

RESOLUTION NO. 2015-163

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ELK GROVE
ADOPTING A MITIGATED NEGATIVE DECLARATION AND MITIGATION
MONITORING AND REPORTING PROGRAM FOR THE ROUTINE MAINTENANCE
OF STREAM CHANNELS AND DRAINAGE FACILITIES PROJECT AND
APPROVING THE PROJECT**

WHEREAS, the Routine Maintenance of Stream Channels and Drainage Facilities (Project) will perform on-going maintenance activities, including removal of silt, sand, sediment, debris, vegetation, and obstructions; minor erosion control, work and repair of previous erosion control work; bridge washing and painting; and geotechnical sampling; and

WHEREAS, the California Environmental Quality Act (Section 21000 et seq. of the Public Resources Code, herein after referred to as CEQA) requires that cities consider the environmental consequences of their actions before approving a project; and

WHEREAS, the Project is a project under CEQA;

WHEREAS, the City prepared an Initial Study/Mitigated Negative Declaration pursuant to CEQA, attached hereto as Exhibit A and incorporated herein by reference, evaluating the potential environmental effects of the Project; and

WHEREAS, the City determined that the mitigation measures identified in the Initial Study/Mitigated Negative Declaration would reduce environmental impacts to a less than significant level; and

WHEREAS, based on staff's review of the Project, no special circumstances exist that would create a reasonable possibility that the Project will have a significant effect on the environment beyond what was analyzed in the Mitigated Negative Declaration prepared for the Project and disclosed; and

WHEREAS, a Mitigation Monitoring and Reporting Program (MMRP) has been prepared in accordance with CEQA, attached hereto as Exhibit B and incorporated herein by reference, which is designed to ensure compliance with the identified mitigation measures during project implementation and operation; and

WHEREAS, the City distributed the Notice of Intent to Adopt the Mitigated Negative Declaration on May 22, 2015. It was posted at the Sacramento County Clerk's office, distributed through State Clearinghouse and at the City offices, pursuant to Section 15072 of Chapter 3 of Title 14 of the California Code of Regulations (State CEQA Guidelines). A 30-day review and comment period was opened on May 22, 2015 and closed June 22, 2015. The Mitigated Negative Declaration was made available to the public during this review period; and

WHEREAS, the City received written comment letters within the 30-day public review period and responded to those comments in the project staff report; and

WHEREAS, the City has considered the comments received during the public review period, and they do not alter the conclusions in the Initial Study and Mitigated Negative Declaration; and

WHEREAS, the City Council has considered all written and oral comments on the proposed project and the Mitigated Negative Declaration; and

WHEREAS, the City of Elk Grove, Development Services, Planning Department, located 8401 Laguna Palms Way, Elk Grove, California 95758 is the custodian of documents and other materials that constitute the record of proceedings upon which the decision to adopt the Mitigated Negative Declaration is based; and

WHEREAS, the City Council has reviewed the Initial Study, the Mitigation Negative Declaration, and the Mitigation Monitoring and Reporting Program and find that these documents reflect their independent judgment.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Elk Grove hereby adopts the Mitigated Negative Declaration and the Mitigation Monitoring and Reporting Program for the Routine Maintenance of Stream Channels and Drainage Facilities Project attached hereto and incorporated herein by this reference based on the following findings:

- 1) On the basis of the whole record, there is no substantial evidence that the Project as designed, conditioned and mitigated, will have a significant effect on the environment. A Mitigated Negative Declaration has been prepared and completed in accordance with the California Environmental Quality Act (CEQA). The Mitigated Negative Declaration reflects the independent judgment and analysis of the City.
- 2) Pursuant to Public Resources Code, Section 21081 and CEQA Guidelines, Section 15091, all of the proposed mitigation measures described in the Mitigated Negative Declaration are feasible, and therefore shall become binding upon the City and affected landowners and their assigns or successors in interest when the Project is approved.
- 3) To the extent that these findings conclude that various proposed mitigation measures outlined in the Mitigated Negative Declaration are feasible and have not been modified, superseded or withdrawn, the City Council hereby binds itself, all landowners within the Project area, and their assigns and successors in interest to implement those measures. These findings are not merely informational, but constitute a binding set of obligations that will come into effect when the City Council issues the Project entitlements set forth above. The actual implementation of the mitigation measures hereby adopted shall occur by having them included as conditions of approval on subsequent discretionary entitlements granted within the Project area.

Evidence: The proposed action is activity contemplated and included in the Routine Maintenance of Stream Channels and Drainage Facilities MND. The project will be subject to all mitigation measures listed in the MND and contained within the adopted Mitigation Monitoring and Reporting Program. The potential environmental impacts were adequately analyzed as part of the MND. No substantial changes are proposed to the project and there are no substantial changes in circumstances or new information that would require major revisions to the MND.

BE IT FURTHER RESOLVED, that the Project, as described in the MND, is hereby approved.

PASSED AND ADOPTED by the City Council of the City of Elk Grove this 12th day of August 2015.



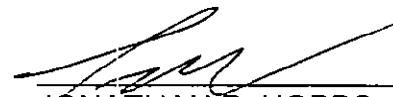
GARY DAVIS, MAYOR of the
CITY OF ELK GROVE

ATTEST:



JASON LINDGREN, CITY CLERK

APPROVED AS TO FORM:



JONATHAN P. HOBBS,
CITY ATTORNEY

EXHIBIT A

**CITY OF ELK GROVE
ROUTINE MAINTENANCE OF STREAM
CHANNELS AND DRAINAGE FACILITIES**

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION



Prepared by:

CITY OF ELK GROVE
DEVELOPMENT SERVICES
8401 LAGUNA PALMS WAY
ELK GROVE, CA 95758

MAY 2015

CITY OF ELK GROVE
ROUTINE MAINTENANCE OF STREAM CHANNELS
AND DRAINAGE FACILITIES

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MAY 2015

1.0 INTRODUCTION

1.1 Introduction and Regulatory Guidance 1-1
 1.2 Lead Agency 1-1
 1.3 Purpose and Document Organization 1-2

2.0 PROJECT DESCRIPTION

2.1 Project Background 2.0-1
 2.2 Project Location 2.0-1
 2.3 Project Purpose and Objectives 2.0-1
 2.4 Project Description 2.0-1
 2.5 Required Project Approvals 2.0-6
 2.6 Other Project Assumptions 2.0-7

3.0 INITIAL STUDY CHECKLIST

3.1 Aesthetics 3.0-4
 3.2 Agriculture Resources 3.0-5
 3.3 Air Quality 3.0-6
 3.4 Biological Resources 3.0-10
 3.5 Cultural Resources 3.0-21
 3.6 Geology and Soils 3.0-22
 3.7 Greenhouse Gas Emissions 3.0-24
 3.8 Hazards and Hazardous Material 3.0-26
 3.9 Hydrology and Water Quality 3.0-28
 3.10 Land Use and Planning 3.0-31
 3.11 Mineral Resources 3.0-32
 3.12 Noise 3.0-33
 3.13 Population and Housing 3.0-35
 3.14 Public Services 3.0-36
 3.15 Recreation 3.0-37
 3.16 Transportation/Traffic 3.0-38
 3.17 Utilities and Service Systems 3.0-40
 3.18 Mandatory Findings of Significance 3.0-42

4.0 REFERENCES

4.1 References 4.0-1

TABLE OF CONTENTS

TABLES

Table 3.3-1 Project Construction Emissions (Maximum) Pounds per Day..... 3.0-8
Table 3.7-1 Operational GHG Emissions – Metric Tons per Year 3.0-24
Table 3.12-1 Construction Equipment Noise 3.0-34
Table 3.12-2 Vibration Levels for Construction Equipment..... 3.0-34

FIGURES

Figure 2.0-1 Potential Maintenance Areas..... 2.0-3
Figure 3.4-1 CNDDDB Occurrences within 1 mile of the Project Area..... 3.0-13

APPENDICES

- Appendix A – Air Quality and Greenhouse Gas Emissions
- Appendix B – Biological Recourses

1.0 INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is an Initial Study (IS), prepared consistent with California Environmental Quality Act (CEQA) Guidelines Section 15063, with supporting environmental studies providing justification for a Mitigated Negative Declaration (MND) pursuant to CEQA Guidelines 15070, for the routine maintenance of stream channels and drainage facilities in Elk Grove.

The Initial Study/Mitigated Negative Declaration (IS/MND) is a public document to be used by the City of Elk Grove to determine whether the Project may have a significant effect on the environment pursuant to CEQA. If the lead agency finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant effect on the environment that cannot be mitigated, regardless of whether the overall effect of the Project is adverse or beneficial, the lead agency is required to prepare an environmental impact report (EIR), use a previously prepared EIR and supplement that EIR, or prepare a subsequent EIR to analyze the project at hand (State CEQA Guidelines Section 15063). If the agency finds no substantial evidence that the Project or any of its aspects may cause a significant impact on the environment with mitigation, a negative declaration is to be prepared with a written statement describing the reasons why the proposed Project would not have a significant effect on the environment and therefore why it does not require the preparation of an EIR (State CEQA Guidelines Section 15371).

According to State CEQA Guidelines Section 15070, a negative declaration is to be prepared for a project subject to CEQA when either:

- a) *The initial study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have a significant effect on the environment, or*
- b) *The initial study identifies potentially significant effects, but:*
 - (1) *Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and*
 - (2) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

This IS/MND has been prepared in accordance with CEQA, Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, Section 15000 et seq., Title 14, California Code of Regulations.

1.2 LEAD AGENCY

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies will be involved with a project, CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. In accordance with CEQA Guidelines Section 15051(b)(1), "the lead agency will normally be the agency with general governmental powers." The City of Elk Grove Public Works Department is responsible for providing routine maintenance of the City's drainage facilities. The Project requires approvals from the Elk Grove City Council. Therefore, based on the criteria described above, the City is the lead agency for the proposed Project.

1.0 INTRODUCTION

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this IS/MND is to evaluate the potential environmental impacts of the proposed routine maintenance of stream channels and drainage facilities in Elk Grove. Mitigation measures have been identified to reduce or eliminate any identified significant and/or potentially significant impacts.

This document is divided into the following sections:

1.0 INTRODUCTION

Provides an introduction and describes the purpose and organization of this document.

2.0 PROJECT DESCRIPTION

Provides a detailed description of the proposed Project.

3.0 INITIAL STUDY CHECKLIST

Describes the environmental setting for each of the environmental subject areas, evaluates a range of impacts classified as "no impact," "less than significant impact," "less than significant impact with mitigation incorporated," or "potentially significant" in response to the environmental checklist, provides mitigation measures, where appropriate, to mitigate potentially significant impacts to a less than significant level, and provides an environmental determination of the Project.

4.0 LIST OF REFERENCES

Identifies a list of agencies and documents consulted.

2.0 PROJECT DESCRIPTION

2.1 PROJECT BACKGROUND

Prior to the incorporation of the City of Elk Grove in 2000, the Sacramento County Water Resources Division had a Memorandum of Understanding (MOU) with the California Department of Fish and Game (CDFG; now the California Department of Fish and Wildlife) for the stormwater utility creek and channel maintenance program (control number 00-PWE-0292). This MOU was an agreement between the County Water Resources Division and the CDFG for maintenance activities for creek and water channels throughout Sacramento County. The MOU covered the unincorporated area of the county, which included Elk Grove at the time the agreement was made, and was the subject of an Initial Study and Negative Declaration, prepared pursuant to the CEQA by the County in July 2000. In 2003, CDFG staff determined that the MOU would include the incorporated City of Elk Grove. The MOU expired on December 31, 2004, at which point it became the City's responsibility to maintain the creeks and channels within the City's boundaries. Therefore, an MOU between the City of Elk Grove and the CDFG was necessary. The City also obtained a Regional General Permit from the US Army Corps of Engineers (USACE) on September 10, 2012, that allowed the City to perform routine channel maintenance within jurisdictional waters of the United States for a period of five years. The current MOU expired on January 6, 2015. This Initial Study/Mitigated Negative Declaration analyzes the potential adverse environmental impacts associated with routine channel maintenance in the City.

2.2 PROJECT LOCATION

Routine channel maintenance activities will take place at various improved and unimproved drainage channels throughout Elk Grove. These waterways include Laguna Creek, Toad Creek, Elk Grove Creek, Strawberry Creek, Whitehouse Creek, Sheldon Creek, Grant Line Channel, Franklin Creek, Shed A Channel, Shed C Channel, and several unnamed creeks within the City limits. City staff would also maintain three pump stations and 18 detention/water quality basins.

2.3 PROJECT PURPOSE AND OBJECTIVES

The purpose of the proposed project is to maintain the design capacity of channels and other physical structures within the City limits in order to protect the City's investments and to prevent the loss of life and property.

2.4 PROJECT DESCRIPTION

The City of Elk Grove Development Services Department (City) proposes to enter into a 12-year Streambed Alteration Agreement (CDFW Agreement) with the California Department of Fish and Wildlife (CDFW) and a Regional General Permit with the USACE for the City to conduct routine maintenance activities in improved and unimproved channels and drainage facilities throughout Elk Grove ("Project"; see **Figure 2.0-1** for locations). It is assumed that maintenance activities, such as debris and obstruction removal, would occur 30 days annually and result in disturbance on approximately 10.25 acres and remove 5,934 cubic yards (CY) of debris and sediment annually. The Project would result in approximately 660 square feet and 44.1 cubic yards of fill annually (see details below).

2.0 PROJECT DESCRIPTION

Maintenance activities will include the following:

- Debris or obstruction removal

The City would remove debris, trash, rubbish, new beaver dams, flood-deposited woody and herbaceous vegetation, downed trees, dead trees that are in clear danger of falling in or across a channel, branches, and associated debris that substantially obstruct water flow, reduce channel capacity, accelerate erosion, and damage concrete box culverts, metal culverts, or bridge structures, or could do so.

- Silt, sand, or sediment removal

The City would remove or displace silt, sand, gravel, or sediment in the immediate vicinity of man-made facilities or structures that substantially obstruct water flow, reduce channel capacity, accelerate erosion, and damage concrete box culverts, metal culverts, or bridge structures, or could do so. Such facilities include outfalls, bridges, culverts, new beaver dams, basins, and the invert of creeks and channels.

- Vegetation control and removal in channels

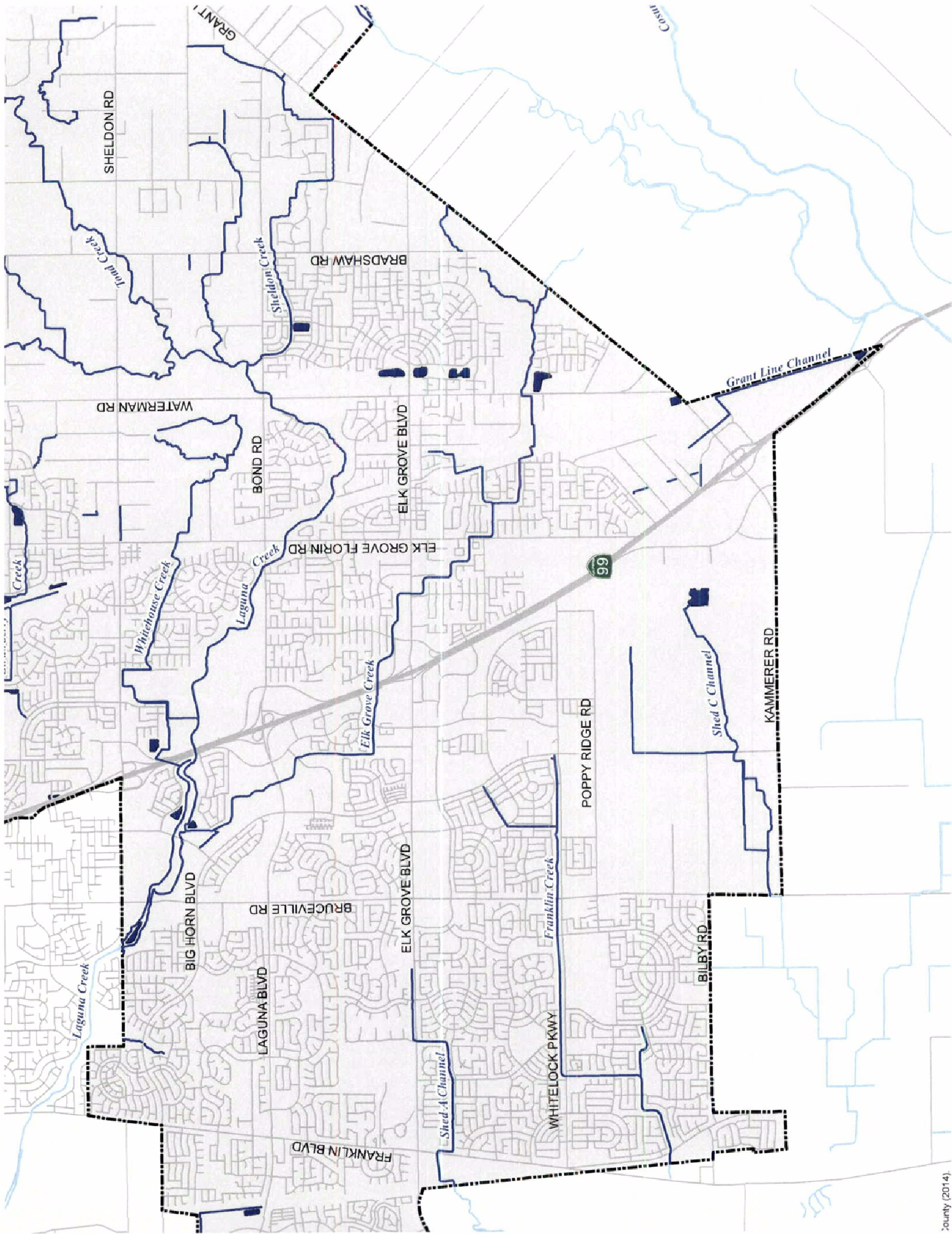
The City would cut, mow, disk, bulldoze, or spray herbicides on grasses, shrubs, and woody growth to maintain the designed capacity of floodways. The City would cut, mow, burn, or spray herbicides on weeds, grasses, shrubs, and woody growth on levees to the extent necessary to conduct safety inspections. The City would cut, trim, or remove the lower branches of large trees to facilitate site inspections and maintain channel capacity. The City would remove dead trees, dying trees, and new trees less than 4 inches in diameter measured 4.5 feet above ground level (diameter at breast height [dbh]) to maintain channel capacity and prevent erosion. The City would remove non-native vegetation (e.g., giant reed (aka "false bamboo"), Chinese tallow, red sesbania, Spanish bloom, tree-of-heaven, black locust, tree tobacco, castor bean, pampas grass, eucalyptus, tamarisk, water hyacinth, and acacia) to maintain channel capacity and improve native habitat. In-channel disking would be limited to a total maximum area of 15 acres over the 12-year life of the project.

- Repair of previous erosion control work

The City would repair *previous* erosion control work, including, but not limited to, failed rock, sacked concrete, or gabion sections. Such work shall not extend beyond 20 linear feet of the existing revetted area. In some areas, these activities and other routine maintenance activities require fill near outfalls, bridges, culverts, basins, and the invert of creeks and channels. Types of fill materials would be riprap, soil, gravel material, or aggregate base and would come from commercial sources in the local area. Materials would be placed with equipment such as an excavator, backhoe, dump truck, bobcat, or other small construction equipment.

- Minor erosion control work

The City would slope, place earthen fill, install rocks and gabions, or take other necessary measures to control erosion on previously unrevetted areas. Such work would not exceed 40 linear feet in length.



- Bridge washing and painting

The City would clean, wash, and paint structures within a stream zone, provided containment measures are used to prevent deleterious material from entering State waters and avoid adverse impacts to fish and wildlife resources.

- Geotechnical sampling

The City would obtain core samples and conduct other minor geotechnical testing, provided such work does not adversely affect fish and wildlife resources.

QUANTITIES FOR FILL

The following calculations are intended to provide quantities of area and volume below the ordinary high water mark (USACE jurisdiction) that will be placed annually:

- Annual fill for outfalls

Area (4 feet wide by 4 feet long, 20 locations) = 320 square feet (SF)

Volume (4 feet wide by 4 feet long by 2 feet deep, 20 locations) = 18.8 cubic yards (CY)

- Annual fill for bridges/culverts

Area (5 feet wide by 5 feet long, 4 locations) = 100 SF

Volume (5 feet wide by 5 feet long by 2 feet deep, 4 locations) = 7.6 CY

- Annual fill in invert of channel/basin

Typical fill area (2 feet high by 40 feet long, 3 locations) = 240 SF

Typical volume (2 feet high by 40 feet long by 2 feet thick, 3 locations) = 17.7 CY

Total area annually = 660 square feet

Total area for 12-year permit = 7,920 square feet

Total volume annually = 44.1 cubic yards

Total volume for 12-year permit = 529.2 cubic yards

QUANTITIES FOR SEDIMENT REMOVAL

Routine maintenance activities would also require removal of silt and/or organic matter near outfalls, bridges, culverts, beaver dams, basins, and the invert of creeks and channels. The removed sediment would be transported to the City's Special Waste Collection Center for on-site disposal. Excavation will generally be by accomplished small excavator, backhoe, or hand tools. The following estimates of annual quantities of sediment removal from below the ordinary high water mark (USACE jurisdiction) provide the quantities of area and volume for typical small and large occurrences:

2.0 PROJECT DESCRIPTION

- Sediment removal for outfalls

Small area (5 feet wide by 10 feet long, 20 locations) = 1,000 SF

Small volume (5 feet wide by 10 feet long by 1 foot deep, 20 locations) = 38 CY

Large area (5 feet wide by 20 feet long, 10 locations) = 1,000 SF

Large volume (5 feet wide by 20 feet long by 2 feet deep, 10 locations) = 74 CY

- Sediment removal for bridges/culverts

Small area (10 feet wide by 10 feet long by 1 foot deep, 20 locations) = 2,000 SF

Small volume (10 feet wide by 10 feet long by 1 foot deep, 20 locations) = 74 CY

Large area 30 feet wide by 200 feet long, 2 locations) = 6,000 SF

Large volume (30 feet wide by 200 feet long by 3 feet deep, 2 locations) = 667 CY

- Sediment removal for beaver dams

Notch in dam area (4 feet wide by 4 feet long, 20 locations) = 320 SF

Notch in dam (4 feet wide by 4 feet long by 3 feet deep, 20 locations) = 36 CY

Large area (4 feet wide by 20 feet long, 5 locations) = 400 SF

Large volume (4 feet wide by 20 feet long by 3 feet deep, 5 locations) = 44.5 CY

- Sediment removal in channel or basin

Maximum annual sediment creek area = 10 acres or 435,600 SF

Maximum sediment volume = 5,000 CY

Total area annually (maximum) = 10.25 acres

Total area for 12-year permit (maximum) = 123 acres

Total volume annually = 5,934 cubic yards

Total volume for 12-year permit = 71,202 cubic yards

2.5 REQUIRED PROJECT APPROVALS

In order for the project to be implemented, a series of actions and approvals would be required from various agencies. Anticipated project approvals/actions would include, but are not limited to, the following:

- Elk Grove City Council – adoption of the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program and other actions associated with project approval
- California Department of Fish and Wildlife – 1600 Streambed Alteration Agreement
- US Army Corps of Engineers – Section 404 Permit
- Central Valley Regional Water Quality Control Board – 401 Water Quality Certification

2.6 OTHER PROJECT ASSUMPTIONS

The Initial Study assumes compliance with all applicable State, federal, and local codes and regulations including, but not limited to, the City of Elk Grove National Pollutant Discharge Elimination System permit and Stormwater Quality Improvement Plan, the City of Elk Grove Improvement Standards, the Sacramento County Water Agency Code, the Guidance Manual of On-Site Storm Water Quality Control Measures, the California Health and Safety Code, and the California Public Resources Code.

