qualified botanist in the field

prior to administration of herbicides. Should any of these species be present near treatment sites, they will be flagged for avoidance and spray methods shall be evaluated to select the most localized methods.

The project activities will not result in the elimination of a plant or animal community, although the removal of the invasive plants may temporarily reduce the size of the plant community. However, the removal of the invasive plants will, in the long-term, result in more native species composition in the community, which can result in better habitat quality of the community. Therefore, because the project activities will avoid adverse effects to federal species of concern, California species of special concern, California fully protected species, and CNPS list 1B and list 2 plant species, these species are not discussed further.

WILDLIFE

The following sections discuss the federally and state-listed wildlife species. In each section, a brief description of each species or group of related species is provided. These descriptions are followed by avoidance and minimization measures that will be implemented as part of the project to ensure that the project avoids potential adverse effects to special-status wildlife species. These measures will be further developed and refined in cooperation with the regulatory agencies charged with the protection and management of these resources (DFG, USFWS, and NMFS) to ensure a maximum level of protection. The following general avoidance protocols will be observed at all project sites:

- *The implementation methods for invasive plant abatement stated previously, will be used for all treatment sites*
- *Project-related vehicles shall observe a speed limit of 20-mph throughout the*
- *Site in all project areas, except on county roads and State and Federal highways.*
- *All food-related trash items such as wrappers, cans, bottles, and food scraps will be packed-in, packed-out on a daily basis.*
- *No firearms shall be allowed on the project site.*
- *All herbicide treatments will be conducted by a licensed applicator. Herbicides will be applied to foliage and stem or injected into stems of invasive plants. Herbicides will not be sprayed into streams, pools, ponds, or wetlands.*

Initial surveys will be conducted by a qualified biologist within areas of the various project sites prior to any project related activity on that specific site. The CNDDB, county records, and personal observations of nearby landowners will be used as a starting point for these initial wildlife surveys regarding the species listed below.

Aquatic and Terrestrial Invertebrates

Valley Elderberry Longhorn Beetle

Blue elderberry shrubs (Sambucus nigra ssp caerulea) that provide habitat for the valley elderberry longhorn beetle (Desmocerus californicus dimporphus [VELB]), a species federally listed as threatened, are abundant throughout the project area. Many locations within the project area have been surveyed for elderberry shrubs, and these previous surveys may already include numerous areas planned for treatment as part of this project. In those locations where previous elderberry shrub inventories have not yet been conducted, elderberry shrubs will be inventoried at each specific treatment site where weed removal and

treatment activities will take place. In areas planned for treatment that contain elderberry shrubs the project will avoid impacts to VELB by implementing the following measures:

VELB-1:

- *A 20-foot buffer shall be established around the dripline of each eligible elderberry shrub (stems >1" diameter) located near treatment sites. The elderberry shrubs and buffers shall be clearly flagged and marked.*
- *No equipment (i.e., flail mowers, masticators, and chippers) shall be used within the 20-foot buffer from the dripline of elderberry shrubs.*
- *Where treatment sites are identified within the 20-foot buffer from the dripline of elderberry shrubs, prioritize focused herbicide application methods to invasive plants within the 20-foot buffer from the dripline of elderberry shrubs (wicking, spray-bottle, coarse droplet nozzles, stem injection, low-pressure backpack or power sprayers directed at close range to target plant). Use of herbicides on invasive plants within 20 feet of elderberry shrubs are not expected to result in adverse effects to valley elderberry longhorn beetle as long as the herbicides are applied using focused applications, according to label directions, and by a licensed applicator approved by DPR.*

Mammals

Fresno Kangaroo Rat

Fresno Kangaroo Rat (Dipodomys nitratoides exilis), a state and federally endangered species, historically inhabited alkali sink, chenopod scrub, and annual grassland communities on the San Joaquin Valley floor from Kings to Merced Counties. In the project area, designated critical habitat for Fresno Kangaroo Rats is within the Alkali Sink Ecological Reserve near Mendota Wildlife Area. To avoid impacts to Fresno Kangaroo Rats, the following measures will be incorporated into the project:

FKR-1:

- *For areas that are considered Fresno Kangaroo Rat habitat, burrow searches will be performed and any potentially occupied burrows will be clearly flagged with a 20' avoidance buffer.*
- *No equipment (i.e., flail mowers, masticators, and chippers) shall be used within the 20-foot buffer from potentially occupied burrows.*
- *Where treatment sites are identified within the 20-foot buffer from potentially occupied burrows, prioritize focused herbicide application methods to invasive plants within the 20-foot buffer (wicking, spray-bottle, coarse droplet nozzles, stem injection, low-pressure backpack or power sprayers directed at close range to target plant). Use of herbicides on invasive plants within 20 feet of potentially occupied burrows are not expected to result in adverse effects to Fresno Kangaroo Rat as long as the herbicides are applied using focused applications, according to label directions, and by a licensed applicator approved by DPR.*

San Joaquin kit fox

San Joaquin kit fox (Vulpes macrotis mutica), a federally endangered species, requires dens for shelter, protection, and reproduction. Loose-textured soils are preferable for denning, but the modification of the

burrows of other animals facilitates denning in other soil types. San Joaquin kit fox is present throughout the San Joaquin Valley largely using annual grassland and various scrub and subshrub communities. Vernal pool, alkali meadows, and playas also support habitat but have wet soils unsuitable for denning. Some suitable habitat has been converted to agricultural uses. San Joaquin kit foxes can use small remnants of native habitat interspersed with development provided there is a minimal disturbance, dispersal corridors, and sufficient prey-base. No ground-disturbing activities are proposed, however, vegetation removal may have a disturbing effect on San Joaquin kit fox dens. The temporary reduction in vegetative cover due to invasive species treatment is not expected to have an adverse effect on prey base as target invasive species within kit fox habitat areas (arundo, salt cedar, and other tree species) are not know to provide enhanced cover for rodents and other prey species. This species historical range occurs along all reaches of the project. To avoid impacts to San Joaquin kit foxes, the following measures will be incorporated into the project:

SJKF-1:

- *No less than 14 and no more than 30 days prior to any treatment activities, project sites will be surveyed for kit fox dens and any potential dens (larger than 5 inches in diameter) will be clearly flagged (Placement of 4-5 flagged stakes 50 feet from the den entrance) with a 50' avoidance buffer.*
- *No equipment (i.e., flail mowers, masticators, and chippers) shall be used within the 50-foot buffer from potential dens.*
- *Where treatment sites are identified within the 50-foot buffer from potential dens, prioritize focused herbicide application methods to invasive plants within the 50-foot buffer (wicking, spray-bottle, coarse droplet nozzles, stem injection, low-pressure backpack or power sprayers directed at close range to target plant). Use of herbicides on invasive plants within 50 feet of potential dens are not expected to result in adverse effects to San Joaquin kit fox as long as the herbicides are applied using focused applications, according to label directions, and by a licensed applicator approved by DPR.*

SJKF-2:

- *If occupied dens are present within the work area, the project team will notify DFG and USFWS immediately and cease all work within the project site until a USFWS-approved biological monitor determines the den is no longer occupied.*

Riparian Brush Rabbit

Riparian Brush Rabbit (Sylvilagus bachmani riparius), a state-listed endangered species that inhabits dense riparian habitat and relies on the dense brushy cover. Riparian Brush Rabbit population have declined as a result of habitat destruction, fragmentation, and degradation. They are only found within the San Joaquin Valley native riparian forest habitat. One of the largest remaining populations resides in Caswell Memorial State Park which is encompassed in project boundary. To avoid any impacts on the Riparian Brush Rabbit, the following measures will be taken:

RBR-1:

- *A qualified biologist will conduct pre-activity surveys for Riparian Brush Rabbit dens in order to assess habitat and potential impacts. If a den is detected, a report will be submitted to CDFW for consultation on how to implement the project and avoid take. In the event take is not avoidable, an ITP will be acquired from CDFW.*

Amphibians and Reptiles

Giant Garter Snake

Giant garter snake (Thamnophis gigas), a federally threatened species, inhabits a variety of aquatic habitats, such as agricultural wetlands, irrigation and drainage canals, marshes, sloughs, ponds, lakes, and streams. They are primarily restricted to aquatic habitat and nearby basking areas during their active period (April 1–October 1). Giant garter snakes retreat to small mammals burrows and other soil crevices above prevailing flood elevations during the winter dormancy period (November to mid-March), when they are particularly sensitive because of limited opportunities for escape from disturbance (USFWS 1998). This species occurs in all reaches of the project.