2.0 PROJECT DESCRIPTION

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3.0 INITIAL STUDY CHECKLIST

3.0 INITIAL STUDY CHECKLIST

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

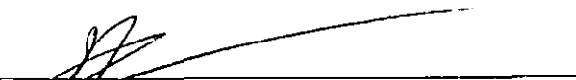
The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "potentially significant impact" as indicated by the checklist on the following pages.

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

DETERMINATION (TO BE COMPLETED BY THE LEAD AGENCY)

On behalf 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 the earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.


Planner's Signature

Christopher Jordan
Planner's Printed Name

May 22, 2015
Date

Development Services - Planning
For City of Elk Grove

3.0 INITIAL STUDY CHECKLIST

PURPOSE OF THIS INITIAL STUDY

This Initial Study has been prepared consistent with CEQA Guidelines Section 15063 to determine whether the routine channel maintenance project as described herein may have a significant effect on the environment. Based on the findings contained in this report, the IS will be used in support of the preparation of a Mitigated Negative Declaration.

EVALUATION OF ENVIRONMENTAL IMPACTS

- 1) A brief explanation is given for all answers except "No Impact" answers that are adequately supported by the information sources cited 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 is 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 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 it has been determined that a particular physical impact may occur, the checklist answers will 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 mitigation measures will be described, including how they reduce the effect to a less than significant level (mitigation measures "Earlier Analyses," as described in (5) below, may be cross-referenced).
- 5) Earlier analyses may have been 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 will identify the following:
 - a) Earlier Analysis Used.
 - b) Impacts Adequately Addressed. This will include Identification of which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and 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 Incorporated," the mitigation measures which were incorporated or refined from the earlier document will be described, as well as the extent to which they address site-specific conditions for the project.

- 6) Checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances) are incorporated throughout. Reference to a previously prepared or outside document will where appropriate; include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A reference list is attached, and other sources used or individuals contacted are cited in the discussion.
- 8) The explanation of each issue generally identifies:
 - 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.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.1 AESTHETICS. Would the project:				
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) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF IMPACTS

- a,b) **No Impact.** The City of Elk Grove General Plan (2003a) and General Plan Draft Environmental Impact Report (2003b) do not identify or designate any scenic vistas in Elk Grove. California's Scenic Highway Program was created to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. A highway may be designated scenic depending on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view (City of Elk Grove 2003a). State Highway 160, or River Road, is the only state designated scenic highway in the City Planning Area (City of Elk Grove 2003b; Caltrans 2013). River Road is located outside of the City limits. Therefore routine channel maintenance activities in the City would have no potential to alter existing scenic resources within a state scenic highway. Therefore, routine channel maintenance activities would have no potential to alter existing scenic vistas or viewsheds such as scenic highways, corridors, or vistas.
- c) **Less Than Significant Impact.** Overall, the open and natural resource conditions of creeks and channels affected by routine channel maintenance are expected to remain unchanged. The Project would include removal of grasses, shrubs, and woody growth to maintain the designed capacity of floodways, but would generally avoid trees greater than 4 inches diameter at breast height (dbh), which is consistent with Section IV, Conditions (Q), of the CDFW Agreement. As part of maintenance activities, the City may remove non-native vegetation to maintain channel capacity and to improve habitat for native species. Vegetation removal would only occur within the drainage channel and would be limited to that necessary to maintain the design capacity of the creeks and channels. The City may be required to trim trees as necessary to gain access to maintenance areas, but little trimming has been required for past maintenance activities. Because the Project would focus on removal of grasses, shrubs, and low-growing vegetation, the character of the stream channels would not be substantially altered from existing conditions. Therefore, impacts to the existing visual character or quality of the creeks and channels would be less than significant.
- d) **No Impact.** Routine channel maintenance activities would not result in any new sources of light or glare.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>3.2 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 Department 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:</p>				
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 nonagricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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, forestland (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 forestland or conversion of forestland 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 nonagricultural use or conversion of forestland to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF IMPACTS

a, b) **No Impact.** The proposed Project would not result in the conversion of any farmland, as the proposed maintenance activities would not alter the existing use or capabilities of any property and would not conflict with any active agricultural operations. The proposed Project would also not conflict with any existing zoning designations or Williamson Act contracts within the City.

c, d, e) **No Impact.** Neither the City of Elk Grove nor Sacramento County contains any forestland or land zoned for forestland, timberland, or timberland production. Therefore, the project would not conflict with zoning for such uses or result in the conversion of any such land.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.3 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that 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 checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION OF IMPACTS

- a) **No Impact.** The Sacramento Metropolitan Air Quality Management District (SMAQMD), the air quality control district for the Sacramento Valley that includes Elk Grove, coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for the Sacramento area. The SMAQMD develops market-based programs to reduce air pollutant emissions such as ozone and particulate matter associated with mobile and stationary sources, processes permits, ensures compliance with permit conditions and with SMAQMD rules and regulations, and conducts long-term planning related to air quality.

The Elk Grove portion of the Sacramento Valley has been designated a nonattainment area for federal ozone and fine particulate matter (PM_{2.5}) air quality standards (CARB 2013). Since Sacramento County is classified as a nonattainment area for federal air quality standards, the SMAQMD is required to submit air quality plans and rate-of-progress milestone evaluations in accordance with the federal Clean Air Act (CAA). The SMAQMD air quality attainment plans and reports, which include the Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan (2008), the PM_{2.5} State Implementation Plan (2013), and the PM₁₀ [coarse particulate matter] Implementation/Maintenance Plan and Re-Designation Request for Sacramento County (2010), present comprehensive strategies to reduce the ozone precursor pollutants (reactive organic gases [ROG] and nitrous oxides [NO_x]) as well as particulate matter emissions from stationary, area, mobile, and indirect sources. The Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan includes the information and analyses to fulfill CAA requirements for demonstrating reasonable further progress toward attaining the 8-hour ozone national ambient air quality standards (NAAQS) for the Sacramento region. In

addition, this plan establishes an updated emissions inventory and maintains existing motor vehicle emission budgets for transportation conformity purposes. The PM_{2.5} State Implementation Plan attempts to fulfill the requirements of the US Environmental Protection Agency (EPA) to redesignate Sacramento County from nonattainment to attainment of the PM_{2.5} NAAQS, and the PM₁₀ Implementation/Maintenance Plan and Re-Designation Request for Sacramento County attempts to maintain PM₁₀ attainment status.

According to SMAQMD guidance (2011), if the Project results in a change in a designated land use and corresponding substantial increases in vehicle miles traveled (VMT), the resultant increase in VMT may be unaccounted for in regional emissions inventories contained in the regional air quality control plans described above, which are based on local planning documents and general plans. Substantial increases in VMT that are not accounted for in the emissions inventories of these air quality plans may conflict with these air quality plans and therefore result in a contribution to the region's existing air quality nonattainment and/or maintenance status.

The proposed maintenance activities will not result in an increase in population or employment growth, and thus VMT, beyond that anticipated in the SMAQMD regional air quality control plans described above. The proposed Project will be limited to short-term maintenance activities and will not result in any development or other improvements that could directly or indirectly induce population growth in the area. Therefore, the proposed Project would not conflict with or obstruct implementation of SMAQMD air quality planning.

- b) **Less Than Significant Impact.** Implementation of the proposed Project would result in short-term emissions from proposed maintenance activities scheduled to occur approximately 30 days each year over the course of 12 years. Maintenance-generated emissions are of temporary duration, lasting only as long as such activities occur, but have the potential to represent a significant air quality impact. Implementation of the proposed Project would result in the temporary generation of emissions resulting from sediment removal, vegetation control/removal, motor vehicle exhaust associated with heavy-duty equipment and worker trips, and the movement of heavy-duty equipment over unpaved surfaces. Emissions commonly associated with such maintenance activities include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips.¹ During such maintenance activities, fugitive dust, the dominant source of PM₁₀ and PM_{2.5} emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust can become a nuisance and potential health hazard to those living and working nearby. Emissions of airborne PM are largely dependent on the amount of ground disturbance. Heavy-duty equipment is often diesel-powered and can be a substantial source of NO_x emissions, in addition to PM₁₀ and PM_{2.5} emissions.

The proposed Project would not include new permanent stationary sources of emissions since it does not propose any buildings. Therefore, it would not generate criteria emissions from stationary sources during Project operations.

¹ As described in subsection 3.16, Transportation/Traffic, the proposed channel maintenance activities could generate up to 80 daily trips throughout Elk Grove, assuming a maximum of three City vehicles and up to seven contractor vehicles with approximately eight daily trips each during peak channel maintenance activities.

3.0 INITIAL STUDY CHECKLIST

The predicted maximum daily construction-generated emissions of ROG, NO_x, PM₁₀, and PM_{2.5} associated with proposed maintenance activities are summarized in **Table 3.3-1**. The projected criteria pollutant emissions resulting from these activities were estimated using the California Emissions Estimator Model (CalEEMod). CalEEMod contains default values for much of the information needed to calculate emissions. Results of the modeling are included in **Appendix A**.

**TABLE 3.3-1
PROJECT CONSTRUCTION EMISSIONS (MAXIMUM) POUNDS PER DAY**

Construction Phase	ROG	NO _x	PM ₁₀	PM _{2.5}	CO
Proposed Maintenance Activities	3.03	28.87	8.69	4.90	26.99
SMAQMD Potentially Significant Impact Threshold	—	85 pounds/day	—	—	—
Exceed SMAQMD Threshold?	—	No	—	—	—

Source: Emissions modeled using the CalEEMod computer program. See Appendix A for modeling outputs.

Notes: Emissions outputs are based on the maximum amount of maintenance scheduled annually. This includes the disturbance of 10.25 acres by one excavator, two tractor/backhoes, one pumper truck, one cement truck, and one dozer operating each day. Emissions outputs also account for the import of 44.1 cubic yards of fill material and export of 5,934 cubic yards of sediment annually, as well as 80 vehicle trips daily.

The proposed Project would not exceed project-level thresholds of significance for criteria air pollutants, resulting in a less than significant impact.

- c) **Less Than Significant Impact.** Due to the region's nonattainment status for ozone and PM, the SMAQMD considers projects that are consistent with all applicable air quality plans intended to bring the basin into attainment for all criteria pollutants, and below SMAQMD significance thresholds of the ozone precursor pollutants (i.e., ROG and NO_x), to have less than significant cumulative impacts. As discussed in issue a), the proposed Project would not conflict with the Sacramento Regional 8-Hour Ozone 2011 Reasonable Further Progress Plan, the PM_{2.5} State Implementation Plan, or the PM₁₀ Implementation/ Maintenance Plan and Re-Designation Request for Sacramento County since the Project would not result in a change in a designated land use and corresponding increases in VMT. As discussed in issue b), predicted emissions attributable to the proposed Project would not exceed SMAQMD significance thresholds. Therefore, cumulative impacts would be less than significant, since the Project would not conflict with applicable air quality plans or exceed SMAQMD significance thresholds. The Project's contribution would not be cumulatively considerable, and the impact would be considered less than significant.
- d) **Less Than Significant Impact.** Sensitive land uses are generally defined as locations where people reside or where the presence of air emissions could adversely affect the use of the land. Typical sensitive receptors include residents, schoolchildren, hospital patients, and the elderly. The Elk Grove General Plan considers residences to be "sensitive receptors" in relation to air quality issues.

Creek maintenance activities would involve the use of a variety of gasoline- and diesel-powered equipment that emits exhaust fumes. Sensitive receptors in the vicinity of maintenance activities could be exposed to nuisance dust and heavy equipment emissions (i.e., diesel exhaust). The amount to which receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to toxic air contaminant emission levels that exceed applicable standards). Creek maintenance activities would be subject to SMAQMD Rule

403, which requires taking reasonable precautions, such as using water or applying chemical stabilizers for the control of dust during construction operations to prevent the emissions of the air toxic, particulate matter. Compliance with Rule 403 would ensure the Project would result in less than significant dust-related impacts during PM_{2.5} State Implementation Plan maintenance activities. Health-related risks associated with diesel exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. Concentrations of mobile-source diesel exhaust emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 70 years, which do not correlate well with the temporary and highly variable nature of short-term maintenance activities. Due to the short, temporary nature of maintenance activities at each individual location, potential health risk impacts from diesel exhaust would be less than significant.

- e) **Less Than Significant Impact.** The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they can be unpleasant, leading to distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

The proposed Project would involve the use of a variety of gasoline- or diesel-powered equipment that would emit exhaust fumes. Exhaust fumes, particularly diesel exhaust, may be considered objectionable by some people. However, construction-generated emissions would occur intermittently throughout the workday and would dissipate rapidly with increasing distance from the source. As a result, short-term construction activities would not expose a substantial number of people to frequent odorous emissions.

In addition, the proposed Project would not result in the installation of any equipment that would be considered major odor-emission sources. As a result, potential exposure of sensitive receptors to odorous emissions would be considered less than significant.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.4 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 US 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, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 wetlands, etc.), through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

Please refer to the Biological Resources Assessment (**Appendix B**) for more detailed information regarding the biological setting.

DISCUSSION OF IMPACTS

- a) **Less Than Significant Impact With Mitigation Incorporated.** Activities associated with the Project are limited to maintenance projects within stream zones including debris and obstruction removal; silt, sand, or sediment removal; vegetation control in channels; repair of previous erosion work; minor erosion control work; bridge washing and painting; minor fill associated with repair of existing structures; and geotechnical sampling. These activities could result in sedimentation and other polluting of aquatic habitats that

support special-status aquatic species, direct "take" of special-status species habitats and individuals, and alterations of their habitats in some situations.

A list of special-status species and habitats that have the potential to occur within the Project area or in the vicinity was prepared using information provided by the USFWS Sacramento Office's Species Lists (2015a), the USFWS Critical Habitat Portal (2015b), the CDFW's California Natural Diversity Database (CNDDDB) (CDFW 2015a), and the CNPS's Inventory of Rare and Endangered Plants of California (2015).

A search of the USFWS Sacramento Office's Species List was performed for the Elk Grove and Florin, California, US Geological Survey (USGS) 7.5-minute quads and all adjacent quads (Sacramento West, Sacramento East, Carmichael, Buffalo Creek, Sloughhouse, Clay, Galt, Bruceville, Courtland, and Clarksburg) to identify special-status species under USFWS jurisdiction that may be affected by the proposed Project. In addition, a query of the USFWS Critical Habitat Portal was conducted to identify any designated critical habitat in or in the vicinity of the project area. The CNDDDB provided a list of processed and unprocessed occurrences for special-status species in the quads mentioned above. Lastly, the CNPS database was queried to identify special-status plant species with the potential to occur in the aforementioned quads. Please see **Appendix B** for the raw data returned from the database queries.

The Project area provides suitable habitat for the following regionally occurring special-status species: Sanford's arrowhead (*Sagittaria sanfordii*), Northern California black walnut (*Juglans hindsii*), woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), valley elderberry longhorn beetle (VELB; *Desmocerus californicus dimorphus*), giant garter snake (*Thamnophis gigas*), western pond turtle (*Emys marmorata*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelaius tricolor*), Modesto song sparrow (*Melospiza melodia*), loggerhead shrike (*Lanius ludovicianus*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*), as well as other raptors and migratory birds.

The aforementioned species were determined to have the potential to be substantially adversely affected by project-related activities, either directly or through habitat modifications. Impacts to these species and/or species groups are discussed in more detail below. Impacts to these species would be considered potentially significant. However, mitigation measures are presented below to reduce the potential impacts to a less than significant level. Additional information regarding the status and potential for special-status species to occur within the Project area can be found in Table 1 of **Appendix B**. CNDDDB occurrences within 1 mile of the Project area are depicted in **Figure 3.4-1**.

Special-Status Plants

Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to special-status plant species, including Sanford's arrowhead, California black walnut, and woolly rose-mallow, which would be considered a potentially significant impact.

Sanford's arrowhead, California black walnut, and woolly rose-mallow are known to occur in or in the vicinity of the City. Due to the proximity of known occurrences and the presence of suitable habitat in the Project area, these species may be adversely impacted by Project-related activities. California black walnut trees are considered trees of local importance and are protected under Chapter 19.12 of the Elk Grove Municipal

3.0 INITIAL STUDY CHECKLIST

Code, Tree Preservation and Protection, with which the Project would be required to comply. Compliance with Chapter 19.12 would reduce impacts to black walnut to a less than significant level. Mitigation measure **MM 3.4-1** requires surveys; if plants are present, areas that contain plants are required to be avoided. **MM 3.4-10** requires that workers be trained to recognize protected resources. These measures would reduce potential impacts to Sanford's arrowhead and woolly rose-mallow to a less than significant level.

Valley Elderberry Longhorn Beetle

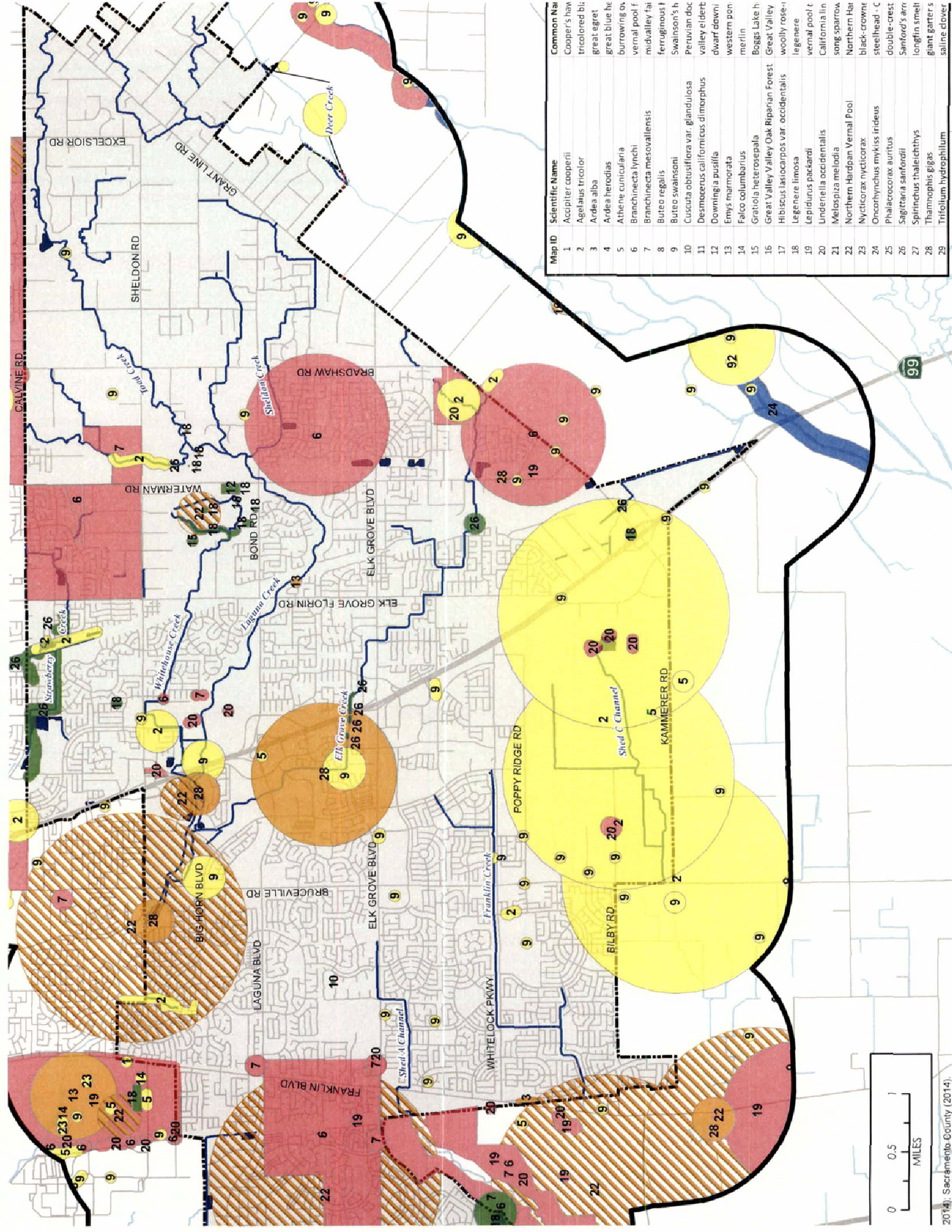
Elderberry shrubs, the VELB host plant, occur along waterways throughout the Project area. Removal of elderberry shrubs within and adjacent to channels and basins could adversely impact VELB if the species is present. No elderberry shrubs will be removed as a result of Project-related activities. If elderberry shrubs are identified within the maintenance areas, they will be completely avoided. In order to determine if VELB are present and reduce impacts to a less than significant level if present, implementation of mitigation measures **MM 3.4-2** and **MM 3.4-11** is required.

Giant Garter Snake

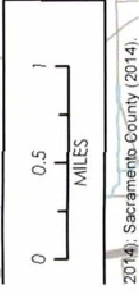
Several Elk Grove waterways possess the habitat features required by giant garter snake (GGS). In addition, there is one documented extant occurrence of this species associated with Elk Grove Greek (CDFW 2015b). Perennial water bodies provide aquatic habitat; in addition, all undeveloped communities within 200 feet of aquatic habitat are considered potentially suitable upland habitat (USFWS 1999). Impacts to GGS and/or its habitat as a result of Project-related activities would be considered a potentially significant impact.

The USFWS categorizes Project impacts to the giant garter snake in three levels: 1, 2, and 3. It is anticipated that the proposed Project would have Level 1 impacts to GGS habitat, but it is not anticipated that the Project would have Level 2 or Level 3 impacts.

- Level 1 actions are minimal environmental effects. Examples of Level 1 actions include repair, rehabilitation, or replacement of existing structures where implementation of the Project, including restoration of the temporarily disturbed areas, requires one season to complete. The work will not result in any permanent loss of snake habitat, and the temporary disturbance area will not exceed 20 acres of snake habitat.
- Level 2 actions include activities such as repair, rehabilitation, or replacement of previously authorized structures where implementation of the Project, including restoration of the temporarily disturbed area, requires two seasons to complete. The work will not result in any permanent loss of snake habitat and will not exceed 20 acres of temporary disturbance over two seasons.
- Level 3 actions include road crossings and bridge replacements or improvements that will result in the permanent loss of snake habitat that will not exceed 3 acres of snake aquatic and upland habitats, including no more than 1 acre of aquatic snake habitat, and temporary disturbances that will not exceed 20 acres of snake aquatic and upland habitats. Projects with temporary disturbance to snake habitat that require more than two seasons to complete are also categorized as Level 3.



Map ID	Scientific Name	Common Name
1	<i>Accipiter cooperii</i>	Cooper's hawk
2	<i>Agelaius tricolor</i>	tricolored blackbird
3	<i>Ardea alba</i>	great egret
4	<i>Ardea herodias</i>	great blue heron
5	<i>Aythya americana</i>	northern mallard
6	<i>Branchinecta lynchi</i>	vernal pool fairy shrimp
7	<i>Branchinecta mesoalleensis</i>	vernal pool fairy shrimp
8	<i>Buteo swainsoni</i>	western screech owl
9	<i>Buteo swainsoni</i>	western screech owl
10	<i>Cuscuta obtusiflora</i>	parasitic plant
11	<i>Desmoueresia californica</i>	California madwort
12	<i>Downingia pusilla</i>	downingia
13	<i>Erythronium albidum</i>	western monkshood
14	<i>Falco columbarius</i>	merlin
15	<i>Gratiola heterospala</i>	Boggs Lake plant
16	<i>Great Valley Oak Riparian Forest</i>	Great Valley
17	<i>Hibiscus lasiocarpus</i>	woolly rose-hibiscus
18	<i>Leguminosae</i>	leguminosae
19	<i>Leptidurus packardii</i>	vernal pool tanager
20	<i>Lundella occidentalis</i>	California linnet
21	<i>Melospiza melodia</i>	song sparrow
22	<i>Northern Hardpan Vernal Pool</i>	Northern Hardpan
23	<i>Nycticorax nycticorax</i>	black-crowned night heron
24	<i>Oncorhynchus mykiss</i>	steelhead trout
25	<i>Phalaropus lobatus</i>	double-crested sandpiper
26	<i>Sagittaria sanfordii</i>	Sanford's arrowhead
27	<i>Spirinthus thalichthys</i>	longfin smelt
28	<i>Thamnopis gigas</i>	giant garter snake
29	<i>Trifolium hydrophilum</i>	saline clover



The proposed Project would result in temporary impacts to suitable aquatic and upland habitat. All emergent vegetation and sediment removal will occur during the snake's active season, between May 1 and October 1. Mitigation measures **MM 3.4-3** through **MM 3.4-6** require preconstruction surveys, installation of exclusionary fencing, and avoidance of any resources, if present. These mitigation measures would ensure potential impacts to GGS are reduced to a less than significant level.

Western Pond Turtle

Western pond turtle is known to occur in Elk Grove waterways, with documented occurrences in Laguna Creek and unnamed drainage ditches in the City (CDFW 2015b). While City waterways provide aquatic habitat for western pond turtles, they also use upland habitat surrounding waterways for nesting. Due to the presence of known occurrences in the Project area, western pond turtle may be adversely impacted by Project-related activities. Loss of western pond turtle due to presence in areas proposed for maintenance activities would be considered potentially significant. In order to reduce potential impacts to a less than significant level, implementation of mitigation measure **MM 3.4-7** is required. This mitigation measure would reduce impacts by requiring preconstruction surveys and avoiding any resources, if present.

Burrowing Owl, Swainson's Hawk, White-Tailed Kite, and Other Raptors

Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to raptors, including burrowing owl, Swainson's hawk, and white-tailed kite. These effects would be considered potentially significant.

There are a few records of burrowing owl in the Project area (CDFW 2015b). Uplands adjacent to waterways provide suitable habitat for this species. Because of the proximity of known occurrences and the presence of suitable habitat in the Project area, burrowing owl may be adversely impacted by Project-related activities.

White-tailed kite is known to occur in the vicinity of the Project area, and there are numerous occurrences of Swainson's hawks within the Project area. The annual grassland communities in the area provide suitable foraging habitat for these species and other raptors. Foraging habitat will not be permanently impacted by Project-related activities.

Oak trees and other large trees provide suitable nesting habitat for Swainson's hawk and white-tailed kite. In addition, trees within and adjacent to the Project area provide suitable nesting habitat for raptors not identified in Table 1 of **Appendix B**. As a result, vegetation clearing during the nesting season could result in indirect impacts to nesting birds, should they be present. In addition, noise and other human activity may result in nest abandonment if nesting birds are present within 500 feet of maintenance activities. Due to the presence of suitable habitat for these species, Project-related activities may result in adverse impacts, should they be present in maintenance areas. In order to reduce potential impacts to burrowing owl, Swainson's hawk, white-tailed kite, and other raptors to a less than significant level, implementation of mitigation measure **MM 3.4-8** is required. This mitigation measure will reduce impacts by requiring preconstruction surveys and avoidance.

3.0 INITIAL STUDY CHECKLIST

Tricolored Blackbird, Modesto Song Sparrow, Loggerhead Shrike, Yellow-Headed Blackbird, and Migratory Birds

Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to tricolored blackbird, Modesto song sparrow, loggerhead shrike, yellow-headed blackbird, and other migratory birds. These effects would be considered potentially significant.

Dense emergent vegetation and shrubby thickets along the banks of waterways provide suitable nesting habitat for tricolored blackbird, yellow-headed blackbird, and Modesto song sparrow. In addition, trees within and adjacent to the Project area provide nesting habitat for loggerhead shrike and other migratory birds. All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under the Migratory Bird Treaty Act. As a result, vegetation clearing during the nesting season could result in direct impacts to nesting birds should they be present. In addition, an increase in noise and other human activity may result in nest abandonment if nesting birds are present within 200 feet of a maintenance area. Due to the presence of suitable habitat for these species, Project-related activities could result in adverse impacts should the species be present in areas proposed for disturbance. In order to reduce potential impacts to a less than significant level, implementation of mitigation measures **MM 3.4-9** and **MM 3.4-10** is required. These mitigation measures will reduce impacts by requiring preconstruction surveys and avoidance.

- b, c) **Less Than Significant Impact With Mitigation Incorporated.** Sensitive habitats include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the Fish and Game Code, and Section 404 of the Clean Water Act. Project-related activities are likely to substantially adversely affect riparian habitat, federally protected wetlands, and/or other sensitive natural communities identified in local or regional plans, policies, or regulations, or by the CDFW or the USFWS. Impacts to these resources would be considered potentially significant. Sensitive resources in the Project area include riparian habitat, emergent wetlands, and waters of the United States.

The Project may require the temporary or permanent removal of riparian habitat and emergent vegetation, but these activities would be limited to only what is necessary to perform maintenance. Large trees are not proposed for removal as part of Project-related activities. Overall, the conditions and functions of riparian areas in the Project area are expected to remain intact. Although the Project may require the temporary or permanent removal of riparian habitat and emergent vegetation, incorporation of mitigation measure **MM 3.4-11** would lessen potential impacts to riparian habitat to a less than significant level by requiring no net loss of riparian habitat.

Although emergent vegetation will be removed from channels as a result of Project-related activities, maintained areas typically revegetate the following year. Thus, all impacts to emergent wetlands are anticipated to be temporary in nature. Although removal of sediment from waters of the United States is a proposed activity, sediment removal would be limited and would improve the habitat quality and function of the linear features by returning flows to a more natural state. In addition, the Project proposes a small amount of fill annually; however, all fill is associated with the maintenance of existing structures. Sediment removal will offset the minor loss of waters associated with proposed fill by increasing the capacity of water features, resulting in no-net-loss of federally protected waters. Although no permanent loss of waters of the

United States would occur as a result of the proposed Project, maintenance activities could result in indirect impacts to wetland resources. Therefore, Project activities could result in adverse impacts to federally protected waters. In order to reduce potential impacts to a less than significant level, implementation of mitigation measures **MM 3.4-11** and **MM 3.4-12** is required. These mitigation measures will reduce impacts by requiring implementation of standard best management practices to protect water quality.

- d) **Less Than Significant Impact.** Project-related activities are not expected to result in impacts to the movement of native resident or migratory fish or wildlife species or established migratory corridors. Available data on movement corridors and linkages was accessed via the CDFW BIOS Viewer (2015b). Data reviewed included the Essential Connectivity Areas [ds623] layer and the Missing Linkages in California [ds420] layer. The Project area is not located within an identified corridor; nevertheless, the waterways in the Project area likely provide opportunity for local wildlife movement. Because of the presence of anthropogenic barriers, such as culverts, and the intermittent nature of most of the waterways in the Project area, it is unlikely that the creeks act as significant corridors for migratory fish species. The Project will not result in land use changes or create any barriers to wildlife movement. All impacts to banks and channels will be minor and temporary in nature. As such, any impacts are considered less than significant.
- e) **No Impact.** The proposed Project would not conflict with any local policies or Codes protecting biological resources. The Project is required to comply with Municipal Code Chapter 19.12, Tree Preservation and Protection. In addition, there would be no permanent loss of Swainson's hawk foraging habitat (annual grassland); thus, there will be no conflict with Municipal Code Chapter 16.130, Swainson's Hawk Impact Mitigation Fees, which applies to permanent impacts to foraging habitat. As such, no impact is anticipated.
- f) **No Impact.** The Project area is located in the South Sacramento County Habitat Conservation Plan planning area; however, this plan has not been adopted. Therefore, the proposed Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan. As a result, no impact is anticipated.

MITIGATION MEASURES

MM 3.4-1 Prior to commencement of maintenance activities, a qualified biologist shall conduct surveys for Sanford's arrowhead and woolly rose-mallow. If neither of these species is found in or adjacent to (within 100 feet) proposed maintenance areas, no further mitigation is required.

If either of the species is found in or adjacent to (within 100 feet) proposed impact areas during the surveys, these plant species shall be avoided. Any special-status plant species that are identified in or adjacent to the Project area shall be protected by barrier fencing (exclusion zone) to ensure maintenance activities do not impact any special-status plant species.

Timing/Implementation: Prior to commencement of maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

3.0 INITIAL STUDY CHECKLIST

MM 3.4-2 Prior to commencement of maintenance activities, a qualified biologist shall conduct a preconstruction survey for elderberry shrubs. If no elderberry shrubs are found in or adjacent to (within 100 feet) proposed maintenance areas, no further mitigation is required.

If elderberry shrubs are found in or adjacent to (within 100 feet) proposed maintenance areas, avoidance and minimization measures shall be implemented in accordance with the July 9, 1999, USFWS Conservation Guidelines for the Valley Elderberry Longhorn Beetle.

Timing/Implementation: Prior to and during maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-3 A preconstruction survey for giant garter snake shall be conducted within 24 hours of the onset of maintenance activities.

Timing/Implementation: Within 24 hours prior to the onset of maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-4 The City shall implement Appendix C of the Programmatic Consultation with the US Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, and Yolo Counties, California.

Timing/Implementation: Throughout maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-5 If a giant garter snake is encountered in the Project work area, the snake must be allowed to move away of its own volition.

Timing/Implementation: Throughout maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-6 The City shall prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.

Timing/Implementation: Throughout maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-7 A preconstruction survey for western pond turtle shall be conducted within 24 hours prior to the onset of maintenance activities. The survey area shall include a 100-foot buffer of the area to be affected. If juvenile or adult turtles are found within the survey area, the individuals shall be moved at least 500 feet downstream to a suitable habitat. If a turtle nest is found within the survey area, construction activities shall not take place within 100 feet of the nest until the

turtles have hatched or the eggs have been moved to an appropriate location by a qualified biologist, under consultation with the CDFW.

Timing/Implementation: Within 24 hours prior to the onset of maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-8

For any clearing and/or maintenance activities that would occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify burrowing owls and active raptor nests shall be conducted by a qualified biologist within three days prior to maintenance activities. Preconstruction surveys must be performed by a qualified biologist for the purpose of determining presence/absence of active nest sites in the area proposed for maintenance, and a 1,000-foot buffer. If no active nests are found, no further mitigation is required.

If active white-tailed kite or other raptor (excluding Swainson's hawk) nest sites are identified within 1,000 feet of Project activities, the City shall impose a 500-foot setback to all active nest sites prior to commencement of any Project-related activities to avoid maintenance- or access-related disturbances to nesting raptors. Project-related activities (i.e., vegetation removal and earth moving) shall not occur within the setback until the nest is deemed inactive. Activities permitted within setbacks and the size of setbacks may be adjusted through consultation with the CDFW.

If active Swainson's hawk nest sites are identified within 1,000 feet of Project activities, the City shall impose a 1,000-foot setback to all active nest sites prior to commencement of any Project-related activities to avoid maintenance- or access-related disturbances to nesting raptors. Project-related activities (i.e., vegetation removal and earth moving) shall not occur within the setback until the nest is deemed inactive. Activities permitted within setbacks and the size of setbacks may be adjusted through consultation with the CDFW.

If active burrowing owl nest sites are detected, the avoidance, minimization, and mitigation methodologies outlined in the CDFG's 2012 Staff Report on Burrowing Owl Mitigation shall be implemented prior to initiating Project-related activities that may impact burrowing owls. Burrowing owl surveys are valid for one year from the date of the survey. If no burrowing owls are detected, no mitigation for burrowing owls is required.

Timing/Implementation: Prior to and during maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-9

For any clearing and/or maintenance activities that would occur during the bird nesting season (February 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within three days prior to maintenance activities. Preconstruction surveys must be performed by a qualified biologist for the purpose of determining the presence/absence of active nest sites in the area proposed for maintenance, and a 200-foot setback. If no active nests are found, no further mitigation is required.

3.0 INITIAL STUDY CHECKLIST

If active nest sites are identified within 200 feet of Project activities, the City shall impose an exclusionary setback for all active nest sites prior to commencement of any Project-related activities to avoid maintenance- or access-related disturbances to nesting migratory birds. A setback constitutes an area where Project-related activities (i.e., vegetation removal and earth moving) shall not occur and shall be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within the setback and the size (i.e., 100 feet) of setbacks may be adjusted through consultation with the CDFW.

Timing/Implementation: Prior to and during maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-10

A qualified biologist(s) shall monitor Project-related activities that could potentially cause significant impacts to sensitive biological resources. In addition, a qualified biologist shall be retained to conduct mandatory contractor/worker awareness training for construction personnel. The awareness training shall be provided to all construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts to biological resources (e.g., plants, wildlife, and jurisdictional waters), and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor shall ensure that they receive the mandatory training before starting work.

Timing/Implementation: Prior to maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-11

The City shall mitigate for permanent impacts to riparian habitat at a 2:1 ratio. Mitigation can include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank.

Timing/Implementation: As necessary throughout maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

MM 3.4-12

The City shall employ best management practices (BMPs) on-site to prevent degradation to on-site and off-site waters of the United States. Water pollution control features will be based on California Storm Water Quality Association standard BMPs.

Timing/Implementation: Throughout maintenance activities

Enforcement/Monitoring: Elk Grove Public Works Department

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

DISCUSSION OF IMPACTS

a, b, d) **Less Than Significant Impact.** The proposed maintenance activities would occur within various improved and unimproved drainage channels throughout the City. There are no existing structures within these drainage channels. Furthermore, these channels have been heavily disturbed through previous improvements and maintenance activities, minimizing the potential for any historical or archaeological resources or human remains to be present.

Elk Grove General Plan Policy HR-6 (Actions HR-6-Action 1 and HR-6-Action 2) requires project proponents to halt work and immediately notify the City's Planning Division if any prehistoric, archaeological, or paleontological artifact is uncovered during construction and to retain a qualified archaeologist to evaluate the find and recommend appropriate action. If human remains are uncovered, these actions also require the County Coroner to be notified and, if the remains are determined to be Native American, the City would follow the procedures outlined in CEQA Section 15064.5(d) and (e), including consultation with the Native American Heritage Commission regarding the Most Likely Descendent (MLD) regarding means of treating human remains and any associated grave goods. These impacts would be less than significant with compliance with these existing City requirements.

c) **Less Than Significant Impact.** According to the Elk Grove General Plan EIR (2003b, p. 4.11-10), Pleistocene nonmarine sedimentary rocks (Riverbank Formation) and Quaternary alluvium geologic units underlie portions of the City, primarily around the Sacramento and Cosumnes rivers. These geologic units are considered to have paleontological resource sensitivity. Therefore, there is a possibility that paleontological resources could be uncovered during Project implementation. Compliance with the requirements of General Plan Policy HR-6, which requires proponents of projects to halt work and immediately notify the City's Planning Division if any paleontological artifact is uncovered during construction, would reduce this impact to a less than significant level.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.6 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:				
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 checked="" type="checkbox"/>	<input 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"/>

DISCUSSION OF IMPACTS

- a) i-iv. **No Impact.** According to the Elk Grove General Plan EIR (2003a), there are no known active or potentially active faults or Alquist-Priolo earthquake hazard zones in the City. Therefore, there is no potential for fault rupture to occur during Project implementation. Although the Project site could experience ground shaking due to an earthquake along a fault outside of the City, the Project would not include the construction of any habitable structures or otherwise increase the potential to expose people or structures to the effects of strong seismic groundshaking, seismic-related ground failure, or landslides.
- b) **Less Than Significant Impact.** The proposed channel maintenance activities would involve ground-disturbing activities and the removal of soil. The Project may result in

removal of silt and/or organic matter from below the ordinary high water mark (OHWM) and placement of fill such as riprap, soil, gravel material, or aggregate base from commercial sources over the 12-year permit period. Activities involving cut and fill, such as bank stabilization, debris and obstruction removal, and repair of previous erosion control work, would improve water flow and slow erosion.

The Project would be required to comply with the City's Stormwater Quality Improvement Program (SQIP), which is enforced through Municipal Code Chapter 15.12, Stormwater Management and Discharge Control, and Chapter 16.44, Land Grading and Erosion Control. Consistent with the SQIP, the Project would be required to develop and implement plans prior to grading activities that include measures to minimize erosion, sediment, and dust created by maintenance activities. As maintenance activities would be localized and properly controlled for erosion, potential adverse impacts from soil erosion are considered less than significant.

- c) **No Impact.** The proposed maintenance activities would occur within existing drainage channels, none of which are located on unstable geologic or soil units.
- d) **No Impact.** The proposed Project would not result in the construction of any structures or infrastructure that could be affected by expansive soils.
- e) **No Impact.** The proposed Project would generate any sewerage and does not involve the installation of any septic tanks or alternative wastewater treatment systems.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.7 GREENHOUSE GAS EMISSIONS. 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 checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION OF IMPACTS

- a) **Less Than Significant Impact.** The proposed Project will result in short-term greenhouse gas (GHG) emissions from proposed maintenance activities for the 12-year duration of the proposed permit. Maintenance-generated GHG emissions are short term, but could result in a substantial contribution to GHG emissions and climate change. The proposed Project will not include the provision of new permanent stationary sources of emissions since it does not propose any buildings. Therefore, by its very nature, it will not generate quantifiable GHG emissions from stationary sources during Project operations. Emissions resulting from the proposed Project are presented in **Table 3.7-1**.

As shown in **Table 3.7-1**, the maintenance activities associated with the proposed Project could produce an additional 50 metric tons of carbon dioxide equivalent (CO_{2e}). The SMAQMD significance threshold for CO_{2e} is 1,100 metric tons per year; thus, the proposed Project would not exceed the SMAQMD significance threshold for GHG emissions.

**TABLE 3.7-1
OPERATIONAL GHG EMISSIONS – METRIC TONS PER YEAR**

Source	CO _{2e}
Proposed Maintenance Activities	50
SMAQMD Potentially Significant Impact Threshold	1,100
Exceeds SMAQMD Threshold?	No

Source: Emissions modeled by PMC using the CalEEMod computer program. See **Appendix A** for modeling outputs.

Notes: Emissions outputs account for the maximum amount of maintenance scheduled annually. This includes the disturbance of 10.25 acres by one excavator, two tractor/backhoes, one pumper truck, one cement truck, and one dozer operating each day. Emissions outputs also account for the import of 44.1 cubic yards of fill material and export of 5,934 cubic yards of sediment as well as 80 vehicle trips daily.

The proposed Project would not exceed project-level thresholds of significance for criteria air pollutants, resulting in a less than significant impact.

- b) **Less Than Significant Impact.** The Elk Grove Climate Action Plan (CAP) is a strategic planning document that identifies sources of GHG emissions from within Elk Grove's boundary and reduces emissions through energy use, transportation, land use, water use, and solid waste strategies (referred to as "measures" in the CAP). The policy provisions

contained in the CAP were prepared with the purpose of complying with the requirements of Assembly Bill (AB) 32 and achieving the goals of the AB 32 Scoping Plan. The City considers a specific project proposal consistent with the Elk Grove CAP if it complies with the GHG reduction measures contained in the adopted CAP. There are no mandatory GHG reduction measure in the Elk Grove CAP that apply to the proposed creek channel maintenance activities, and no aspect of the Project will conflict with or inhibit CAP strategies to reduce GHG emissions.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.8 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?	<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 checked="" type="checkbox"/>	<input 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 area or, where such a plan has not been adopted, within 2 miles of a public airport or a 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 type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF IMPACTS

a-c) **Less Than Significant Impact.** The proposed Project would include use of herbicides on grasses, shrubs, and woody growth for vegetation control to maintain the designed capacity of floodways. The Project could result in small quantities of these hazardous

materials entering surface drainages. However, the City would use only herbicides registered with the California Department of Pesticide Regulation (DPR); the herbicides would be applied in accordance with DPR regulations and labeling instructions. The Project would not represent a substantial percentage of contaminants, relative to that of stormwater from City streets. Therefore, this would not create a significant hazard to the public or the environment and this impact would be less than significant.

The proposed maintenance activities would also involve the use of limited amounts of hazardous materials commonly used in construction activities such as fuels, oils, and other materials for vehicle and equipment maintenance. The City and its contractors would be required to comply with all local, state, and federal standards associated with the handling of these hazardous materials. As such, it is assumed that the presence of these materials on the Project site would not create hazardous conditions or a risk of upset at the site or the surrounding area, including at any school sites within one-quarter mile.

The waste materials generated during the proposed maintenance activities would generally include dirt, sediment, vegetation, and rock and may include contaminants from road runoff and illegal dumping such as oils, grease, heavy metals, and debris. All waste materials would be properly disposed in accordance with applicable regulations on the site of the City's Special Waste Collection Center.