To avoid impacts on the giant garter snake, the following measures will be incorporated into the project:

GGS-1:

- *Prior to project implementation, a qualified biologist will conduct a habitat assessment within the project area to determine if the site or its vicinity is suitable habitat for giant garter snake.*
- *If suitable habitat is determined, a qualified biologist will survey the site no more than 30 days prior to ground-disturbing activities. The survey will encompass at least a 50-foot radius of the work area for burrows and crevices in which the snake could be present. All suitable burrows and crevices will be flagged and a 50-foot no disturbance buffer will be enforced. However, if the 50-foot buffer is not feasible, CDFW will be notified to discuss how to proceed with project implementation.*
- *Based on the evaluation of the qualified biologist, if take cannot be avoided, an ITP for CDFW will be acquired prior to project implementation to comply with CESA.*
- *For areas that are considered giant garter snake habitat, project activities will be conducted between May 1 and October 1, the active period for the snake. However, for arundo removal, because of the biology and phenology of arundo, the most effective time to remove and treat this species is in the late summer/fall (August through November). Therefore, project activities occurring between October 2 and April 30 will implement the following measures:*

GGS-2:

- *Removal of invasive plant material will be done using hand tools so as not to result in the significant ground disturbance.*
- *If tractor-mounted masticators are needed, this equipment should be used only in disturbed areas outside of 200 feet from the banks of active streams, ditches, sloughs, and canals with water present.*

California Tiger Salamander

California tiger salamander (Ambystoma californiense), a federally threatened species in the Central Valley, uses both aquatic and upland habitats. Aquatic habitats used by California tiger salamander include pools that contain standing water continuously for at least 10 weeks, extending into April. Upland habitats within 1.24 miles of breeding ponds may be used for transit and aestivation. California tiger salamanders over-summer in burrows excavated by other animals (gophers and ground squirrels) and actively migrate to ponds for breeding at night between November and February. The timing of our

activities, which will be conducted during daylight hours with most work being conducted during the growing season, will not conflict with the timing of CTS migration. While no ground-disturbing activities are proposed, vegetation treatment and removal around aestivation burrows may impact CTS.

Proposed critical habitat for California tiger salamander (Units 12 and 13) occurs near the project area and may include specific treatment sites at the Merced NWR. This species may occur in all reaches of the project. To avoid impacts on California tiger salamanders, the following measures will be incorporated into the project:

CTS-1:

- *Prior to project implementation, a qualified biologist will assess the project site and its vicinity (up to 1.3 miles) to evaluate the potential for California Tiger Salamander. The survey conducted will follow the USFWS "Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander" (USFWS 2003). In addition, the biologist will determine the impacts of Project-related activities on all CTS upland and breeding habitat within and/or adjacent to the Project footprint.*
- *All data and findings from the protocol-level survey will be submitted to CDFW for review and final determination.*
- *An ITP from CDFW will be acquired if:*
    - *Through surveys it is determined that CTS is occupying or have the potential to occupy the Project site and take cannot be avoided, take authorization would be warranted prior to initiating ground-disturbing activities.*
    - *There is an absence of protocol-level surveys, it will be assumed that CTS is present.*

CTS-2:

- *In suitable habitat for California tiger salamanders, if tractor-mounted masticators are needed, this equipment shall not be used in uplands within 200 feet from potential breeding ponds to avoid the potential for injury to salamanders.*

CTS-3:

- *Within suitable upland habitat areas, prior to any treatment activities, project sites will be surveyed for potential upland aestivation burrows and any potential burrows will be clearly flagged with a 50-foot no disturbance buffer.*
- *No equipment (i.e., flail mowers, masticators, and chippers) shall be used within the 50-foot buffer from potential burrows.*
- *Where treatment sites are identified within the 50-foot buffer from potential burrows, prioritize focused herbicide application methods to invasive plants within the 50-foot buffer (wicking, spray-bottle, coarse droplet nozzles, stem injection, low-pressure backpack or power sprayers directed at close range to target plant). Use of herbicides on invasive plants within 50 feet of potential burrows are not expected to result in adverse effects to California tiger salamander as long as the herbicides are applied using focused applications, according to label directions, and by a licensed applicator approved by DPR.*