- d) **No Impact.** Routine channel maintenance would not occur at any of the hazardous material sites identified in Table 4.4-1 of the Elk Grove General Plan EIR (2003b).
- e. f) **No Impact.** The proposed maintenance sites are not located within an airport land use plan or within 2 miles of an active public airport or a private airstrip, so there would be no safety hazard to people working in the Project area.
- g) **No Impact.** The Elk Grove General Plan (2003a) states that the efficient movement of police and firefighting equipment and safe evacuation routes for residents will be facilitated by a well-planned and implemented roadway system. The objective of the proposed Project is to maintain the designed capacity of stormwater utility creeks and channels and other physical structures to protect the City's investments and prevent the loss of life and property. The Project would not occur on roadways or in any way impede emergency response plans or evacuation plans.
- h) **No Impact.** The proposed Project does not include construction of habitable structures in the vicinity of wildland areas. Routine channel maintenance activities would not expose people or structures to wildland fires.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.9 HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
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 that would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of a failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF IMPACTS

- a) **Less Than Significant Impact.** The Project would be required to comply with the City's SQIP. To comply with the SQIP, the Project would be required to develop and implement plans prior to grading activities that include measures to minimize erosion, sediment, and dust created by maintenance activities. The City and its contractor(s) would implement measures to prevent any hazardous materials used on the site from contaminating soil, groundwater, and/or surface waters. The City would also time the maintenance work to occur when precipitation events that could increase stream flows are not anticipated. In addition, the City would time the maintenance work with awareness of the amount of time and materials necessary to implement erosion control measures and would cease all work and implement all reasonable erosion control measures prior to storm events. Therefore, the proposed routine channel maintenance activities would not violate any water quality standards or waste discharge requirements.
- b) **No Impact.** The proposed Project would be limited to maintenance activities necessary to restore the design capacity of the City's drainage features. The Project would not result in the development of any permanent uses that would require a water supply and would not create any impermeable surfaces that could interfere with groundwater recharge.
- c, f) **Less Than Significant Impact.** Channel maintenance involves the removal/displacement of silt, sand, or sediment in the vicinity of man-made facilities or structures that cause an obstruction to the channel's flow. As described previously, the Project must comply with the City's SQIP by developing and implementing plans prior to grading activities that include measures to minimize erosion, sediment, and dust created by maintenance activities. The City would also time the maintenance work with an awareness of precipitation and other events that could increase stream flows and would only perform those activities (i.e., sediment removal or fill) necessary to maintain the design capacity of the City's stormwater facilities. Implementation of the measures required for SQIP compliance would minimize erosion and reduce this impact to a less than significant level.
- d, e) **Less Than Significant Impact.** The proposed channel maintenance activities would improve drainage and reduce potential flooding impacts by removing obstacles and debris from the channels, including creeks, streams, and natural and man-made drainages within the City. While the Project would make some alterations to the drainage system, it would not increase the amount of water entering the system. The activities would remove accumulated silt and vegetation to increase the capacity of the drainage system, which would reduce risk of flooding. The Project would be required to comply with the City's National Pollutant Discharge Elimination System (NPDES) permit and SQIP and the conditions of the CDFW Agreement, which would reduce the potential for erosion to less than significant.
- g, h) **No Impact.** The proposed channel maintenance activities would not involve the construction of housing. The purpose of the Project is to ensure that existing waterways are able to carry storm flows. Maintenance of existing erosion control measures and new minor erosion control measures would not impede or redirect water flows.

3.0 INITIAL STUDY CHECKLIST

- i) **No Impact.** As noted previously, the Project would remove obstacles and debris from the channels, which would reduce the potential for risks related to flooding. The Project would not result in any changes that would cause people or structures to be exposed to risks related to flooding.

- j) **No Impact.** Elk Grove is not exposed to hazards associated with seiche, tsunami, or mudflows.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.10 LAND USE AND PLANNING. Would the project:				
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"/>

DISCUSSION OF IMPACTS

- a) **No Impact.** The proposed maintenance activities would occur within existing drainage ways and facilities throughout the City. The Project would not result in any development or otherwise have the potential to physically disrupt or divide an established community.
- b) **No Impact.** The proposed Project is intended to implement General Plan Policy SA-24 by enabling the City to properly maintain drainage facilities. Therefore, the Project would not conflict with any applicable land use plan, policy, or regulation with jurisdiction over routine channel maintenance activities.
- c) **No Impact.** There are no habitat conservation plans or natural community conservation plans within the City. The South Sacramento County Habitat Conservation Plan is in the process of being prepared but has not yet been adopted.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.11 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?	<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"/>

DISCUSSION OF IMPACTS

- a, b) **No Impact.** The proposed Project involves the maintenance of existing drainage features including the removal of limited amounts of sediment. These routine channel maintenance activities would not result in the loss of known mineral resources or the availability of a mineral resource recovery site. There would be no impact.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.12 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 of applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or a 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"/>

DISCUSSION OF IMPACTS

a, d) **Less Than Significant Impact.** The proposed maintenance activities would generate temporary noise above ambient noise levels in the vicinity of the activities. Primary noise sources would include truck traffic associated with the transport of heavy equipment to and from maintenance sites, as well as the operation of motorized equipment such as mowers, grass trimmers, chainsaws, bobcats, and backhoes. **Table 3.12-1** provides maximum noise levels for a range of equipment that may be operated during Project implementation. As shown in the table, maximum noise levels would range from 85 to 88 dB at a distance of 50 feet.

General Plan Policy NO-3-Action 3 requires that stationary construction equipment and construction staging areas be set back from existing noise-sensitive land uses. Chapter 6.32, Noise Control, of the Elk Grove Municipal Code is intended to reduce excessive, unnecessary, or offensive noise within the City. Elk Grove Municipal Code Section 6.32.100 exempts construction-related activities from the specified noise ordinance standards if they occur between the hours of 6:00 a.m. and 8:00 p.m. on weekdays and between 7:00 a.m. and 8:00 p.m. on Saturdays and Sundays. Project compliance with

3.0 INITIAL STUDY CHECKLIST

these existing regulations would reduce the potential for annoyance at nearby noise-sensitive land uses. Therefore, the impact would be less than significant.

**TABLE 3.12-1
CONSTRUCTION EQUIPMENT NOISE**

Type of Equipment	Maximum Level, dB at 50 feet
Bulldozers	87
Heavy Trucks	88
Backhoe	85
Pneumatic Tools	85

Source: City of Elk Grove 2003b, p. 4.6-28

- b) **Less Than Significant Impact.** The proposed maintenance activities would require the use of construction equipment (such as excavators, backhoes, dump trucks, and bobcats). **Table 3.12-2** depicts the typical vibration levels produced by construction equipment similar to that likely to be used during the proposed maintenance activities. The threshold at which there is a risk to normal structures is 0.2 peak particle velocity (ppv) inches per second, which is the same threshold typically considered the level at which increased levels of annoyance may begin to occur to occupants of nearby buildings. As shown in the table, equipment used for the proposed maintenance activities would not generate groundborne vibration at levels that could cause annoyance or property damage at residences or other sensitive receptors in the vicinity. This would be a less than significant impact.

**TABLE 3.12-2
VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT**

Type of Equipment	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Loaded Trucks	0.076
Small Bulldozer	0.003
Jackhammer	0.035

Source: FTA 2006

- c) **Less Than Significant Impact.** As described previously, the proposed Project would result in a temporary increase in ambient noise levels as a result of truck traffic and heavy equipment operation. However, the Project would not introduce any permanent noise sources at any of the maintenance sites and would not result in a substantial permanent increase in ambient noise levels.
- e, f) **No Impact.** As described previously, the proposed maintenance sites are not located within an airport land use plan or within 2 miles of a public or private airport or airstrip. Therefore, the proposed Project would not expose people to excessive noise levels associated with airport operations.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.13 POPULATION AND HOUSING. Would the project:				
a) Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., 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"/>

DISCUSSION OF IMPACTS

a-c) **No Impact.** The proposed Project would not result in the development of any new housing, employment centers, or infrastructure that would induce or support population growth in the City. Furthermore, the Project would not require the demolition of any housing units and therefore would not displace any existing housing or people.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.14 PUBLIC SERVICES. 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 following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF IMPACTS

- a-e) **No Impact.** The proposed Project involves maintenance of existing drainage features and the repair of previous erosion control work. The Project would not include the construction of any habitable structures or other structures that would require public services or impact the service ratios, response times, or other performance objectives of any service providers. Therefore, implementation of the proposed Project would not require the construction of any new public facilities or the expansion of any existing facilities with respect to fire protection, police protection, schools, parks, or other public services.

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.15 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?	<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"/>

DISCUSSION OF IMPACTS

a, b) **No Impact.** As described in subsection 3.13, Population and Housing, the proposed Project would not result in the development of any housing or otherwise increase the City's population. Therefore, the Project would not result in an increased use of existing parks or other recreational facilities that could result in the substantial deterioration of facilities. Furthermore, the Project does not involve the construction of any new recreational facilities.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.16 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

DISCUSSION OF IMPACTS

- a, b) **Less Than Significant Impact.** The proposed channel maintenance activities could generate up to 80 daily trips throughout Elk Grove, assuming a maximum of three City vehicles and up to seven contractor vehicles with approximately eight daily trips each during peak channel maintenance activities. These trips would be dispersed throughout Elk Grove during the course of the routine channel maintenance season and would result in temporary minor traffic increases that would not result in level of service impacts during peak traffic periods.
- c) **No Impact.** The proposed channel maintenance activities would have no effect on air traffic patterns.
- d) **No Impact.** The proposed channel maintenance activities would not alter any roadways such that hazards would be increased. Furthermore, the Project would not change any land uses in the City and would have no potential to create incompatible uses.

- e) **No Impact.** The proposed channel maintenance activities would have no effect on emergency access.
- f) **No Impact.** The proposed channel maintenance activities would not conflict with adopted policies, plans, or programs supporting alternative transportation.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.17 UTILITIES AND SERVICE SYSTEMS. Would the project:				
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 stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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 that 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"/>

DISCUSSION OF IMPACTS

- a, e) **No Impact.** The proposed Project would not generate any wastewater requiring treatment or disposal services. Therefore, the Project would have no potential to exceed the wastewater treatment requirements of the Central Valley Regional Water Quality Control Board or to exceed the capacity of the regional wastewater treatment plant.
- b) **No Impact.** The proposed Project would not generate any wastewater requiring treatment or require a supply of treated water. Therefore, the Project would not require or result in the construction of new, or the expansion of existing, water or wastewater treatment facilities.
- c) **Less Than Significant Impact With Mitigation Incorporated.** The proposed Project does not include the construction or expansion of any stormwater drainage facilities. The Project involves routine channel maintenance activities that are intended to improve stormwater drainage in the region. Impacts associated with the proposed maintenance activities are assumed as part of the Project and are addressed throughout this Initial Study.

- d) **No Impact.** The proposed Project would not require a permanent water supply and would not require any new or expanded water entitlements.

- f, g) **No Impact.** The proposed channel maintenance activities would generate waste materials (dirt, sediment, vegetation and rock) that would be disposed of on the site of the City's Special Waste Collection Center. The Project would not generate any waste requiring disposal at a landfill. Therefore, the Project would not exceed the capacity of any landfill or conflict with any statutes or regulations related to solid waste.

3.0 INITIAL STUDY CHECKLIST

	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
3.18 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 rare or endangered plants or animals, 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 that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

DISCUSSION OF IMPACTS

- a) **Less Than Significant Impact With Mitigation Incorporated.** The Project as proposed could result in impacts to biological resources, but implementation of mitigation measures **MM 3.4-1** through **MM 3.4-12** would reduce these impacts to a less than significant level. As discussed in subsection 3.5, Cultural Resources, the Project as proposed would not be expected to result in any impacts on cultural resources. Therefore, significant adverse impacts to fish, wildlife, or plant species, including special-status species, and to examples of the major periods of California history or prehistory would not be expected. This impact would be less than significant.
- b) **Less Than Significant Impact.** The proposed Project would generate greenhouse gas emissions. However, the Project's contribution to this cumulative impact was determined to be less than significant. See issue a) in subsection 3.7, Greenhouse Gas Emissions.
- c) **Less Than Significant Impact.** The proposed Project could result in the exposure of people to construction air emissions and groundborne vibration. As discussed in the subsections addressing air quality and noise, the proposed Project would not expose a substantial number of people to toxic air emissions or excessive groundborne vibration with implementation of mitigation measures identified for the Project. The Project would involve the use of limited amounts of hazardous materials commonly used in construction activities such as fuels, oils, and other materials for vehicle and equipment maintenance, but implementation of measures in the City's SQIP would ensure that the Project would not result in substantial negative effects on human beings. Therefore, the proposed Project would not result in environmental effects that would directly or indirectly cause substantial adverse effects on human beings. This impact would be less than significant.

4.0 REFERENCES

4.0 REFERENCES

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4.0 REFERENCES

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APPENDICES

APPENDIX A: AIR QUALITY AND GREENHOUSE GAS EMISSIONS

Routine Creek Maintenance
 Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	10.25	Acre	10.25	446,490.00	0

1.2 Other Project Characteristics

Urbanization Urban Wind Speed (m/s) 3.5 Precipitation Freq (Days) 58
 Climate Zone 6 Operational Year 2016

Utility Company Sacramento Municipal Utility District

CO2 Intensity (lb/MW/hr) 590.31 CH4 Intensity (lb/MW/hr) 0.029 N2O Intensity (lb/MW/hr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Accounts for the disturbance of 10.25 acres annually

Construction Phase - Assumes 30 days of work annually per the project description

Off-road Equipment - Assumes excavator, a dozer, tractors, cement truck, and pumper for conservative analysis

Trips and VMT - 80 worker trips daily. Accounts for a haul truck capacity of 16 cubic yards per CalEEMod User's Guide Appendix A

Grading - Accounts for 10.25 acres of ground disturbance, 5,934 cubic yards of material export, and 44.1 cubic yards of material import annually

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	10.25
tblGrading	MaterialExported	0.00	5,934.00
tblGrading	MaterialImported	0.00	44.10
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	HaulingTripNumber	747.00	373.00
tblTripsAndVMT	WorkerTripNumber	15.00	80.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day															
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2016	3.0385	28.8792	26.9973	0.0384	7.2497	1.4456	8.6953	3.5760	1.3322	4.9082	0.0000	3,758.2489	0.6871	0.0000	0.0000	3,772.6780
Total	3.0385	28.8792	26.9973	0.0384	7.2497	1.4456	8.6953	3.5760	1.3322	4.9082	0.0000	3,758.2489	0.6871	0.0000	0.0000	3,772.6780

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Routine Creek Maintenance	Grading	1/1/2016	2/11/2016	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Routine Creek Maintenance	Dumpers/Tenders	1	6.00	16	0.38
Routine Creek Maintenance	Excavators	1	8.00	162	0.38
Routine Creek Maintenance	Graders	0	8.00	174	0.41
Routine Creek Maintenance	Rubber Tired Dozers	1	8.00	255	0.40
Routine Creek Maintenance	Scrapers	0	8.00	361	0.48
Routine Creek Maintenance	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Routine Creek Maintenance	Cement and Mortar Mixers	1	8.00	9	0.56

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Routine Creek Maintenance	6	80.00	0.00	373.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Routine Creek Maintenance - 2016
Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Fugitive Dust					6.4256	0.0000	6.4256	3.3556	0.0000	3.3556			0.0000			0.0000
Off-Road	2.4219	25.5329	19.2353	0.0217	1.3936	1.3936	1.3936	1.2844	1.2844	1.2844		2,216.9263	2,216.9263	0.6499		2,230.5745
Total	2.4219	25.5329	19.2353	0.0217	6.4256	1.3936	7.8192	3.3556	1.2844	4.6400		2,216.9263	2,216.9263	0.6499		2,230.5745

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.2960	3.0579	3.9014	8.9800e-003	0.2155	0.0475	0.2630	0.0590	0.0437	0.1026			901.7783	6.2900e-003		901.9105
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000
Worker	0.3206	0.2884	3.8606	7.7800e-003	0.6086	4.4700e-003	0.6130	0.1614	4.1100e-003	0.1655			639.5442	0.0309		640.1930
Total	0.6166	3.3463	7.7620	0.0168	0.8241	0.0520	0.8761	0.2204	0.0478	0.2682		5	1,541.322	0.0372		1,542.1035

Routine Creek Maintenance Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	10.25	Acre	10.25	446,490.00	0

1.2 Other Project Characteristics

Urbanization Urban Wind Speed (m/s) 3.5 Precipitation Freq (Days) 58
 Climate Zone 6 Operational Year 2016

Utility Company Sacramento Municipal Utility District

CO2 Intensity (lb/MW/hr) 590.31 CH4 Intensity (lb/MW/hr) 0.029 N2O Intensity (lb/MW/hr) 0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Accounts for the disturbance of 10.25 acres annually

Construction Phase - Assumes 30 days of work annually per the project description

Off-road Equipment - Assumes excavator, a dozer, tractors, cement truck, and pumper for conservative analysis

Trips and VMT - 80 worker trips daily. Accounts for a haul truck capacity of 16 cubic yards per CalEEMod User's Guide Appendix A

Grading - Accounts for 10.25 acres of ground disturbance, 5,934 cubic yards of material export, and 44.1 cubic yards of material import annually

Table Name	Column Name	Default Value	New Value
tblGrading	AcresOfGrading	0.00	10.25
tblGrading	MaterialExported	0.00	5,934.00
tblGrading	MaterialImported	0.00	44.10
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	OperationalYear	2014	2016
tblTripsAndVMT	Hauling TripNumber	747.00	373.00
tblTripsAndVMT	Worker TripNumber	15.00	80.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

Year	tons/yr											MT/yr			
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Biogenic CO2	Total CO2	CH4	N2O	CO2e
2016	0.0462	0.4367	0.4035	5.7000e-004	0.1083	0.0217	0.1300	0.0535	0.0200	0.0735	0.0000	50.2915	9.3500e-003	0.0000	50.4879
Total	0.0462	0.4367	0.4035	5.7000e-004	0.1083	0.0217	0.1300	0.0535	0.0200	0.0735	0.0000	50.2915	9.3500e-003	0.0000	50.4879

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Routine Creek Maintenance	Grading	1/1/2016	2/11/2016	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Routine Creek Maintenance	Dumpers/Tenders	1	6.00	16	0.38
Routine Creek Maintenance	Excavators	1	8.00	162	0.38
Routine Creek Maintenance	Graders	0	8.00	174	0.41
Routine Creek Maintenance	Rubber Tired Dozers	1	8.00	255	0.40
Routine Creek Maintenance	Scrapers	0	8.00	361	0.48
Routine Creek Maintenance	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Routine Creek Maintenance	Cement and Mortar Mixers	1	8.00	9	0.56

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Routine Creek Maintenance	6	80.00	0.00	373.00	10.00	6.50	20.00	LD_Mix	HDT_Mix	HHT

3.1 Mitigation Measures Construction

3.2 Routine Creek Maintenance - 2016
Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Fugitive Dust					0.0964	0.0000	0.0964	0.0503	0.0000	0.0503	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0363	0.3830	0.2885	3.3000e-004		0.0209	0.0209	0.0193	0.0193	0.0193	0.0000	30.1674	30.1674	6.8400e-003	0.0000	30.3532
Total	0.0363	0.3830	0.2885	3.3000e-004	0.0964	0.0209	0.1173	0.0503	0.0193	0.0696	0.0000	30.1674	30.1674	8.8400e-003	0.0000	30.3532

Unmitigated Construction Off-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
	MT/yr															
Hauling	4.8000e-003	0.0489	0.0647	1.3000e-004	3.1430e-003	7.1000e-004	3.8500e-003	8.6000e-004	6.6000e-004	1.5200e-003	0.0000	12.2587	12.2587	9.0000e-005	0.0000	12.2605
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0200e-003	4.8000e-003	0.0503	1.1000e-004	8.8100e-003	7.0000e-005	8.8800e-003	2.3400e-003	6.0000e-005	2.4100e-003	0.0000	7.8655	7.8655	4.2000e-004	0.0000	7.8743
Total	8.8200e-003	0.0537	0.1150	2.4000e-004	0.0120	7.8000e-004	0.0127	3.2000e-003	7.2000e-004	3.9300e-003	0.0000	20.1241	20.1241	5.1000e-004	0.0000	20.1348

**APPENDIX B:
BIOLOGICAL RESOURCES**

CITY OF ELK GROVE
ROUTINE CREEK MAINTENANCE PROJECT
BIOLOGICAL RESOURCES ASSESSMENT



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March 2015

SUMMARY OF FINDINGS AND CONCLUSIONS

The City of Elk Grove proposes to continue its Routine Channel Maintenance Program, which involves conducting annual maintenance activities in the improved and unimproved channels and drainage facilities throughout the City. Maintenance activities include: debris or obstruction removal; silt, sand, and sediment removal; vegetation control and removal, repair of previous erosion control work; minor erosion control; bridge washing and painting; beaver dam removal; and minor fill for maintenance of outfalls, bridges, culverts, channels and basins.

The biological study area contains numerous perennial, intermittent, and ephemeral drainages, as well as several detention basins. The waterways and associated uplands provide suitable habitat for Sanford's arrowhead (*Sagittaria sanfordii*), Northern California black walnut (*Juglans hindsii*), woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), burrowing owls (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), tricolored blackbird (*Agelaius tricolor*), Modesto song sparrow (*Melospiza melodia*), loggerhead shrike (*Lanius ludovicianus*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and other raptors and migratory birds. Impacts to these resources, as a result of Project-related activities, would be considered potentially significant; however, several mitigation measures are proposed herein, which if implemented would reduce those impacts to a less than significant level.

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CHAPTER 1 – INTRODUCTION

1.1 PROJECT LOCATION 1

1.2 PROJECT DESCRIPTION..... 1

1.3 BIOLOGICAL STUDY AREA 1

1.4 PROJECT SETTING..... 1

 1.4.1 TOPOGRAPHY 1

 1.4.2 HYDROLOGY 1

 1.4.3 SOILS 2

 1.4.4 CLIMATE..... 3

CHAPTER 2 - REGULATORY SETTING

2.1 FEDERAL 9

 2.1.1 ENDANGERED SPECIES ACT 9

 2.1.2 CLEAN WATER ACT..... 9

 2.1.3 MIGRATORY BIRD TREATY ACT 11

2.2 STATE 11

 2.2.1 CALIFORNIA ENDANGERED SPECIES ACT..... 11

 2.2.2 CALIFORNIA FISH AND GAME CODE..... 11

 2.2.3 CALIFORNIA WETLANDS AND OTHER WATER POLICIES 12

2.3 NONGOVERNMENTAL AGENCY 14

 2.3.1 CALIFORNIA NATIVE PLANT SOCIETY 14

2.4 LOCAL 14

 2.4.1 CITY OF ELK GROVE GENERAL PLAN..... 14

 2.4.2 CITY OF ELK GROVE SWAINSON’S HAWK IMPACT MITIGATION FEES 15

 2.4.3 SOUTH SACRAMENTO COUNTY HABITAT CONSERVATION PLAN 15

CHAPTER 3 - STUDY METHODS

3.1 STUDIES REQUIRED..... 17

 3.1.1 LITERATURE REVIEW 17

 3.1.2 HABITAT ASSESSMENT..... 17

 3.1.3 JURISDICTIONAL DELINEATION 17

 3.1.4 IMPACT ASSESSMENT 17

TABLE OF CONTENTS

CHAPTER 4 - BIOLOGICAL SETTING

4.1	VEGETATIVE COMMUNITIES	19
4.1.1	RIVERINE.....	19
4.1.2	FRESH EMERGENT WETLANDS	20
4.1.3	SEASONAL WETLAND.....	20
4.1.4	VALLEY FOOTHILL RIPARIAN	20
4.1.5	ANNUAL GRASSLAND.....	20
4.1.6	VALLEY OAK WOODLAND.....	20
4.1.7	PASTURE	20
4.1.8	CROPLAND	21
4.1.9	URBAN	21
4.2	REGIONAL SPECIES AND HABITATS OF CONCERN	21
4.2.1	SPECIAL-STATUS NATURAL COMMUNITIES.....	21
4.2.2	SPECIAL-STATUS SPECIES.....	21

CHAPTER 5 - DISCUSSION OF IMPACTS AND MITIGATION

5.1	STANDARDS OF SIGNIFICANCE	41
5.2	METHODOLOGY	42
5.3	IMPACTS TO CANDIDATE, SENSITIVE, OR SPECIAL-STATUS SPECIES (STANDARD OF SIGNIFICANCE 1)	42
5.3.1	SPECIAL-STATUS PLANTS.....	42
5.3.2	VALLEY ELDERBERRY LONGHORN BEETLE.....	43
5.3.3	GIANT GARTER SNAKE.....	43
5.3.4	WESTERN POND TURTLE	44
5.3.5	BURROWING OWL, SWAINSON'S HAWK, WHITE-TAILED KITE, AND OTHER RAPTORS	45
5.3.6	TRICOLORED BLACKBIRD, MODESTO SONG SPARROW, LOGGERHEAD SHRIKE, YELLOW-HEADED BLACKBIRD AND MIGRATORY BIRDS	46
5.3.7	RECOMMENDED ADDITIONAL MITIGATION MEASURES.....	47
5.4	IMPACTS TO RIPARIAN HABITAT, SENSITIVE NATURAL COMMUNITIES, OR FEDERALLY PROTECTED WETLANDS (STANDARDS OF SIGNIFICANCE 2 AND 3)	47
5.5	IMPACTS TO THE MOVEMENT OF NATIVE RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES OR WITHIN ESTABLISHED MIGRATORY CORRIDORS (STANDARD OF SIGNIFICANCE 4)	48
5.6	CONFLICT WITH LOCAL POLICIES AND ORDINANCES (STANDARD OF SIGNIFICANCE 5)	48
5.7	CONFLICT WITH CONSERVATION PLANS (STANDARD OF SIGNIFICANCE 6)	48

5.8 SPECIAL-STATUS SPECIES POPULATION IMPACTS (STANDARD OF SIGNIFICANCE 7)..... 49

5.9 CUMULATIVE IMPACTS 49

 5.9.1 CUMULATIVE SETTING 49

CHAPTER 6 - REFERENCES

FIGURES

FIGURE 1: PROJECT LOCATION AND VICINITY MAP 5

FIGURE 2: BIOLOGICAL STUDY AREA 7

FIGURE 3: CNDDDB OCCURRENCES WITHIN 1 MILE OF THE BIOLOGICAL STUDY AREA 23

TABLES

TABLE 1: SPECIAL-STATUS SPECIES IN THE PROJECT VICINITY 27

APPENDIX A – DATABASE RESULTS

APPENDIX B – DELINEATION REPORT 2005

TABLE OF CONTENTS

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The purpose of this Biological Resources Assessment (BRA) is to describe the existing biological environment and to review the City of Elk Grove's (City) Routine Channel Maintenance Program (Project) in sufficient detail to determine to what extent the proposed action may affect threatened, endangered, proposed, or candidate species and/or their habitats. This BRA summarizes the effects on biological resources within the biological study area (BSA) for use in the environmental document, and presents technical information upon which later decisions regarding Project design may be developed.

1.1 PROJECT LOCATION

The City is located in the west-central portion of Sacramento County, California (CA, **Figure 1**). The City is contained almost entirely within the Elk Grove and Florin, California US Geological Survey (USGS) 7.5-minute quadrangles (quads). Small portions extend south into the Bruceville and Galt quads. More specifically, the City is generally bounded to the north by Calvine Road east of State Route 99 and by Sheldon Road and Laguna Boulevard to the west. The City is bounded to the east by Grant Line Road, except in the northeastern corner, where the limits extend to Deer Creek. The City is bounded to the south by Kammerer Road and Bilby Road, and to the west by Franklin Boulevard and Interstate 5.

1.2 PROJECT DESCRIPTION

The City's Routine Channel Maintenance Program involves conducting annual maintenance activities in the improved and unimproved channels and drainage facilities throughout the City. Maintenance activities include: debris or obstruction removal; silt, sand, and sediment removal; vegetation control and removal, repair of previous erosion control work; minor erosion control; bridge washing and painting; beaver dam removal; and minor fill for maintenance of outfalls, bridges, culverts, channels and basins.

1.3 BIOLOGICAL STUDY AREA

The BSA is defined as all creeks, channels, and basins, and adjacent uplands, within the City limits that are currently managed by the City for control of stormwater. These water features are depicted on **Figure 2**.

1.4 PROJECT SETTING

1.4.1 TOPOGRAPHY

The BSA is located in the Sacramento Valley, which is primarily flat land with no hills or valleys. Topography of the BSA is nearly level. No significant topographical changes occur in the BSA, although the area slopes gently from east to west. Elevation ranges between 5 feet above mean sea level (amsl) at the western edge to roughly 80 feet amsl in the northeastern corner.

1.4.2 HYDROLOGY

Drainage in the BSA occurs primarily from east to west. Most water in the BSA drains into Laguna Creek, which is tributary to Morrison Creek, which drains into the Sacramento River. Although most water drains into Laguna Creek, other water in the BSA drains into either Stone Lakes or Deer Creek. The Stone Lakes drain to Snodgrass Slough, and ultimately into the Mokelumne River. Deer Creek flows into the Cosumnes River, which drains into the Mokelumne River.

Major waterways flowing through the BSA include Laguna Creek, Elk Grove Creek, Whitehouse Creek, Franklin Creek (aka Shed B), Toad Creek (aka Laguna Creek Tributary #1), Sheldon Creek, Deer Creek, Shed C channel, and Strawberry Creek (**Figure 2**).

1.4.3 SOILS

The Natural Resources Conservation Service's (NRCS) Web Soil Survey identifies 27 soil units in the BSA (USDA 2015):

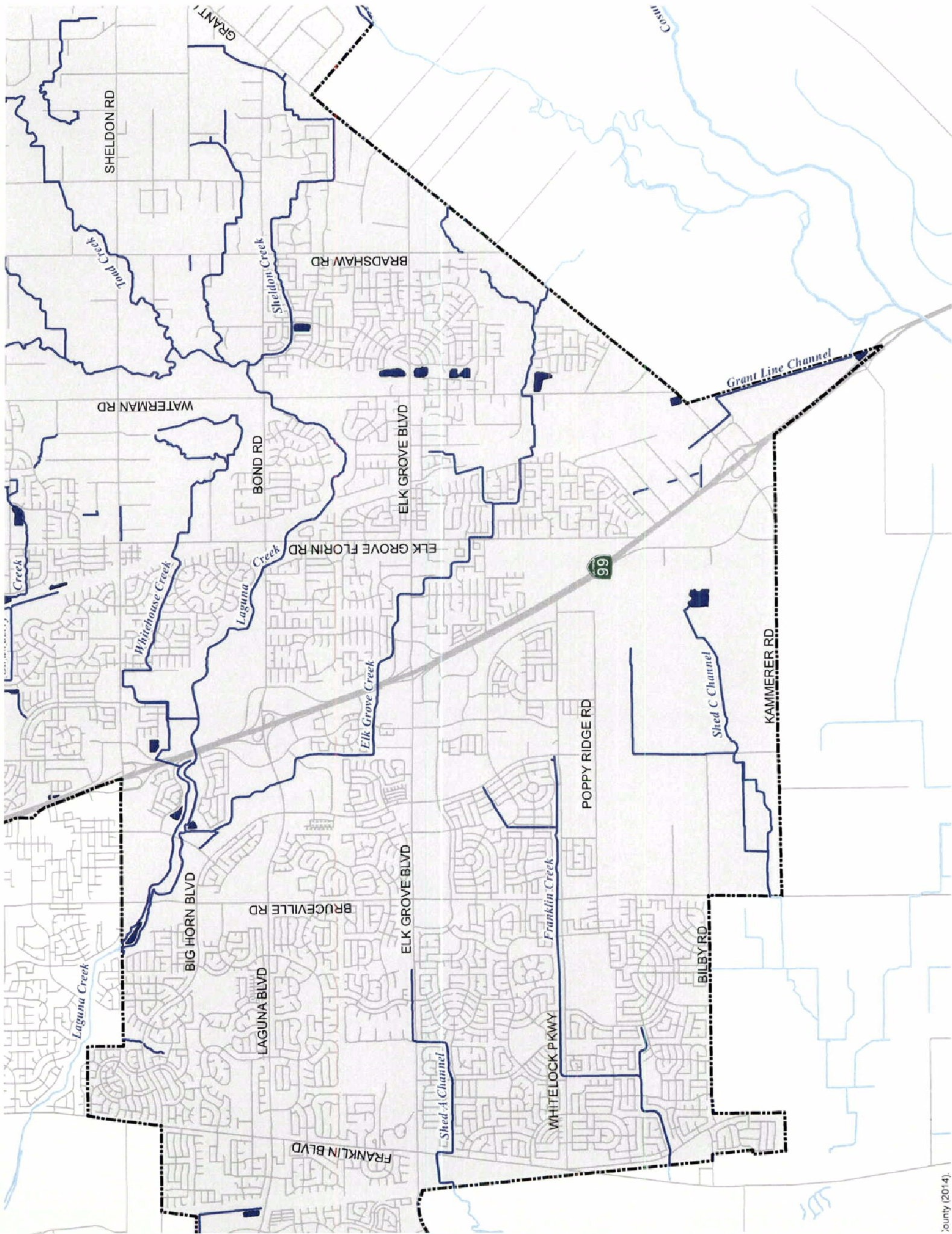
- Bruella sandy loam, 0 to 2 percent slopes
- Bruella sandy loam, 2 to 5 percent slopes
- Clear Lake clay, partially drained, 0 to 2 percent slopes, frequently flooded
- Dierrsen sandy clay loam, drained, 0 to 2 percent slopes
- Dumps
- Durixeralfs, 0 to 1 percent slopes
- Durixeralfs-Galt complex, 0 to 2 percent slopes
- Galt clay, 0 to 2 percent slopes
- Galt clay, leveled, 0 to 1 percent slopes
- Hicksville loam, 0 to 2 percent slopes, occasionally flooded
- Kimball silt loam, 2 to 8 percent slopes
- Madera loam, 0 to 2 percent slopes
- Madera loam, 2 to 8 percent slopes
- Madera-Galt complex, 0 to 2 percent slopes
- Redding gravelly loam, 0 to 8 percent slopes
- Redding loam, 2 to 8 percent slopes
- Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded
- San Joaquin silt loam, 0 to 3 percent slopes
- San Joaquin silt loam, 3 to 8 percent slopes
- San Joaquin silt loam, leveled, 0 to 1 percent slopes
- San Joaquin-Durixeralfs complex, 0 to 1 percent slopes
- San Joaquin-Galt complex, 0 to 3 percent slopes

- San Joaquin-Galt complex, leveled, 0 to 1 percent slopes
- San Joaquin-Urban land complex, 0 to 2 percent slopes
- San Joaquin –Xerarents complex, leveled, 0 to 1 percent slopes
- Xerarents-San Joaquin complex, 0 to 1 percent slopes
- Xerarents-Urban land-San Joaquin complex, 0 to 5 percent slopes (USDA 2015).

1.4.4 CLIMATE

Local climate data was obtained from the National Oceanic and Atmospheric Administration (NOAA) Online Weather Data (NOAA 2015) for the Clarksburg station. The BSA is characterized by a Mediterranean climate with warm, hot, dry summers and cool, wet, rainy winters. Precipitation that falls as rain ranges from an average high of 3.84 inches in January to a low of 0.01 inches in July, for a total average annual rainfall of 17.37 inches.

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This section identifies the environmental review and consultation requirements as well as permits and approvals that must be obtained from local, state, and federal agencies before implementation of the proposed Project.

2.1 FEDERAL

2.1.1 ENDANGERED SPECIES ACT

The Endangered Species Act of 1973 (FESA), as amended, provides protective measures for federally listed threatened and endangered species, including their habitats, from unlawful take (16 United States Code (USC) §1531-1544). FESA defines "take" to mean "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Title 50, Part 222, of the Code of Federal Regulations (50 CFR §222) further defines "harm" to include "an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including feeding, spawning, rearing, migrating, feeding, or sheltering."

FESA §7(a)(1) requires federal agencies to utilize their authority to further the conservation of listed species. FESA §7(a)(2) requires consultation with the US Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) if a federal agency undertakes, funds, permits, or authorizes (termed the federal nexus) any action that may affect endangered or threatened species, or designated critical habitat. For projects that may result in the incidental take of threatened or endangered species, or critical habitat, and that lack a federal nexus, a §10(a)(1)(b) incidental take permit can be obtained from the USFWS and/or NMFS.

2.1.2 CLEAN WATER ACT

The basis of the Clean Water Act (CWA) was established in 1948; however, it was referred to as the Federal Water Pollution Control Act. The act was reorganized and expanded in 1972 (33 USC §1251), and at this time the CWA became the act's commonly used name. The basis of the CWA is the regulation of pollutant discharges into waters of the US (WoUS), as well as the establishment of surface water quality standards.

Section 404

CWA §404 (33 USC §1344) established the program to regulate the discharge of dredged or fill material into WoUS, including wetlands. Under this regulation, certain activities proposed within WoUS require the obtainment of a permit prior to initiation. These activities include, but are not limited to, placement of fill for the purposes of development, water resource projects (e.g., dams and levees), infrastructure development (e.g., highways and bridges), and mining operations.

The primary objective of this program is to ensure that the discharge of dredge or fill material is not permitted if a practicable alternative to the proposed activities exists that results in less impact to WoUS, or the proposed activity would result in significant adverse impacts to WoUS. To comply with these objectives a permittee must document the measures taken to avoid and minimize impacts to WoUS, and provide compensatory mitigation for any unavoidable impacts.

The US Environmental Protection Agency (EPA) and USFWS are assigned roles and responsibilities in the administration of this program; however, the US Army Corps of Engineers (USACE) is the lead agency in the administration of day-to-day activities, including issuance of permits. The

agencies will typically assert jurisdiction over the following waters: (1) traditional navigable waters (TNW); (2) wetlands adjacent to TNWs; (3) relatively permanent waters (RPW) that are non-navigable tributaries to TNWs, and have relatively permanent flow or seasonally continuous flow (typically three months); and (4) wetlands that directly abut RPWs. Case-by-case investigations are usually conducted by the agencies to ascertain their jurisdiction over waters that are non-navigable tributaries and do not contain relatively permanent or seasonal flow, wetlands adjacent to the aforementioned features, and wetlands adjacent to but not directly abutting RPWs (USACE 2007). Jurisdiction is not generally asserted over swales or erosional features (e.g., gullies or small washes characterized by low volume/short duration flow events), or ditches constructed wholly within and draining only uplands that do not have relatively permanent flows.

The extent of jurisdiction within WoUS that lack adjacent wetlands is determined by the ordinary high water mark (OHWM). The OHWM is defined in 33 CFR §328.3(e) as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas." Wetlands are further defined under 33 CFR §328.3 and 40 CFR §230.3 as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" and typically include "swamps, marshes, bogs, and similar areas." The *1987 Corps Wetland Delineation Manual* (1987 Manual) sets forth a standardized methodology for delineating the extent of wetlands under federal jurisdiction (Environmental Laboratory 1987).

The 1987 Manual outlines three parameters that all wetlands, under normal circumstances, must contain positive indicators for to be considered jurisdictional. These parameters include (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils (Environmental Laboratory 1987). In 2006 the USACE issued a series of Regional Supplements (Supplement) to address regional differences that are important to the functioning and identification of wetlands. The Supplement presents "wetland indicators, delineation guidance, and other information" that is specific to the region. The USACE requires that wetland delineations submitted after June 5, 2007, be conducted in accordance with both the 1987 Manual and applicable Supplement.

Section 401

Under CWA §401 (33 USC §1341), federal agencies are not authorized to issue a permit and/or license for any activity that may result in discharges to WoUS, unless a State or tribe where the discharge originates either grants or waives CWA §401 certification. CWA §401 provides States or tribes with the ability to grant, grant with conditions, deny, or waive certification. Granting certification, with or without conditions, allows the federal permit/license to be issued and remain consistent with any conditions set forth in the CWA §401 certification. Denial of the certification prohibits the issuance of the federal license or permit, and waiver allows the permit/license to be issued without State or tribal comment. Decisions made by States or tribes are based on the proposed Project's compliance with EPA water quality standards as well as applicable effluent limitations guidelines, new source performance standards, toxic pollutant restrictions, and any other appropriate requirements of State or tribal law. In California, the State Water Resources Control Board (SWRCB) is primary regulatory authority for CWA §401 requirements (additional details below).

2.1.3 MIGRATORY BIRD TREATY ACT

Migratory birds are protected under the Migratory Bird Treaty Act of 1918 (16 USC §703-711). The Migratory Bird Treaty Act makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR §10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR §21). The majority of birds found in the Project vicinity would be protected under the act.

2.2 STATE

2.2.1 CALIFORNIA ENDANGERED SPECIES ACT

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW) has the responsibility for maintaining a list of endangered and threatened species (California Fish and Game Code (FGC) §2070). CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for potential addition to the list of endangered or threatened species, and a list of "species of special concern," which serve as a species "watch list."

Pursuant to the requirements of CESA, an agency reviewing a proposed Project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present, and determine whether the proposed Project will have a potentially significant impact on such species. In addition, CDFW encourages informal consultation on any proposed Project that may impact a candidate species.

Project-related impacts to species on the CESA endangered or threatened list would be considered significant. State-listed species are fully protected under the mandates of CESA. Take of protected species incidental to otherwise lawful management activities may be authorized under FGC §206.591. Authorization from CDFW would be in the form of an incidental take permit.

2.2.2 CALIFORNIA FISH AND GAME CODE

Streambed Alteration Agreement

State and local public agencies are subject to FGC §1602, which governs construction activities that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated as waters of the State by CDFW. Under FGC §1602, a discretionary Streambed Alteration Agreement must be issued by CDFW to the Project proponent prior to the initiation of construction activities within lands under CDFW jurisdiction. As a general rule, this requirement applies to any work undertaken within the 100-year floodplain of a stream or river containing fish or wildlife resources.

Native Plant Protection Act

The Native Plant Protection Act (FGC §1900-1913) prohibits the taking, possessing, or sale within the State of any plants with a State designation of rare, threatened, or endangered (as defined by CDFW). An exception in the act allows landowners, under specified circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve the plants before they are plowed under or otherwise destroyed (FGC §1913). Project impacts to these species are not considered significant unless the species are known to

have a high potential to occur within the area of disturbance associated with construction of the proposed Project.

Birds of Prey

Under FGC §3503.5 it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds of prey), or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.

Fully Protected Species

California statutes also afford "fully protected" status to a number of specifically identified birds, mammals, reptiles, and amphibians. These species cannot be taken, even with an incidental take permit. FGC §3505 makes it unlawful to take "any egret or egret, osprey, bird of paradise, gaura, numidi, or any part of such a bird." FGC §3511 protects from take the following fully protected birds: (a) American peregrine falcon (*Falco peregrinus anatum*); (b) brown pelican (*Pelecanus occidentalis*); (c) California black rail (*Laterallus jamaicensis coturniculus*); (d) California clapper rail (*Rallus longirostris obsoletus*); (e) California condor (*Gymnogyps californianus*); (f) California least tern (*Sterna albifrons brownii*); (g) golden eagle (*Aquila chrysaetos*); (h) greater sandhill crane (*Grus canadensis tabida*); (i) light-footed clapper rail (*Rallus longirostris levipes*); (j) southern bald eagle (*Haliaeetus leucocephalus leucocephalus*); (k) trumpeter swan (*Cygnus buccinator*); (l) white-tailed kite (*Elanus leucurus*); and (m) Yuma clapper rail (*Rallus longirostris yumanensis*).

FGC §4700 identifies the following fully protected mammals that cannot be taken: (a) Morro Bay kangaroo rat (*Dipodomys heermanni morroensis*); (b) bighorn sheep (*Ovis canadensis*), except Nelson bighorn sheep (subspecies *Ovis canadensis nelsoni*); (c) Guadalupe fur seal (*Arctocephalus townsendi*); (d) ring-tailed cat (genus *Bassariscus*); (e) Pacific right whale (*Eubalaena sieboldi*); (f) salt-marsh harvest mouse (*Reithrodontomys raviventris*); (g) southern sea otter (*Enhydra lutris nereis*); and (h) wolverine (*Gulo gulo*).

FGC §5050 protects from take the following fully protected reptiles and amphibians: (a) blunt-nosed leopard lizard (*Crotaphytus wislizenii silus*); (b) San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); (c) Santa Cruz long-toed salamander (*Ambystoma macrodactylum croceum*); (d) limestone salamander (*Hydromantes brunus*); and (e) black toad (*Bufo boreas exsul*).

FGC §5515 also identifies certain fully protected fish that cannot lawfully be taken even with an incidental take permit: (a) Colorado River squawfish (*Ptychocheilus lucius*); (b) thicktail chub (*Gila crassicauda*); (c) Mohave chub (*Gila mohavensis*); (d) Lost River sucker (*Catostomus luxatus*); (e) Modoc sucker (*Catostomus microps*); (f) shortnose sucker (*Chasmistes brevirostris*); (g) humpback sucker (*Xyrauchen texanus*); (h) Owens River pupfish (*Cyprinoden radiosus*); (i) unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*); and (j) rough sculpin (*Cottus asperimus*).

2.2.3 CALIFORNIA WETLANDS AND OTHER WATER POLICIES

The SWRCB and its various departments do not authorize or approve projects that fill or otherwise harm or destroy coastal, estuarine, or inland wetlands. Exceptions may be granted if all of the following conditions are met:

- The project is water-dependent.

- No other feasible alternative is available.
- The public trust is not adversely affected.

Adequate compensation is proposed as part of the project.

Porter-Cologne Water Quality Control Act

Porter-Cologne Water Quality Control Act of 1966 (California Water Code §13000 et seq.; California Code of Regulations Title 23, Chapter 3, Subchapter 15) is the primary State regulation that addresses water quality. The requirements of the act are implemented by the SWRCB at the State level and at the local level by the Regional Water Quality Control Board (RWQCB). The RWQCB carries out planning, permitting, and enforcement activities related to water quality in California. The act provides for waste discharge requirements and a permitting system for discharges to land or water. Certification is required by the RWQCB for activities that can affect water quality.