Blunt-nosed leopard lizard

Blunt-nosed leopard lizard (Gambelia sila), a federally endangered species, inhabits non-native grassland and alkali sink scrub communities of the San Joaquin Valley floor marked by poorly drained,

alkaline, and saline soils (it is suggested that perhaps they are associated with these soils only because they are the last remaining undeveloped soil types within the historic range). Blunt-nosed leopard lizards use small mammal burrows (typically abandoned ground squirrel tunnels and occupied and abandoned kangaroo rat tunnels) for shelter and dormancy. They also construct shallow tunnels underexposed rocks or earth berms where small mammal burrows are scarce. Blunt-nosed leopard lizards are only active from March to July, mostly in temperatures ranging from 25-35° C. No ground-disturbing activities are proposed, however, vegetation removal near burrows may disrupt blunt-nosed leopard lizards. Flooding in the spring of 2011 has most likely drowned aestivating blunt-nosed leopard lizards within the project reaches, leaving a minimal chance that disturbance of this species will occur. However, to avoid impacts to blunt-nosed leopard lizards, the following measures will be incorporated into the project:

BNLL-1:

- *For areas that are considered Blunt-nosed leopard lizard habitat, burrow searches will be performed and any potential burrows will be clearly flagged with a 20' avoidance buffer.*
- *No equipment (i.e., flail mowers, masticators, and chippers) shall be used within the 20-foot buffer from potential burrows.*
- *Where treatment sites are identified within the 20-foot buffer from potential burrows, prioritize focused herbicide application methods to invasive plants within the 20-foot buffer (wicking, spray-bottle, coarse droplet nozzles, stem injection, low-pressure backpack or power sprayers directed at close range to target plant). Use of herbicides on invasive plants within 20 feet of potentially occupied burrows are not expected to result in adverse effects to blunt-nosed leopard lizard as long as the herbicides are applied using focused applications, according to label directions, and by a licensed applicator approved by DPR.*

Western Pond Turtle:

Western Pond Turtle (Actinemys marmorata), inhabits waterways and terrestrial lands adjacent. Western Pond Turtles have the potential to occur within the project area, they are known to nest within 100-meters of a water body and have been reported up to 500-meters away. To avoid any impacts on the Western Pond Turtle, the following guidelines will be implemented:

WPT-1:

- *10-days prior to Project implementation, a qualified biologist will conduct focused surveys for Western Pond Turtle individuals and for nests during the egg-laying season (March through August). Any nests discovered will remain undisturbed from any project-related activities until the eggs have hatched.*
- *Any Western Pond Turtles discovered prior to or during project activities will not be disturbed and allowed to move out of the area on their own.*

Fish

A total of two listed fish species or evolutionarily significant units (ESUs) of a species are known or have the potential to occur in the project area. These species or ESUs are the Central Valley California steelhead ESU (Oncorhynchus mykiss irideus), and spring-run Chinook salmon (Oncorhynchus tshawytscha). An ESU is a distinctive group of anadromous fish (i.e., Pacific salmon, steelhead, or sea-run cutthroat trout) generally segmented by the geographic region within which the group spawns or the time of year during which the group spawns. Many of these species, because of their migratory nature, spend only a portion of their lives in the project area. In general, because project activities will take

place outside the stream channel and will be timed to avoid seasonal migrations of anadromous fish, no direct impacts to these species are expected to occur as a result of project implementation. In cases where treatment sites are located in in-stream islands or gravel bars and access to those islands require crossing flowing streams, the following measures will be implemented:

FISH-1:

- *The project area will be surveyed for stream crossing locations that will not disturb the stream bank.*
- *These crossing locations will be identified and mapped.*
- *Crossing will occur during the summer and fall low-flow periods.*
- *When crossing using an ATV or other similar small vehicles (tractor with mounted masticator), the operator will drive slowly through the water to allow fish to move away from the crossing area.*
- *When crossing using a boat, the operator will launch the boat from an existing access point or a location identified during the project area survey.*
- *The project will maximize the use of existing in-stream roads and crossings and will not create any new roads or crossing.*
- *Indirect impacts, as a result of project implementation, will also be avoided through implementation of the following measures:*

FISH-2:

- *All staging, parking, and materials laydown areas and all areas where hazardous materials (i.e., fuel, large quantities of herbicides, etc.) would be stored will be located at least 50 feet outside of the streambanks.*
- *No activity that would impede the normal flow of water in any creek, stream, or river will be implemented as part of this project; and,*
- *No activity that would disrupt the movement of resident and anadromous fish species in the stream will be implemented as part of this project.*

Birds

Swainson's hawk

Swainson's hawk (Buteo swainsoni), a state-listed threatened species, is a migratory raptor that winters in South America and breeds in areas of Canada and the western United States. Swainson's hawk commonly nests near and within riparian areas and have adapted to use agricultural lands such as alfalfa as forage. Based on the California Natural Diversity Database, there have been a number of Swainson's hawk occurrences within the Project's boundary. In order to avoid negative impacts to the Swainson's hawk, the following measures will be incorporated into the project:

SWHA-1:

- *Prior to project implementation, a qualified biologist will conduct surveys for nesting Swainson's hawk per the Swainson's hawk Technical Advisory Committee guidelines. This will help implement the necessary avoidance and minimization measures, as well was identify active nest sites prior to ground-disturbing activities.*

- *For project-related activities occurring during normal bird breeding season (March 1 through September 15), additional pre-activity surveys for active nest will be conducted by a qualified biologist no more than 10 days prior. If an active nest is identified, a 0.5-mile no-disturbance buffer will be created and enforced until the end of the breeding season or a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival.*

SWHA-2:

- *If an active nest is discovered, a report will be submitted to CDFW for further consultation on how to proceed with the project while avoiding take. If take cannot be avoided, an ITP from CDFW will be acquired.*

Tricolored Blackbird

Tricolored Blackbird (Agelaius tricolor), is a California listed species of special concern due to habitat loss and other effects of human activity. The Tricolored Blackbird inhabit dense low vegetation fields suitable for their colonies. The fields that the Tricolored Blackbird commonly occupy are agricultural fields such as grain. Impacts on the Tricolored Blackbird will be avoided through the use of the following measures:

TRBL-1:

- *Prior to project implementation, a qualified biologist will conduct a site assessment of the Project area to determine if it is suitable habitat for Tricolored Blackbird.*
- *If project-related activities occur during typical bird breeding season (February 1 through September 15), a qualified biologist will conduct nesting Tricolored Blackbird surveys no more than 10-days prior to the start of the project implementation. The presence/absence of tricolored blackbird colonies and potential impacts of project-related activities will be evaluated within the proximity of the project site.*
- *If an active colony is found during pre-activity surveys, a 300-foot no disturbance buffer will be created and enforced until the end of the breeding season or a qualified biologist has determined that nesting has ceased, the birds have fledged, and are no longer reliant upon the colony or parental care for survival. To account for colony expansion, as reassessment will be conducted to determine the extent of the breeding colony within 10 days prior to Project initiation.*

TRBL-2:

- *If a Tricolored Blackbird colony is detected during any surveys, a report will be submitted to CDFW to discuss how to implement the project and avoid take. In the event take is unavoidable, an ITP will be acquired from CDFW.*

Fully Protected Raptors

The riparian corridor throughout the project area provides suitable nesting habitat for a variety of raptor species which are protected under state and federal law. These species include the State fully protected golden eagle (Aquila chrysaetos), the State endangered and fully protected bald eagle (Haliaeetus leucocephalus) and the DFG fully-protected white-tailed kite (Elanus leucurus). Project activities are not expected to result in the loss of nesting habitat. No native, large-canopy trees will be removed as part of

this project, only invasive species such as arundo and tamarisk. The removal of the invasive plants and associated treatment with herbicides is not expected to result in the death or injury of raptors. However, the project has the potential to disturb nesting/breeding raptors, resulting in nest abandonment and/or forced fledging of young. Impacts on nesting raptors will be avoided through the use of the following measures:

RAPTOR-1:

- *Prior to project implementation, a qualified biologist will conduct a habitat assessment to determine if the project site or its vicinity (within 0.5 miles) contains suitable habitat for fully protected raptors. Surveys for both habitat and raptors will be in accordance with protocols developed by CDFW and the USFWS.*
- *If project-related activities occur during typical bird breeding season (March 1 through September 15), a pre-activity survey for active nests will be conducted by a qualified biologist no more than 10 days prior to the start of Project activity.*

RAPTOR-2:

- *In the event that a fully protected raptor species is found within 0.5-mile of the Project site, avoidance measure will be put in place. A qualified biologist will be on-site during all Project-related activities and a 0.5-mile no disturbance buffer will be implemented. If the 0.5-mile buffer is not feasible, CDFW will be notified for assistance in the implementation of the project and for guidance with additional avoidance measures.*

RAPTOR-2:

- *Project partner personnel such as project coordinators, restoration ecologists, or crew supervisors will be trained by a qualified biologist on general breeding raptor behavior and evidence of nesting.*
- *Before working in a specific treatment site, crews will scan trees and shrubs to assess whether potential raptor nests are present.*

VEGETATION/WETLANDS

Wetlands

Some of the targeted invasive weeds – especially Sesbania punicea - commonly occur along the river's edge and on gravel bars or in-stream islands. The project involves no dredging or filling of any wetlands or streams, and occasional stream crossings will follow Best Management Practices to avoid disturbance to the channel bed or banks. No mechanized land clearing or soil disturbance will occur within Waters of the US or Waters of the State. Prior to the commencement of project activities in treatment sites, the treatment sites will be surveyed by qualified biologists to determine the boundaries of protected wetlands and waters according to USACE wetland delineation protocols. The Ordinary High Water (OHW) mark will be identified and avoidance buffers established per the protocols described above. Activities performed below the OHW mark will be limited to hand removal of invasive species and targeted application of aquatic herbicide formulations. As possible, activities below the OHW mark will be prioritized during low-flow periods.

Special-Status Plants

Special-status plant species typically do not co-occur with dense stands of invasive weeds, therefore no impacts to these species are expected to result from the removal of pure stands of invasive plants. In areas where invasive plants co-occur with native plant communities that may provide suitable habitat for special-status plants, invasive plant removal shall be implemented in a way that minimizes adverse effects on the native vegetation, thus also minimizing effects on any special-status plant species occurring within the native vegetation.

If suitable habitat for protected plants is present, these areas shall be avoided during project implementation. If total avoidance is not feasible, focused surveys for the target state and federally listed special-status plants will be conducted before project implementation pursuant to survey guidelines published by DFG. If any populations of special-status plants are located, the populations shall be clearly flagged for avoidance during project implementation.

The overall effect of the project on special-status plants is expected to be beneficial, as the project will result in improved habitat quality in areas that have been degraded by the presence of arundo and other invasive plants.

Sensitive Natural Communities

Riparian plant communities are considered sensitive natural communities in California, because of the extensive losses sustained by these communities as a result of habitat conversion and the important habitat functions these communities provide to native plant and wildlife species. The project is expected to result in beneficial effects to native riparian plant communities because of the removal of invasive species. For areas where invasive plants co-occur with native riparian plants, minor short term adverse effects on the native vegetation may occur as a result of project implementation. To avoid these adverse effects, the following measure shall be implemented:

- *Use hand tools and focused herbicide applications using a directed foliar spray, manipulation of vegetation for strategic spraying, shielding of desirable species, cut-paint or similar application techniques when removing arundo or other invasive plants from areas containing native riparian vegetation. If close-up focused herbicide application is not feasible, broadcast spraying using a backpack sprayer or power sprayer may be used if herbicides application uses low-drift methods (e.g., a coarse drip nozzle).*

Lake and Streambed Alteration

The project boundary encompasses multiple waterways and the adjacent riparian habitat including the banks of said waterways. Project-related activities have the potential of depositing debris, waste, sediment, or other materials. In addition, there is the possibility of the alteration of the bed, bank, and channel of waterways. Prior to the projects implementation and any project-related activities, proper notification will be made to CDFW and a 1600 permit will be acquired.