Clean Water Act, Section 401 Water Quality Certification

CWA §401 (33 USC §1341) requires that any applicant for a federal license or permit, which may result in a pollutant discharge to WoUS, obtain a certification that the discharge will comply with EPA water quality standards. The State or tribal agency responsible for issuance of the §401 certification may also require compliance with additional effluent limitations and water quality standards set forth in State/tribal laws. In California, the SWRCB is the primary regulatory authority for CWA §401 requirements.

The Central Valley RWQCB is responsible for enforcing water quality criteria and protecting water resources in the Project area. In addition, the RWQCB is responsible for controlling discharges to surface waters of the State by issuing waste discharge requirements (WDR), or commonly by issuing conditional waivers to WDRs. The RWQCB requires that a Project proponent obtain a CWA §401 water quality certification for CWA §404 permits issued by the USACE. A request for water quality certification (including WDRs) by the RWQCB, and an application for a General Permit for Storm Water Discharges Associated with Construction Activities, are prepared and submitted following completion of the California Environmental Quality Act (CEQA) environmental document, and submittal of the wetland delineation to the USACE.

Delegated Permit Authority

California has been delegated permit authority for the National Pollutant Discharge Elimination System permit program including stormwater permits for all areas except tribal lands. Issuance of CWA §404 dredge and fill permits remains the responsibility of the USACE; however, the State actively uses its CWA §401 certification authority to ensure CWA §404 permits are in compliance with State water quality standards.

State Definition of Covered Waters

Under California state law, "waters of the state" means "any surface water or groundwater, including saline waters, within the boundaries of the state." Therefore, water quality laws apply to both surface and groundwater. After the US Supreme Court decision in *Solid Waste Agency of Northern Cook County v. US Army Corps of Engineers*, the Office of Chief Counsel of the SWRCB released a legal memorandum confirming the state's jurisdiction over isolated wetlands. The memorandum stated that under the California Porter-Cologne Water Quality Control Act (Porter-Cologne), discharges to wetlands and other waters of the state are subject to state

CHAPTER 2. REGULATORY SETTING

regulation, and this includes isolated wetlands. In general, the SWRCB regulates discharges to isolated waters in much the same way as it does for WoUS, using the Porter-Cologne Act rather than CWA authority.

2.3 NONGOVERNMENTAL AGENCY

2.3.1 CALIFORNIA NATIVE PLANT SOCIETY

The California Native Plant Society (CNPS) is a nongovernmental agency that classifies native plant species according to current population distribution and threat level, in regard to extinction. These data are utilized by CNPS to create and maintain a list of native California plants that have low numbers or limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Plants of California* (CNPS 2015). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review.

The following identifies the definitions of the CNPS listings:

- List 1A: Plants believed to be extinct
- List 1B: Plants that are rare, threatened, or endangered in California and elsewhere
- List 2B: Plants that are rare, threatened, or endangered in California, but are more numerous elsewhere

All of the plant species on Lists 1 and 2 meet the requirements of the Native Plant Protection Act §1901, Chapter 10, or FGC §2062 and §2067 and are eligible for state listing. Plants appearing on List 1 or 2 are considered to meet the criteria of CEQA §15380, and effects on these species are considered "significant." Plants on List 3 (plants about which we need more information) and/or List 4 (plants of limited distribution), as defined by CNPS, are not currently protected under State or federal law. Therefore, no detailed descriptions or impact analysis was performed on species containing these classifications.

2.4 LOCAL

2.4.1 CITY OF ELK GROVE GENERAL PLAN

The City's General Plan identifies specific goals, objectives, and policies regarding natural resources (City of Elk Grove 2009). The General Plan serves as the overall guiding policy document for land use, development, and environmental quality for the City. The Conservation and Air Quality Element of the General Plan includes goals and policies to preserve, protect, enhance, and promote the City's valuable natural resources. The General Plan identifies specific goals and policies regarding biological and natural resources. The following policies are applicable to the proposed Project.

- CAQ-9:** Wetlands, vernal pools, marshland and riparian (streamside) areas are considered to be important resources. Impacts to these resources shall be avoided unless shown to be technically feasible.
- PTO-15:** The City views open space lands of all types as an important resource that should be preserved in the region, and supports the establishment of multi-purpose open space areas to address a variety of needs, including, but not limited to:

- Maintenance of agricultural uses
- Wildlife habitat
- Recreational open space
- Aesthetic benefits
- Flood control

To the extent possible, lands protected in accordance with this policy should be in proximity to Elk Grove, to facilitate use of these areas by Elk Grove residents, assist in mitigation of habitat loss within the city, and provide an open space resource close to the urbanized areas of Elk Grove.

2.4.2 CITY OF ELK GROVE SWAINSON'S HAWK IMPACT MITIGATION FEES

Chapter 16.130 of the City Municipal Code, Swainson's Hawk Impact Mitigation Fees, requires mitigation for the loss of Swainson's hawk habitat at a 1:1 ratio. Mitigation can be achieved through the payment of a fee, which is used to fund the City's Swainson's hawk habitat restoration program. Other options for achieving mitigation through the code include the direct transfer to the City of a Swainson's hawk habitat conservation easement along with an easement monitoring endowment or the purchase of credits at a CDFW-approved conservation bank. The site must be surveyed to determine whether it is suitable Swainson's hawk foraging habitat.

2.4.3 SOUTH SACRAMENTO COUNTY HABITAT CONSERVATION PLAN

The South Sacramento County Habitat Conservation Plan is in the process of being prepared and will address the conservation and development of lands in this portion of the county. The purpose of the plan is to encourage and simplify the process of conserving sensitive habitats for special-status species. Once the plan is approved, it will allow for incidental take of covered species with the requirement of mitigation for lost habitat at approved ratios. Only some of the total listed species analyzed that will be included in the plan are complete and include white-tailed kite, northern harrier (*Circus cyaneus*), tricolored blackbird, giant garter snake (*Thamnophis gigas*), vernal pool fairy shrimp (*Branchinecta lynchi*), and Sanford's arrowhead (*Sagittaria sanfordii*). The complete list can be found on the Sacramento County, Planning and Community Development Department website (Sacramento County 2006).

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This section describes the survey methods used to collect data on biological resources on and in the vicinity of the Project.

3.1 STUDIES REQUIRED

3.1.1 LITERATURE REVIEW

A list of special-status species and habitats that have the potential to occur within the BSA or in the vicinity was prepared using information provided by the USFWS Sacramento Office's Species Lists (2015a), the USFWS Critical Habitat Portal (2015b), the CDFW's California Natural Diversity Database (CNDDDB) (CDFW 2015a), and the CNPS's Inventory of Rare and Endangered Plants of California (2015).

A search of the USFWS Sacramento Office's Species List was performed for the Elk Grove and Florin, California US Geological Survey (USGS) 7.5 minute quads and all adjacent quads (Sacramento West, Sacramento East, Carmichael, Buffalo Creek, Sloughhouse, Clay, Galt, Bruceville, Courlland, and Clarksburg) to identify special-status species under their jurisdiction that may be affected by the proposed Project. In addition, a query of the USFWS Critical Habitat Portal was conducted to identify any designated critical habitat in or in the vicinity of the BSA. CNDDDB provided a list of processed and unprocessed occurrences for special-status species within the quads mentioned above. Lastly, the CNPS database was queried to identify special-status plant species with the potential to occur within the aforementioned quads. Please see **Appendix A** for the raw data returned from the database queries.

3.1.2 HABITAT ASSESSMENT

A review of previous surveys and reports, as well as a review of aerial photography, was conducted to identify habitat types within the BSA, including potentially sensitive natural communities. Habitat classifications were assigned using CDFW's *California Wildlife Habitat Relationships System* (2015b).

3.1.3 JURISDICTIONAL DELINEATION

A jurisdictional delineation of WoUS in the BSA was conducted by North State Resources, Inc. in 2005. These efforts involved the collection of information on OHWM, hydrophytic vegetation, and signs of hydrology at several locations to establish the jurisdictional extent of WoUS within the BSA. The jurisdictional delineation was not submitted to the USACE for verification. The delineation report is provided in **Appendix B**. For the purposes of this report, the original mapping was updated using photo-interpretation of aerial photos from 2015.

3.1.4 IMPACT ASSESSMENT

The impact assessment is based on information provided in the Project description; the biological and regional setting; and on federal, State, and local regulatory requirements regarding impacts to biological resources. In addition, the impact analysis utilized data collected from the literature review, previous surveys, habitat mapping, and jurisdictional delineation. When information about the presence of a particular special-status species is unknown, but suitable habitat is present, then the impact analysis takes a conservative approach by inferring presence of special-status species within the BSA until preconstruction or protocol level surveys determine otherwise. Impact acreages are based on preliminary designs and impacts may change as plans become finalized. Impacts to specific biological resources

CHAPTER 3. STUDY METHODS

are identified and appropriate avoidance, minimization, compensation, and/or mitigation measures are discussed further in **Chapter 5**.

This chapter describes the existing biological conditions of the BSA.

4.1 VEGETATIVE COMMUNITIES

Vegetative communities are assemblages of plant species that occur in the same area and are defined by species composition and relative abundance. The BSA is characterized by nine vegetative communities (habitats): riverine, fresh emergent wetland, seasonal wetland, valley foothill riparian, annual grassland, valley oak woodland, pasture, cropland, and urban.

4.1.1 RIVERINE

Riverine habitats are characterized by intermittent to continually flowing water. Streams typically originate at some elevated source, such as a spring or lake, and flow downhill at a rate relative to the slope or gradient, and the volume of surface water runoff or discharge. Flow velocities generally decline as the stream descends in elevation, and the volume of water increases until the stream flattens out at lower elevations. The transition from a high gradient, high-flow stream to a low gradient, low-flow river results in increases in water temperature and turbidity, while dissolved oxygen decreases and the bed material transitions from rock to mud. Three stream classifications occur within the BSA: perennial, intermittent, and ephemeral. The characteristics of each classification are described in more detail below.

Perennial

Perennial streams are characterized as areas that are inundated with water throughout the year, and frequently support hydrophytic vegetation. Perennial streams typically receive water from incident precipitation, shallow subsurface flow, and sheet flow, including urban runoff. Perennial streams in the BSA include Laguna Creek, Elk Grove Creek, Strawberry Creek, Shed A Channel, Franklin Creek (formerly Shed B Channel), an unnamed channel north of Laguna Boulevard, and portions of Whitehouse Creek and Sheldon Creek. Several of these waterways have been channelized.

Intermittent

Intermittent streams are characterized as areas that are seasonally inundated with water and frequently support emergent hydrophytic vegetation. Seasonal streams typically receive water from incident precipitation, shallow subsurface flow, and sheet flow, including urban runoff. Intermittent streams in the BSA include, but are not limited to, Toad Creek (aka Laguna Creek Tributary #1), Sheldon Creek, other tributaries to Laguna Creek, and portions of Whitehouse Creek.

Ephemeral

An ephemeral stream has flowing water for only a short duration after precipitation events in a normal year. The beds of ephemeral streams are located above the water table year-round; therefore, groundwater is not a source of water for these features, and runoff from rainfall is the primary water source. Due to the short hydroperiod, the vegetation within ephemeral streams in the BSA is characteristic of the surrounding community types, most often annual grassland.

4.1.2 FRESH EMERGENT WETLANDS

Fresh emergent wetlands are characterized by erect, rooted herbaceous hydrophytic species. Fresh emergent wetland habitat in the City is typically dominated by bulrush (*Schoenoplectus* spp.), broad-leaved cattail (*Typha latifolia*), narrow-leaved cattail (*T. angustifolia*), tall flat sedge (*Cyperus eragrostis*), floating water primrose (*Ludwigia peploides* ssp. *montevidensis*), water plantain (*Alisma lanceolatum*), lady's thumb (*Persicaria* sp.), willowherbs (*Epilobium* spp.), bog rush (*Juncus effusus*), dallisgrass (*Paspalum distichum*), Johnson grass (*Sorghum halapense*), sprangletop (*Leptochloa fascicularis*), and barnyard grass (*Echinochloa crus-galli*). Sanford's arrowhead, a special-status plant, may occur in this community as well. This habitat type is found within and at water's edge along many of the creeks, channels, and basins within the City limits.

4.1.3 SEASONAL WETLAND

Seasonal wetland habitat in the BSA is typically dominated by curly dock (*Rumex crispus*), fiddle-leaf dock (*Rumex pulcher*), perennial ryegrass (*Festuca perennis*), tall flatsedge, bindweed (*Convolvulus arvensis*), and coyote thistle (*Eryngium* spp.). This habitat type is found adjacent to and within some creeks, channels, and basins within the BSA.

4.1.4 VALLEY FOOTHILL RIPARIAN

Valley foothill riparian habitat is associated with low velocity flows, floodplains, and gentle topography and is typically found in association with riverine, grassland, oak woodland, and agriculture habitats. Valley foothill riparian vegetation in Elk Grove is dominated by species such as Gooding's willow (*Salix gooddingii*), sandbar willow (*S. exigua*), arroyo willow (*S. lasiolepis*), Fremont cottonwood (*Populus fremontii*), Himalayan blackberry (*Rubus armeniacus*), tall flatsedge, bird's foot trefoil (*Lotus corniculatus*), dallisgrass, and spike rush (*Eleocharis* sp.). This habitat type is found adjacent to creeks, channels, and basins throughout the City.

4.1.5 ANNUAL GRASSLAND

Annual grasslands are open grasslands composed primarily of annual plant species. Within the City limits, annual grassland habitat typically includes introduced species such as Italian ryegrass, wild oat (*Avena* spp.), medusa head (*Elymus caput-medusae*), Bermuda grass (*Cynodon dactylon*), soft brome (*Bromus hordeaceus*), rat-tail fescue (*Vulpia myuros*), riggut brome (*Bromus diandrus*), barleys (*Hordeum* spp.), filarees (*Erodium* spp.), yellow star-thistle (*Centaurea solstitialis*), wild mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), prickly lettuce (*Lactuca serriola*), cocklebur (*Xanthium strumarium*), chicory (*Cichorium intybus*), and native dove weed (*Croton setigerus*). This habitat type is found adjacent to creeks and channels throughout the City, most commonly in rural areas.

4.1.6 VALLEY OAK WOODLAND

Valley oak woodland habitat hosts many of the same species as are found in annual grassland habitat in addition to tree species such as valley oaks (*Quercus lobata*). This habitat type is located adjacent to some of the urban creeks within the City limits.

4.1.7 PASTURE

Pasture habitat includes a mix of perennial grasses and legumes that normally provide 100 percent canopy closure. Wild oat, slender oat, soft brome, riggut brome, foxtail brome, medusahead and perennial ryegrass are among the grasses typically observed within this

habitat type. This habitat type is found adjacent to rural creeks and channels within the City limits.

4.1.8 CROPLAND

Croplands occur only in the southwestern corner of Elk Grove. Common crops grown within the City limits include cultivated cherry tomatoes, bell peppers, squash, and cut flowers.

4.1.9 URBAN

Urban habitat within the BSA occurs in areas where creeks pass through private residences and industrial areas. Urban communities are classified as areas that have been heavily modified by humans, including roadways, existing buildings, and structures, as well as recreation fields, lawns, and landscaped vegetation found in residential yards. Urban vegetation in the BSA is almost exclusively composed of ornamental trees, shrubs, and grasses; however, some native trees such as oaks occur throughout urban areas. Because of the high degree of disturbance in these areas, they generally have low habitat value for wildlife; however, migratory birds may find limited nesting and foraging opportunities in trees and shrubs scattered throughout urban areas.

4.2 REGIONAL SPECIES AND HABITATS OF CONCERN

4.2.1 SPECIAL-STATUS NATURAL COMMUNITIES

Sensitive habitats include areas of special concern to resource agencies, areas protected under CEQA, areas designated as sensitive natural communities by CDFW, areas outlined in Section 1600 of the FGC, areas regulated under Section 404 of the federal CWA, and areas protected under local regulations and policies. Fresh emergent wetlands, seasonal wetlands, and riparian habitats are considered special-status natural communities. In addition, the USACE asserts jurisdiction over all WoUS. Finally, annual grassland is considered a special-status community in the sense that it provides foraging habitat for the State-threatened Swainson's hawk and is protected under Chapter 16.130 of the Elk Grove Municipal Code. No other sensitive natural communities were identified in the BSA.

Wetlands and Other Waters of the US

Jurisdictional WoUS and isolated wetlands provide a variety of functions for plants and wildlife. Wetlands and other water features provide habitat, foraging, cover, migration, and movement corridors for both special-status and common species. In addition to habitat functions, these features provide physical conveyance of surface water flows capable of handling large stormwater events. Large storms can produce extreme flows that cause bank cutting and sedimentation of open waters and streams. Jurisdictional waters can slow these flows and lessen the effects of these large storm events, protecting habitat and other resources.

The jurisdictional delineation of the BSA was conducted by North State Resources in 2005. This delineation has not been verified by the USACE. A copy of the 2005 delineation report has been provided in **Appendix B**.

4.2.2 SPECIAL-STATUS SPECIES

Candidate, sensitive, or special-status species are commonly characterized as species that are at potential risk or actual risk to their persistence in a given area or across their native habitat. These species have been identified and assigned a status ranking by governmental agencies

such as CDFW and USFWS, and private organizations such as CNPS. The degree to which a species is at risk of extinction is the determining factor in the assignment of a status ranking. Some common threats to a species' or a population's persistence include habitat loss, degradation, and fragmentation, as well as human conflict and intrusion. For the purposes of this BRA, special-status species are defined by the following codes:

- Listed, proposed, or candidates for listing under FESA (50 CFR Section 17.11 – listed; 61 Federal Register Section 7591, February 28, 1996, candidates).
- Listed or proposed for listing under CESA (FGC 1992 Section 2050 et seq.; 14 California Code of Regulations (CCR) Section 670.1 et seq.).
- Designated as Species of Special Concern by CDFW.
- Designated as Fully Protected by CDFW (FGC Sections 3511, 4700, 5050, 5515).
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380), including CNPS List 1 and 2.

The USFWS, CNDDDB, and CNPS database queries identified several special-status species with the potential to be impacted by the proposed Project. **Figure 3** depicts CNDDDB occurrence data within 1 mile of the BSA. **Table 2** provides a summary of all species identified in the database queries, a description of the habitat requirements for each species, and conclusions regarding the potential for each species to be impacted by the proposed Project. Only species for which suitable habitat was deemed present in the BSA will be discussed further (**Table 2**).

Special-Status Plants

The database queries revealed the potential for three special-status plant species to occur in the BSA: Sanford's arrowhead, Northern California black walnut, and woolly rose-mallow. These are the only special-status plant species that are considered in the impact analysis and they are described below based on the data obtained from the CNPS Inventory of Rare, Threatened, and Endangered Plants of California (2015). Additional information regarding the status and potential for special-status plants to occur within the BSA can be found in **Table 2**.

Sanford's Arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead is a California endemic and has a CNPS rare plant rank of 1B.2. This species has no federal or State listing. Sanford's arrowhead is a perennial rhizomatous herb that blooms between May and October. It is typically found in assorted shallow freshwater marshes and swamps at elevations ranging from sea level to $\pm 2,130$ feet (650 meters) amsl. Sanford's arrowhead is threatened by grazing, development, recreational activities, non-native plants, road widening, and channel alteration and maintenance.

Sanford's arrowhead is typically found in marshes and swamps; however, this species has been recorded in channels throughout Elk Grove. Occurrences are concentrated around Strawberry Creek along the northern edge of the City; however, this species has also been recorded in Elk Grove and Laguna Creeks (CDFW 2015c).

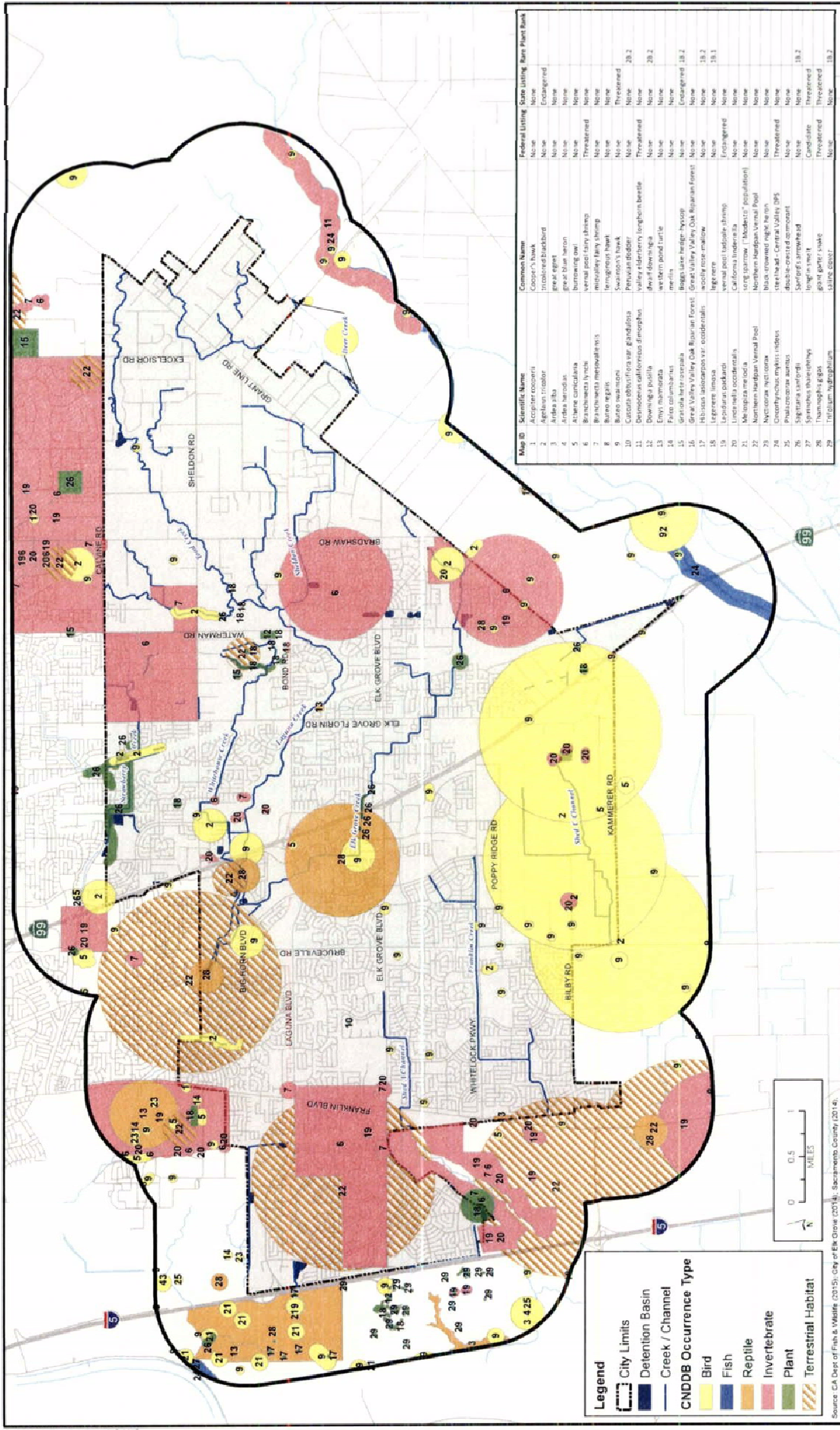


Figure 3
CNDDB Occurrences within 1 mile of the Biological Study Area

Source: CA Dept of Fish & Wildlife (2015), City of Elk Grove (2014), Sacramento County (2014).

Northern California Black Walnut (*Juglans hindsii*)

Northern California black walnut is a California endemic species with a CNPS rare plant rank of 1B.1. This species has no federal or State listing. Northern California black walnut is a perennial deciduous tree that blooms between April and May. It is historically and naturally associated with riparian forests and riparian woodlands; however, as of 2003, only one confirmed, native stand appeared to remain. This species was formerly cultivated as root stock for English walnut (*Juglans regia*), with which it hybridizes readily. Northern California black walnut is threatened by hybridization with orchard trees, urbanization, and conversion to agriculture.

One extirpated occurrence of Northern California black walnut occurs along a stretch of the Sacramento River from Rio Linda to Sacramento (CDFW 2015c). Although walnuts are known to occur in the BSA, it is unlikely that they are part of historical native stands. There are no records of native stands of this species occurring in the city limits.

Woolly Rose-Mallow (*Hibiscis lasiocarpus* var. *occidentalis*)

Woolly rose-mallow is a California endemic species with a CNPS rare plant rank of 1B.2. This species has no federal or State listing. Woolly rose-mallow is a perennial rhizomatous herb that blooms between June and September. It is typically associated with freshwater marshes and swamps and is often found growing in riparian areas on sides of levees. This species ranges in elevation from sea level to ±395 feet (120 meters amsl). Woolly rose-mallow is seriously threatened by habitat disturbance, development, agriculture, recreational activities, and channelization of the Sacramento River and its tributaries. This species is also threatened by weed control measures and erosion.

Several occurrences of woolly rose-mallow have been recorded immediately west of the City (CDFW 2015c). There are no records of this species occurring in the City limits; however, the presence of this species in waters immediately adjacent to the BSA and with a direct hydrological connection to waterways in the BSA results in the possibility that woolly rose-mallow may occur in City creeks.

Special-Status Wildlife

Based on the results of the database queries, several special-status wildlife species have the potential to occur in the BSA. Each species considered in the impact analysis and described below is based on the data obtained from CDFW's *California Wildlife Habitat Relationships System Life History Accounts and Range Maps* (2015c) as well as other published data sources, as cited.

Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

The federally threatened valley elderberry longhorn beetle (VELB) is dependent on elderberry (*Sambucus* spp.) shrubs for breeding and feeding habitat. Elderberry shrubs are a common component of riparian forests and adjacent upland habitats in California's Central Valley. VELB spends most of its life in the larval stage, living within the stems of the elderberry plant. USFWS considers all elderberry shrubs 1 inch or greater diameter at ground level within the species' range to be potential habitat (USFWS 1999a).

There are no recorded occurrences of VELB in the city limits; however, VELB has been recorded along the Cosumnes River just east of the City (CDFW 2015c). Elderberry shrubs occur along several waterways in the BSA. Thus, due to the presence of suitable habitat and the presence of previous occurrences in the vicinity, this species has the potential to occur in the BSA.

Giant Garter Snake (*Thamnophis gigas*)

The giant garter snake (GGS) is a State and federally listed threatened species and is endemic to the Sacramento and San Joaquin Valleys. This species inhabits agricultural wetlands and associated waterways which include irrigation and drainage canals, rice fields, marshes, sloughs, ponds, small lakes, low-gradient streams, and adjacent uplands. Features of these habitats important to GGS include:

- Sufficient water during the snake's active season (early spring through mid-fall) to maintain an adequate prey base.
- Emergent vegetation such as cattails and bulrushes for escape cover and foraging habitat.
- Upland habitat with grassy banks and openings to waterside vegetation for basking.
- Adjacent upland areas that contain cover and refuge from floodwaters during the species' inactive season (USFWS 2012).

There are several records of GGS occurring in the BSA; however, several of the occurrences are presumed to be extirpated (CDFW 2015c). Extant occurrences are located in Elk Grove Creek in the BSA, and in Laguna Creek just west of the BSA. Creeks and waterways in the BSA that have all the habitat features listed above are considered suitable habitat for GGS.

Western Pond Turtle (*Emys marmorata*)

Western pond turtles are a designated California species of special concern. This species is associated with aquatic habitats throughout California, west of the Sierra-Cascade crest, at elevations from near sea level to 4,690 feet (1,430 meters). They are mostly absent from California's desert regions, with the exception of the Mojave River and its tributaries. The western pond turtle is found in the quiet waters of ponds, marshes, creeks, and irrigation ditches. This species requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks. Nests are located in an upland location that may be a considerable distance (up to 1/4 mile) from the aquatic site.

Western pond turtles are known to occur in Elk Grove waterways (CDFW 2015c). Waterways and associated uplands provide suitable habitat for western pond turtle.

Tricolored Blackbird (*Agelaius tricolor*)

The tricolored blackbird is a California species of special concern and mostly a resident in California. This species is common throughout the Central Valley and coastally from Sonoma County south. Tricolored blackbirds breed near fresh water and feed in nearby grassland and cropland habitats. They prefer to nest in emergent wetlands with dense bulrush or cattails, but will also nest in dense thickets of blackberry, willow, wild rose (*Rosa californica*), or tall herbs. Tricolored blackbirds are colonial, so nesting sites must be relatively large.

There are several records of tricolored blackbird occurring along waterways in the BSA (CDFW 2014c). Dense emergent or riparian vegetation provides suitable nesting habitat for this species. Tricolored blackbird may occur within the BSA due to the presence of suitable habitat and previous occurrences in the vicinity.

Song Sparrow "Modesto Population" (*Melospiza melodia*)

The Modesto song sparrow is a California species of special concern and a resident in California. This species is endemic to the north-central portion of the Central Valley. Modesto song sparrows breed near fresh water, preferably in emergent marshes or riparian willow thickets. They have also been found nesting in riparian areas with blackberry thickets and along vegetated irrigation canals and levees (Shuford and Gardali 2008).

Several occurrences of song sparrow have been recorded immediately west of the City along the Sacramento River and its tributaries (CDFW 2015c). There are no records of this species occurring in the City limits; however, the presence of previous occurrences immediately adjacent to the BSA results in the possibility that Modesto song sparrow may occur along City waterways.

Loggerhead Shrike (*Lanius ludovicianus*)

The loggerhead shrike is a California species of special concern and a common resident and winter visitor in lowlands and foothills throughout California. The species occurs year-round in both the coastal zones and lowlands of the Central Valley in California. The loggerhead shrike prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches located in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats.

There are no recorded occurrences of loggerhead shrike in the vicinity of the BSA (CDFW 2015c). However, the BSA is within the known range and supports suitable habitat for this species. Thus, there is the potential for loggerhead shrike to occur in the BSA.

Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*)

The yellow-headed blackbird is a California species of special concern and a resident in California. This species breeds commonly, but locally, east of Cascade Range and Sierra Nevada, in Imperial and Colorado River Valleys, in the Central Valley, and at selected locations in the coast ranges west of the Central Valley. Yellow-headed blackbirds breed in colonies in fresh emergent wetlands characterized by dense vegetation and deep water, often along lake or pond edges.

There is one historical occurrence of yellow-headed blackbird west of the City along the Sacramento River (CDFW 2015c). There are no records of this species occurring in the City limits; however, the presence of suitable habitat results in the possibility that yellow-headed blackbird may occur in the BSA.

Burrowing Owl (*Athene cunicularia*)

The burrowing owl is a California species of special concern, and is federally protected under the Migratory Bird and Treaty Act and as a bird of prey under the Raptor Recovery Act. Burrowing owls prefer nesting in mammal burrows in open areas of dry, open, rolling hills, grasslands, fallow fields, sparsely vegetated desert scrub with gullies, washes, arroyos, and along the edges of human-disturbed lands. This species can also be found inhabiting golf courses, airports, cemeteries, vacant lots, and road embankments with friable soils for nesting. The elevation range for this species extends from 200 feet (60 meters) below mean sea level to 12,000 feet (3,636 meters) amidst the Dana Plateau in Yosemite (Bates 2006).

There are several records of burrowing owls within the BSA and its vicinity (CDFW 2015c). The uplands in the BSA provide suitable habitat for this species.

Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawks are listed by the State of California as threatened. Swainson's hawks are typically complete migrants in that they breed in North America and winter in South America. They typically arrive at their breeding grounds in early to mid-April and begin their southern migration in early September. The majority of breeding Swainson's hawk occurs in two disjunct populations in California—the Great Basin and the Central Valley—although they can be found in desert, shrubsteppe, grassland, and agricultural habitats across the State. This species is not an obligate riparian species; the correlation with riparian habitat is variable and dependant on the availability and distribution of suitable nest sites in proximity to high-value foraging habitat (Woodbridge 1998).

High-value foraging habitat is largely a function of prey abundance and availability. Different crop types support different levels of prey abundance, and the timing of tilling and harvest affects prey availability within each crop type. Alfalfa fields contain low prey abundance, but prey is accessible throughout the growing season due to the low stature of this crop type. Tomato and beet crops support a high prey density, but due to crop heights and density, prey access is limited to harvest periods. Fallow fields along with dry and irrigated pastures also provide important foraging habitat, whereas vineyards, mature orchards, and cotton fields contain low prey abundance and availability (Woodbridge 1998).

There are numerous records of nesting Swainson's hawks within the BSA (CDFW 2015c). The annual grassland and agricultural communities in the BSA provides suitable foraging habitat for this species. Large trees along the waterways in the BSA provide potential nesting habitat.

White-Tailed Kite (*Elanus leucurus*)

The white-tailed kite can be found in association with the herbaceous and open stages of a variety of habitat types. The white-tailed kite is found year-round in both the coastal zones and lowlands of the Central Valley in California. Nests are constructed near the top of dense oaks (*Quercus spp.*), willows, or other tree stands located adjacent to foraging areas. The species forages in undisturbed, open grasslands, meadows, farmlands, and emergent wetlands. White-tailed kites are seldom observed more than 0.5 mile from an active nest during the breeding season.

There are no records of white-tailed kites within the BSA; however, there are several occurrences within the region (CDFW 2015c). The annual grassland and agricultural communities in the BSA provide suitable foraging habitat, and the trees provide suitable nesting habitat. This species may occur in the BSA due to the presence of potentially suitable nesting and foraging habitat, as well as the presence of nearby occurrences.

TABLE 1: SPECIAL-STATUS SPECIES IN THE PROJECT VICINITY

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Plants							
<i>Astragalus tener</i> var. <i>tener</i>	Ferris' milk-vetch	-	-	1B.1	Vernally mesic meadows and seeps, and subalkaline flats in valley and foothill grasslands. Elev: 7-246 ft (2-75 m) Blooms: April-May (CNPS 2015).	N	Suitable habitat not present.
<i>Brasenia schreberi</i>	watershield	-	-	2B.3	Freshwater marshes and swamps. Elev: 98-7,218 ft (30-2,200 m) Blooms: June-Sept (CNPS 2015).	N	No previous occurrences of this species in the vicinity of the BSA. The BSA is below the species elevation range.
<i>Carex comosa</i>	bristly sedge	-	-	2B.1	Marshes, swamps, and lake margins. Elev: 0-2,051 ft (0-625 m) Blooms: May-Sept (CNPS 2015).	N	No previous occurrences of this species in the vicinity of the BSA.
<i>Castilleja campestris</i> ssp. <i>succulenta</i>	succulent owl's-clover	FT	SE	1B.1	Acidic vernal pools. Elev: 164-2,461 ft (50-750 m). Blooms: April-May (CNPS 2015).	N	Suitable habitat not present. The BSA is below the species elevation range.
	Critical Habitat, succulent owl's-clover	X	-	-		N	BSA not located within Critical Habitat Unit.
<i>Cicuta maculata</i> var. <i>bolanderi</i>	Bolander's water-hemlock	-	-	2B.1	Coastal, fresh, or brackish marshes and swamps. Elev: 0-656 ft (0-200 m) Blooms: July-Sept (CNPS 2015).	N	Suitable habitat not present.
<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	Peruvian dodder	-	-	2B.2	Freshwater marshes and swamps. Elev: 49-919 ft (15-280 m) Blooms: July-Oct (CNPS 2015).	N	There is a 20-year-old occurrence in Laguna Lake that needs more field work to determine if species was identified correctly. No other occurrences in the region.
	dwarf downingia	-	-	2B.2	Vernal pools and mesic valley and foothill grasslands. Elev: 3-1,459 ft (1-445 m) Blooms: March-May (CNPS 2015).	N	Populations have been mapped in vernal pools in the City; however, vernal pools will not be impacted as a result of project-related activities.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	-	SE	1B.2	Clay soils in marshes, swamps, lake margins, and vernal pools. Elev: 33-7,792 ft (10-2,375 m) Blooms: April-Aug (CNPS 2015).	N	One occurrence has been recorded in a vernal pool near Whitehouse Creek; however, has not been mapped along waterways.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	-	-	1B.2	Freshwater marshes and swamps. Elev: 0-394 ft (0-120 m) Blooms: June-Sept (CNPS 2015).	Y	Has been mapped in waterways just west of the City. Waterways are hydrologically connected to the study area.
<i>Juglans hindsii</i>	Northern California black walnut	-	-	1B.1	Riparian forest/woodland. Elev: 0-1,444 ft (0-440 m) Blooms: April-May (CNPS 2015).	Y	This species is known to occur in the BSA; however, no native stands.
<i>Juncus leiospermus</i> var. <i>ahartii</i>	Ahart's dwarf rush	-	-	1B.2	Mesic valley and foothill grasslands. Elev: 98-751 ft (30-229 m) Blooms: March-May (CNPS 2015).	N	Suitable habitat not present. The BSA is below the species elevation range.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	Delta tulle pea	-	-	1B.2	Freshwater and brackish marshes and swamps. Elev: 0-13 ft (0-4 m) Blooms: May-Sept (CNPS 2015).	N	Nearest occurrences are almost 7 miles away on the delta in Courtland and Walnut Grove.
<i>Legenere limosa</i>	legenere	-	-	1B.1	Vernal pools. Elev: 3-2,887 ft (1-880 m) Blooms: April-June (CNPS 2015).	N	Populations have been mapped in vernal pools in the City; however, vernal pools will not be impacted as a result of project-related activities.
<i>Lepidium latipes</i> var. <i>heckardii</i>	Heckard's pepper-grass	-	-	1B.2	Alkaline flats in valley and foothill grasslands. Elev: 7-656 ft (2-200 m) Blooms: March-May (CNPS 2015).	N	Suitable habitat not present.
<i>Lilaeopsis masonii</i>	Mason's lilaeopsis	-	SR	1B.1	Riparian scrub, and brackish or freshwater marshes and swamps. Elev: 3-33 ft (0-10 m) Blooms: April-Nov (CNPS 2015).	N	Nearest occurrence is along the Sacramento River Deep Water Channel west of the Sacramento River.
<i>Limosella australis</i>	Delta mudwort	-	-	2B.1	Usually mud banks in riparian scrub, and freshwater or brackish marshes and swamps. Elev: 0-10 ft (0-3 m) Blooms: May-Aug (CNPS 2015).	N	Nearest occurrence is more than 7 miles away at the southern base of Snodgrass Slough near Walnut Grove.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Orcuttia tenuis	slender Orcutt grass	FT	SE	1B.1	Vernal pools. Elev: 115-5,774 ft (35-1,760 m) Blooms: May-Oct (CNPS 2015).	N	Suitable habitat not present. The BSA is below the species elevation range. BSA not located within Critical Habitat Unit.
	Critical Habitat, slender Orcutt grass	X	-	-		N	
Orcuttia viscidula	Sacramento Orcutt grass	FE	SE	1B.1	Vernal pools. Elev: 98-328 ft (30-100 m) Blooms: April-Sept (CNPS 2015).	N	Suitable habitat not present. The BSA is below the species elevation range. BSA not located within Critical Habitat Unit.
	Critical Habitat, Sacramento Orcutt grass	X	-	-		N	
Sagittaria sanfordii	Sanford's arrowhead	-	-	1B.2	Assorted shallow freshwater marshes and swamps. Elev: 0-2,133 ft (0-650 m) Blooms: May-Oct (CNPS 2015).	Y	Has been mapped in several Elk Grove waterways.
Scutellaria galericulata	marsh skullcap	-	-	2B.2	Lower montane coniferous forest, meadows, seeps, marshes, and swamps. Elev: 0-6,890 ft (0-2,100 m) Blooms: June-Sept (CNPS 2015).	N	Nearest occurrence is more than 7 miles away at the southern base of Snodgrass Slough near Walnut Grove.
	side-flowering skullcap	-	-	-		N	
Scutellaria laterifolia	Suisun Marsh aster	-	-	2B.2	Marshes, swamps, mesic meadows and seeps. Elev: 0-1,640 ft (0-500 m) Blooms: July-Sept (CNPS 2015).	N	Nearest occurrence is more than 7 miles away at the southern base of Snodgrass Slough near Walnut Grove.
		-	-	-		N	
Symphytotrichum lentum	saline clover	-	-	1B.2	Brackish and freshwater marshes and swamps. Elev: 0-10 ft (0-3 m) Blooms: May-Nov (CNPS 2015).	N	Nearest occurrence is along the Sacramento River Deep Water Channel west of the Sacramento River.
Invertebrates					Marshes & swamps, valley & foothill grassland (mesic, alkaline), and vernal pools. Elev: 0-984 ft (0-300 m) Blooms: April-June (CNPS 2015).	N	Several populations mapped along the west edge of the City; however, all are associated with vernal pools. This species is not expected to occur in maintained waterways.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Branchinecta conservatio	conservancy shrimp fairy	FE	-		Vernal pools, often large and turbid pools (USFWS 2005).	N	Suitable habitat not present.
Branchinecta lynchi	vernal pool shrimp fairy	FT	-		Found only in vernal pools and ephemeral wetlands. Distributed throughout the Central Valley, including Sacramento County (USFWS 2005).	N	Populations have been mapped in vernal pools in the City; however, vernal pools will not be impacted as a result of project-related activities.
	Critical Habitat, vernal pool shrimp fairy	X	-			N	BSA not located within Critical Habitat Unit.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT	-		Dependent on hostplant, elderberry (Sambucus spp.), which generally grows in riparian woodlands and upland habitats of the Central Valley. Current distribution in the Central Valley from Shasta County to Fresno County (USFWS 1999a).	Y	Host plant present along Elk Grove waterways.
	Critical Habitat, valley elderberry longhorn beetle	X	-			N	BSA not located within Critical Habitat Unit.
Elaphrus viridis	delta green ground beetle	FT	-		Grassland interspersed with vernal pools. Only documented in the greater Jepson Prairie in south-central Solano County (USFWS 2005).	N	Outside known species range.
	vernal pool tadpole shrimp	FE	-			N	Populations have been mapped in vernal pools in the City; however, vernal pools will not be impacted as a result of project-related activities.
Lepidurus packardii	Critical Habitat, vernal pool tadpole shrimp	X	-		Wide variety of ephemeral wetland habitats, including vernal pools. Distributed throughout Central Valley and San Francisco Bay area (USFWS 2005).	N	BSA not located within Critical Habitat Unit.
Fish							

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
<i>Acipenser medirostris</i>	green sturgeon	FT	SSC		Entire coast of California. Spawning occurs in Sacramento River and Klamath River (USFWS 1996). Oceanic waters, bays, and estuaries during non-spawning season. Spawning habitat = deep pools in large, turbulent, freshwater mainstems (NMFS 2005).	N	Suitable habitat not present.
<i>Archoplites interruptus</i>	Sacramento perch	-	SSC		Historically, Central Valley sloughs, slow-moving rivers, and lakes with beds of rooted emergent aquatic vegetation. Current distribution is artificially stocked farm ponds and reservoirs (USFWS 1996).	N	No longer naturally occur in waterways.
	delta smelt	FT	SE		Distribution includes the Sacramento River below Isleton, San Joaquin River below Mossdale, and Suisun Bay. Spawning areas include the Sacramento River below Sacramento, Mokelumne River system, Cache Slough, the delta, and Montezuma Slough (USFWS 1996).	N	Outside known species range.
<i>Hypomesus transpacificus</i>	Critical Habitat, delta smelt	X	-		Adults require clean, gravelly riffles in permanent streams for spawning, while the ammocoetes require sandy backwaters or stream edges in which to bury themselves, where water quality is continuously high and temperatures do not exceed 25°C (Moyle et al.).	N	BSA not located within Critical Habitat Unit.
<i>Lampetra ayresii</i>	river lamprey	-	SSC			N	Most of the waterways in the BSA are inaccessible to anadromous fish species due to fish passage barriers. Furthermore, maintenance will occur during the summer months when waterways are dry or low-flow.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Mylopharodon conocephalus	hardhead	-	SSC		Small to large streams in a low- to mid-elevation environment. May also inhabit lakes or reservoirs. Their preferred stream temperature might easily exceed 20°C, though these fish do not favor low dissolved oxygen levels. Therefore the hardhead minnow is usually found in clear deep streams with a slow but present flow. Though spawning may occur in pools, runs, or riffles, the bedding area will typically be characterized by gravel and rocky substrate (UC Davis 2015).	N	Most of the waterways in the BSA are inaccessible to anadromous fish species due to fish passage barriers. Furthermore, maintenance will occur during the summer months when waterways are dry or low-flow.
	Central steelhead	FT	-		Spawning habitat = gravel-bottomed, fast-flowing, well-oxygenated rivers and streams. Non-spawning = estuarine, marine waters (Busby et al. 1996).	N	Suitable habitat not present.
	Critical Central steelhead	X	-			N	BSA not located within Critical Habitat Unit.
Oncorhynchus mykiss	steelhead, central California coast	FT	-		Spawning habitat = fast moving, freshwater streams and rivers. Juvenile habitat = brackish estuaries. Non-spawning = marine waters (Myers et al. 1998).	N	Suitable habitat not present.
	Central Valley spring-run chinook salmon	FT	ST			N	Suitable habitat not present.
	Critical Central Valley spring-run chinook salmon	X	-			N	BSA not located within Critical Habitat Unit.
Oncorhynchus tshawytscha	winter-run chinook salmon, Sacramento River	FE	SE		Spawning habitat = fast moving, freshwater streams and rivers. Juvenile habitat = brackish estuaries. Non-spawning = marine waters (Myers et al. 1998).	N	Suitable habitat not present.
	Critical winter-run chinook salmon	X	-			N	BSA not located within Critical Habitat Unit.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
	chinook salmon, Central Valley fall/late fall-run ESU	-	SSC			N	Suitable habitat not present.
	chinook salmon, spring-run Klamath-Trinity rivers	-	SSC			N	Suitable habitat not present.
Pogonichthys macrolepidotus	Sacramento splittail	-	SSC		Prefer slow-moving sections of freshwater rivers and sloughs. Most abundant in Suisun Bay and Marsh region. Largely absent from Sacramento River except during spawning (USFWS 1996).	N	Most of the waterways in the BSA are inaccessible to anadromous fish species due to fish passage barriers. Furthermore, maintenance will occur during the summer months when waterways are dry or low-flow.
Spirinchus thaleichthys	longfin smelt	FC	ST/SSC		Adults and juveniles require salt or brackish estuary waters. Spawning takes place in freshwater over sandy-gravel substrates, rocks, and aquatic plants (Moyle et al. 1995).	N	Most of the waterways in the BSA are inaccessible to anadromous fish species due to fish passage barriers. Furthermore, maintenance will occur during the summer months when waterways are dry or low-flow.
Amphibians							
Ambystoma californiense	California tiger salamander, central population	FT	ST		Occurs in grasslands of the Central Valley and oak savannah communities in the Central valley, the Sierra Nevada and Coast ranges, and the San Francisco Bay Area. Needs seasonal or semi-permanent wetlands to reproduce, and terrestrial habitat with active ground squirrel or gopher burrows (Bolster 2010).	N	BSA outside known range in Sacramento Count (Bolster 2010).
	Critical Habitat, CA tiger salamander, central population	X	-			N	BSA not located within Critical Habitat Unit.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Rana draytonii	California red-legged frog	FT	SSC		Found mainly near ponds in humid forests, woodlands, grasslands, coastal scrub, and streambanks with plant cover. Most common in lowlands or foothills. Frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps. Ephemeral wetland habitats require animal burrows or other moist refuges for estivation when the wetlands are dry. From sea level to 5,000 ft (1,525 m) (Nafis 2015).	N	Species mostly extirpated from Central Valley floor (CDFW 2015d).
Spea hammondi	western spadefoot	-	SSC		Open areas with sandy/gravelly soils. Variable habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rainpools which do not contain bullfrogs, fish, or crayfish are necessary for breeding (Nafis 2015).	N	Nearest known occurrence of this species is near Sloughhouse, over 4 miles northeast of the BSA. Occurrences are clustered around the foothills, with none occurring in the lowlands (CDFW 2015c).
Reptiles							