V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?				X

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X
d) Disturb any human remains, including those interred outside of formal cemeteries?				X
Summary: *If areas of historic or cultural significance are encompassed within the project area, those areas will be omitted from treatment. The project does not include any earth-moving activities that would disturb historic or cultural artifacts. Avoidance protocols are in place to halt work immediately and consult with appropriate authorities should such resources be found.*				
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
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.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
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?				X
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?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
Summary: *The project will only be removing invasive vegetation and replanting native vegetation. No earthwork will be conducted during any project activities. The soils within the project are sufficient to support the project, any portable toilet used will be on secondary containment and regularly maintained.*				

VII. GREENHOUSE GAS EMISSIONS -- Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X
Summary: *The use of tractors and other vehicles will present during the project activities. Their effect will* ***not*** *create a significant effect and be within the scope of ongoing agricultural activities. As the removal of invasive vegetation occurs, naturally, carbon will be released into the atmosphere, the revegetation and establishment of native vegetation will likely counteract that effect and have an overall benefit.*				
VIII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
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?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
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?				X
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?				X
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?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X

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?				X
Summary: *This project will have no impact on hazards and hazardous materials. Work is not planned to be conducted on or near any hazardous waste sites and no hazardous materials will be used with a foreseeable upset to the public or environment.*				
IX. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?				X
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)?				X
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?				X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
e) 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?				X
f) Otherwise substantially degrade water quality?				X
g) 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?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X

i) 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?				X
j) Inundation by seiche, tsunami, or mudflow?				X
Summary: *The activities of the project will not require the use of water. Through the removal of invasive vegetation and revegetation of native one, erosion or water flow through the project site will not be significantly impacted.*				

X. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?				X
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?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
Summary: *The project will not divide any established community or conflict with any local plan within the designated project area.*				
XI. MINERAL RESOURCES -- 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?				X
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?				X
Summary: *The project will not alter mineral resources within the designated project area.*				
XII. NOISE -- 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?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
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?				X
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?				X
Summary: *Activities of the project may temporarily increase ambient noise levels through invasive vegetation removal. However, the project is restricted to daylight hours and will not exceed noise levels of surrounding agriculture activities.*				
XIII. POPULATION AND HOUSING -- 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)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
Summary: *The project will have no impact on housing or population within the designated project area.*				
XIV. PUBLIC SERVICES				
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:				
Fire protection?				X

Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X
Summary: *The project will remove invasive vegetation within the riparian habitat of the project area. This will have a beneficial impact on reducing the risk of wildfires within the treatment sites.*				
XV. RECREATION				
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?				X
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?				X
Summary: *The project would not increase the use of recreation sites or require the expansion of existing sites.*				
XVI. TRANSPORTATION/TRAFFIC -- 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?				X
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?				X
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?				X
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X

e) Result in inadequate emergency access?				X
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?				X
Summary: *The project activities will not have a significant effect on transportation or traffic within the designated project area.*				
XVII. TRIBAL CULTURAL RESOURCES -- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or				X
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				X
Summary: *If areas of tribal cultural significance are encompassed within the project area, those areas will be omitted from treatment. The project does not include any earth-moving activities that would disturb tribal cultural artifacts. Avoidance protocols are in place to halt work immediately and consult with appropriate authorities should such resources be found.*				
XVIII. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
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?				X
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?				X
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X

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?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X
Summary: *The project will have no effect on wastewater or solid waste facilities.*				
XVIV. MANDATORY FINDINGS OF SIGNIFICANCE				
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?				X
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)?	☐	☐	☐	X
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				X
Summary: *The project will have a beneficial effect on the designated project area. It aims to stop the infestation of invasive weeds and allow native vegetation to re-establish throughout the project area. Long-term, the proposed project would increase the protection of and management opportunity for threatened and endangered species, migratory birds, wintering waterfowl, riparian-, wetlands, and water-dependent species. For these reasons, the net effect is not expected to be significant.*				