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
<i>Emys marmorata</i>	western pond turtle	-	SSC		Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 ft (1,800 m) (Nafis 2015).	Y	Waterways and associated uplands provide suitable habitat for this species.
<i>Thamnophis gigas</i>	giant garter snake	FT	ST		Marshes, sloughs, ponds, small lakes, low gradient streams, irrigation and drainage canals, rice fields and their associated uplands. Upland habitat should have burrows or other soil crevices suitable for snakes to reside during their dormancy period (November–mid-March). Ranges in the Central Valley from Butte County to Buena Vista Lake in Kern County. Endemic to valley floor wetlands (USFWS 2012).	Y	Waterways and associated uplands provide suitable habitat for this species.
Birds							
<i>Agelaius tricolor</i>	tricolored blackbird	-	SSC		Nests in wetlands or in dense vegetation near open water. Dominant nesting substrates: cattails, bulrushes, blackberry, agricultural silage. Nesting substrate must either be flooded, spinous, or in some way defended against predators (Hamilton 2004).	Y	Suitable nesting substrate occurs along waterways throughout the BSA.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
<i>Ammodramus savannarum</i>	grasshopper sparrow	-	SSC		In the foothills and lowlands west of the Cascades/Sierras. Dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches (CDFW 2015c).	N	Suitable habitat not present. Grasslands are composed of weedy annual species. Nearest occurrence is over 11 miles east of the BSA (CDFW 2015d).
<i>Aquila chrysaetos</i>	golden eagle	-	FP		Uncommon resident and migrant throughout California, except center of Central Valley. Habitat typically rolling foothills, mountain areas, sage-juniper flats, desert (CDFW 2015c).	N	Outside species range.
<i>Athene cunicularia</i>	burrowing owl	-	SSC		Open, flat expanses with short, sparse vegetation and few shrubs, level to gentle topography and well-drained soils. Requires underground burrows or cavities for nesting and roosting. Can use rock cavities, debris piles, pipes and culverts if burrows unavailable. Habitats include grassland, shrub steppe, desert, agricultural land, vacant lots and pastures (CDFW 2015c).	Y	Uplands adjacent to water features provide suitable habitat for this species.
<i>Buteo swainsoni</i>	Swainson's hawk	-	ST		Nests in stands with few trees in riparian areas, juniper-sage flats, and oak savannah in the Central Valley. Forages in adjacent grasslands, agricultural fields and pastures (CDFW 2015c).	Y	Trees in the BSA provide nesting habitat and grasslands adjacent to waterways provide suitable foraging habitat.
<i>Chaetura vauxi</i>	Vaux's swift	-	SSC		Prefers redwood and Douglas fir habitats with nest sites in large hollow trees and snags, especially tall, burnt-out stubs (CDFW 2015c).	N	Suitable habitat not present.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Charadrius montanus	mountain plover	-	SSC		Frequents open plains with low, herbaceous or scattered shrub vegetation below 3,200 ft (1,000 m) (CDFW 2015c). Nests on the ground in patches of dense, tall vegetation in undisturbed areas. Breeds and forages in variety of open habitats such as marshes, wet meadows, weedy borders of lakes, rivers and streams, grasslands, pastures, croplands, sagebrush flats, and desert sinks (Shuford and Gardali 2008). Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas (CDFW 2015c).	N	Does not breed in California (Shuford and Gardali 2008).
Circus cyaneus	northern harrier	-	SSC		Requires large, dense tracts of riparian woodland with well-developed understories. Occurs in deciduous trees or shrubs. Prefers willow, but will also nest in orchards adjacent to streams in Sacramento Valley. Restricted to moist habitats along slow-moving waterways during breeding season (CDFW 2015c).	N	Suitable nesting habitat not present and nearest occurrence is in Suisun Marsh, over 30 miles away (CDFW 2015:d).
Coccyzus americanus occidentalis	western yellow-billed cuckoo	PT	SE		Typically nest in the upper third of trees that may be 10–160 ft. (33-525 m.) tall. These can be open-country trees growing in isolation, or at the edge of or within a forest (CDFW 2015c).	N	Suitable habitat not present.
Elanus leucurus	white-tailed kite	-	FP			Y	Suitable foraging and nesting habitat present.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
<i>Grus canadensis canadensis</i>	lesser sandhill crane	-	SSC		In summer, occurs in and near wet meadow, shallow lacustrine, and fresh emergent wetland habitats. In winter, frequents moist croplands with rice or corn stubble, and open, emergent wetlands. Prefers treeless plains. Nests in remote portions of extensive wetlands or sometimes shortgrass prairies (CDFW 2015c).	N	Species found in BSA only during winter months when maintenance will not occur.
<i>Grus canadensis tabida</i>	greater sandhill crane	-	ST/FP		Nests in early-successional riparian habitats with a well-developed shrub layer and an open canopy. Restricted to narrow border of streams, creeks, sloughs and rivers. Often nests in dense thicket plants such as blackberry and willow (Shuford and Gardali 2008).	N	Species found in BSA only during winter months when maintenance will not occur.
<i>Icteria virens</i>	yellow-breasted chat	-	SSC		Large, freshwater wetlands with dense emergent vegetation (CDFW 2015c).	N	Outside species known breeding range (Shuford and Gardali 2008).
<i>Ixobrychus exilis</i>	least bittern	-	SSC		Breeds in shrublands or open woodlands with a fair amount of grass cover and areas of bare ground. Breeds in riparian areas in the Central Valley (Shuford and Gardali 2008).	N	Suitable habitat (large marshes) not present.
<i>Lanius ludovicianus</i>	loggerhead shrike	-	SSC		Breeds and winters in riparian, fresh or saline emergent wetland, and wet meadows. Breeds in riparian thickets of willows, other shrubs, vines, tall herbs, and fresh or saline emergent vegetation (CDFW 2015c).	Y	Suitable habitat present.
<i>Melospiza melodia</i>	song sparrow ("Modesto" population)	-	SSC			Y	Suitable habitat present.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
<i>Progne subis</i>	purple martin	-	SSC		Woodland and forest habitats with numerous suitable nest cavities, open air space above nest sites, and aerial insect prey (Shuford and Gardali 2008).	N	Suitable habitat not present.
<i>Riparia riparia</i>	bank swallow	-	ST		Riparian areas with sandy, vertical bluffs or riverbanks. Also nests in earthen banks and bluffs, as well as sand and gravel pits (CDFW 2015c).	N	Suitable habitat not present.
<i>Setophaga petechia</i>	yellow warbler	-	SSC		Riparian vegetation along streams and in wet meadows. Willow cover and Oregon ash important predictors of abundance in Northern California (CDFW 2015c).	N	Outside species known breeding range (Shuford and Gardali 2008).
<i>Sterna antillarum browni</i>	California least tern	FE	SE/FP		Nests and roosts in colonies on open beaches, forages near shore ocean waters and in shallow estuaries and lagoons (USFWS 2006).	N	Suitable habitat not present.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE	SE		Obligate riparian breeder. Cottonwood willow, oak woodlands, and mule fat scrub along watercourses (USFWS 1998).	N	Outside species known breeding range (Kus 2002).
<i>Xanthocephalus xanthocephalus</i>	yellow-headed blackbird	-	SSC		Nests in marshes with tall, emergent vegetation (e.g., tules and cattails) adjacent to deepwater (Shuford and Gardali 2008).	Y	Suitable habitat present.
Mammals							
<i>Lasiurus blossevillii</i>	western red bat	-	SSC		Roosting habitat includes forests and woodlands, often in edge habitats adjacent to streams, fields, or urban areas (CDFW 2015d).	N	Suitable habitat not present. In addition, roosting habitat would not be impacted by project activities.

CHAPTER 4. BIOLOGICAL RESOURCES

Scientific Name	Common Name	Federal Status	State Status	CNPS Rare Plant Rank	Habitat	Included in Impact Analysis?	Comments
Taxidea taxus	American badger	-	SSC		Open shrub, forest and herbaceous habitats with friable soils. Associated with treeless regions, prairies, park lands and cold desert areas. Range includes most of California, except the North Coast (CDFW 2015d).	N	Suitable habitat may be present; however, project activities will not impact den habitat.
Key							
Federal & State Status							
(FE) Federal Endangered							
(FT) Federal Threatened							
(FC) Federal Candidate							
(X) Designated Critical Habitat							
(SE) State Endangered							
(ST) State Threatened							
(SR) State Rare							
(SSC) State Species of Special Concern							
(SCE) State Candidate Endangered							
(SCT) State Candidate Threatened							
CNPS Rare Plant Rank							
Rariness Ranks							
(1A) Presumed Extinct in California							
(1B) Rare, Threatened, or Endangered in California and Elsewhere							
(2) Rare, Threatened, or Endangered in California, But More Common Elsewhere							
Threat Ranks							
(0.1) Seriously threatened in California							
(0.2) Fairly threatened in California							
(0.3) Not very threatened in California							

This chapter of the BRA discusses impacts to special-status natural communities and species with the potential to occur in the BSA. Impact acreages are based on preliminary designs and impacts may change as plans become finalized. Potential effects to species are based on the current project design and description; likelihood of each species to occur within the BSA; and each species' biological growth, reproduction, feeding, resting, and cover requirements as appropriate. Each species is discussed, including results of surveys for the species; designated critical habitat for the species within the BSA (if applicable); avoidance and minimization measures proposed to avoid or reduce project-related impacts to the species; expected or potential project-related effects to the species; and cumulative effects to the species when considered with other proposed, completed, or reasonably foreseeable projects in the project vicinity. Project-related effects to plant and wildlife species can be direct, indirect, permanent, temporary, and cumulative. Direct impacts are those caused by the proposed project and occur at the time of project construction or implementation. Indirect effects are those that are caused by the proposed project and are reasonably certain to occur, but occur later in time.

5.1 STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance:

- 1) 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.
- 2) 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.
- 3) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- 4) 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.
- 5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- 6) Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.
- 7) Reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species or biotic community, thereby causing the species or community to drop below self-sustaining levels.

5.2 METHODOLOGY

The impact assessment below discusses impacts from implementation of Project activities. The impact assessment was based on the project description, information described in the project and biological setting, and the standards of significance described above. In addition, the impact analysis is organized by the significance criteria noted above: special-status plant and wildlife species, sensitive vegetation communities, federally protected wetlands, wildlife movement corridors, and compliance with local plans and policies, or existing habitat conservation plans. Each impact category includes a description of the specific potential impacts as well as avoidance, minimization, and mitigation measures that can potentially reduce and mitigate potentially significant impacts.

5.3 IMPACTS TO CANDIDATE, SENSITIVE, OR SPECIAL-STATUS SPECIES (STANDARD OF SIGNIFICANCE 1)

The species or species groups identified below were determined to have the potential to be substantially adversely affected by Project-related activities, either directly or through habitat modifications. Impacts to these species would be considered **potentially significant**. However, mitigation measures are presented below to reduce the potential impacts to a **less than significant** level.

5.3.1 SPECIAL-STATUS PLANTS

Impact BIO-1 Implementation of project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to special-status plant species, including Sanford's arrowhead, California black walnut, and woolly rose-mallow, which would be considered a **potentially significant** impact.

Sanford's arrowhead, California black walnut, and woolly rose-mallow are known to occur in or in the vicinity of the BSA. Due to the proximity of known occurrences and the presence of suitable habitat in the BSA, these species may be adversely impacted by implementation of project-related activities. California black walnut trees are considered trees of local importance and are protected under the Elk Grove Tree Preservation and Protection Ordinance (Chapter 19.12 of the City Municipal Code), which the Project would be required to comply with. Compliance with the Chapter 19.12 of the Elk Grove Municipal Code would reduce impacts to black walnut to a less than significant level. In order to reduce potential impacts to Sanford's arrowhead and woolly rose-mallow to a **less than significant** level, implementation of mitigation measure **MM-BIO-1** is recommended.

Avoidance and Minimization Measures

MM-BIO-1 Prior to commencement of maintenance activities, a qualified biologist shall conduct surveys for Sanford's arrowhead and woolly rose-mallow. If neither of these species is found in or adjacent to (within 100 feet) proposed maintenance areas, no further mitigation is required.

If either of the species is found in or adjacent to (within 100 feet) proposed impact areas during the surveys, these plant species shall be avoided. Any special-status plant species that are identified in or adjacent to the Project area shall be protected by barrier fencing (exclusion zone) to ensure that maintenance activities do not impact any special-status plant species.

5.3.2 VALLEY ELDERBERRY LONGHORN BEETLE

Impact BIO-2 Implementation of Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to valley elderberry longhorn beetle (VELB). These effects would be considered a **potentially significant** impact.

Elderberry shrubs, the VELB host plant, occur along waterways throughout the BSA. Removal of elderberry shrubs within and adjacent to channels and basins could adversely impact VELB, if the species is present. No elderberry shrubs will be removed as a result of Project-related activities. If elderberry shrubs are identified within the maintenance areas, they will be completely avoided. In order to reduce potential impacts to VELB to a **less than significant** level, implementation of mitigation measures **MM-BIO-2a** and **MM-BIO-2b** is recommended.

MM-BIO-2a Prior to commencement of maintenance activities, a qualified biologist shall conduct a preconstruction survey for elderberry shrubs. If no elderberry shrubs are found in or adjacent to (within 100 feet) proposed maintenance areas, no further mitigation is required.

MM-BIO-2b If elderberry shrubs are found in or adjacent to (within 100 feet) proposed maintenance areas, avoidance and minimization measures shall be implemented in accordance with the July 9, 1999, USFWS *Conservation Guidelines for the Valley Elderberry Longhorn Beetle*.

5.3.3 GIANT GARTER SNAKE

Impact BIO-3 Implementation of Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to giant garter snake. These effects would be considered a **potentially significant** impact.

Several Elk Grove waterways possess the habitat features required by GGS. In addition, there are documented occurrences of this species in Laguna and Elk Grove Creeks (CDFW 2015d). Perennial waterbodies provide aquatic habitat; in addition, all undeveloped communities within 200 feet of aquatic habitat are considered potentially suitable upland habitat (USFWS 1999b). Impacts to GGS and/or its habitat as a result of Project-related activities would be considered a potentially significant impact.

The USFWS categorizes Project impacts to the GGS in three levels: 1, 2, and 3. It is anticipated that the proposed Project would have Level 1 impacts to GGS habitat. It is not anticipated that the Project would have Level 2 or Level 3 impacts.

- Level 1 actions are minimal environmental effects. Examples of Level 1 actions include repair, rehabilitation, or replacement of existing structures where implementation of the project, including restoration of the temporarily disturbed areas, requires one season to complete. The work will not result in any permanent loss of snake habitat, and the temporary disturbance area will not exceed 20 acres of snake habitat.
- Level 2 actions include activities such as repair, rehabilitation, or replacement of previously authorized structures where implementation of the project, including restoration of the temporarily disturbed area, requires two seasons to complete. The work will not result in any permanent loss of snake habitat and will not exceed 20 acres of temporary disturbance over two seasons.

- Level 3 actions include road crossings and bridge replacements or improvements that will result in the permanent loss of snake habitat that will not exceed 3 acres of snake aquatic and upland habitats, including no more than 1 acre of aquatic snake habitat, and temporary disturbances that will not exceed 20 acres of snake aquatic and upland habitats. Projects with temporary disturbance to snake habitat that require more than two seasons to complete are also categorized as Level 3.

The proposed Project will result in temporary impacts to suitable aquatic and upland habitat in the BSA. Mitigation measures **MM-BIO-3a** through **MM-BIO-3e** are proposed to ensure potential impacts to GGS are reduced to a **less than significant** level.

MM-BIO-3a All emergent vegetation and sediment removal shall occur between May 1 and October 1.

MM-BIO-3b A preconstruction survey for giant garter snake shall be conducted within 24 hours of the onset of maintenance activities.

MM-BIO-3c The City shall implement Appendix C of the *Programmatic Consultation with the U.S. Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter and Yolo Counties, California*.

MM-BIO-3d If a snake is encountered in the Project work area, the snake must be allowed to move away under its own volition.

MM-BIO-3e The City will prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.

5.3.4 WESTERN POND TURTLE

Impact BIO-4 Implementation of Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to western pond turtle. These effects would be considered a **potentially significant** impact.

Western pond turtle is known to occur in Elk Grove waterways, with documented occurrences in Laguna Creek and unnamed drainage ditches in the City (CDFW 2015d). While City waterways provide aquatic habitat for this species, western pond turtles will also use upland habitat surrounding waterways for nesting. Due to the presence of known occurrences in the BSA, western pond turtle may be adversely impacted by implementation of Project-related activities. Loss of western pond turtle due to presence within areas proposed for impact would be considered potentially significant. In order to reduce potential impacts to a **less than significant** level, implementation of mitigation measure **MM-BIO-4** is recommended.

MM-BIO-4 A preconstruction survey for western pond turtle shall be conducted within 24 hours prior to the onset of maintenance activities. The survey area shall include a 100-foot buffer of the area to be affected. If juvenile or adult turtles are found within the survey area, the individuals should be moved at least 500 feet downstream to a suitable habitat. If a turtle nest is found within the survey area, construction activities shall not take place within 100 feet of the nest until the turtles have hatched, or the eggs have been moved to an appropriate location by a qualified biologist, under consultation with CDFW.

5.3.5 BURROWING OWL, SWAINSON'S HAWK, WHITE-TAILED KITE, AND OTHER RAPTORS

Impact BIO-5 Implementation of Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to raptors, including burrowing owl, Swainson's hawk, and white-tailed kite. These effects would be considered **potentially significant**.

There are a few records of burrowing owl within the BSA (CDFW 2015d). Uplands adjacent to waterways within the BSA provide suitable habitat for this species. Due to the proximity of known occurrences and the presence of suitable habitat in the BSA, burrowing owl may be adversely impacted by implementation of Project-related activities.

There are numerous occurrences of Swainson's hawks within the BSA. In addition, white-tailed kite is known to occur in the vicinity of the BSA. The annual grassland communities in the BSA provides suitable foraging habitat for these species and other raptor species not identified in **Table 2**. Foraging habitat will not be permanently impacted by Project-related activities. Oak trees and other large trees provide suitable nesting habitat for Swainson's hawk and white-tailed kite.

Trees within and adjacent to the BSA provide suitable nesting habitat for raptors not identified in **Table 2**. As a result, vegetation clearing during the nesting season could result in indirect impacts to nesting birds should they be present. In addition, noise and other human activity may result in nest abandonment if nesting birds are present within 500 feet of maintenance activities. Due to the presence of suitable habitat for these species, implementation of Project-related activities may result in adverse impacts should they be present in areas proposed for disturbance. In order to reduce potential impacts to burrowing owl, Swainson's hawk, white-tailed kite, and other raptors to a **less than significant** level, implementation of mitigation measure **MM-BIO-5** is recommended.

Avoidance and Minimization Measures

MM-BIO-5 If clearing and/or maintenance activities would occur during the raptor nesting season (January 15–August 15), then preconstruction surveys to identify burrowing owls and active raptor nests shall be conducted by a qualified biologist within three days of maintenance activities. Preconstruction surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the area proposed for maintenance, and a 1,000-foot buffer. If no active nests are found, no further mitigation is required.

If active white-tailed kite or other raptor (excluding Swainson's hawk) nest sites are identified within 1,000 feet of Project activities, the applicant shall impose a 500-foot setback to all active nest sites prior to commencement of any Project construction activities to avoid construction or access-related disturbances to nesting raptors. Project-related activities (i.e., vegetation removal and earth moving) will not occur within the setback until the nest is deemed inactive. Activities permitted within setbacks and the size of setbacks may be adjusted through consultation with CDFW and/or the City.

If active Swainson's hawk nest sites are identified within 1,000 feet of Project activities, the applicant shall impose a 1,000-foot setback to all active nest sites prior to commencement of any construction activities to avoid construction or access-related disturbances to nesting raptors. Project-related activities (i.e.,

vegetation removal and earth moving) will not occur within the setback until the nest is deemed inactive. Activities permitted within setbacks and the size of setbacks may be adjusted through consultation with CDFW and/or the City.

If no burrowing owls are detected, no further mitigation is required. If active burrowing owl nest sites are detected, the Project applicant shall implement the avoidance, minimization, and mitigation methodologies outlined in the CDFW's 2012 *Staff Report on Burrowing Owl Mitigation* prior to initiating Project-related activities that may impact burrowing owls. Burrowing owl surveys are valid for one year from the date of the survey.

5.3.6 TRICOLORED BLACKBIRD, MODESTO SONG SPARROW, LOGGERHEAD SHRIKE, YELLOW-HEADED BLACKBIRD AND MIGRATORY BIRDS

Impact BIO-6 Implementation of Project-related activities could result in substantial adverse effects, either directly or through habitat modifications, to tricolored blackbird, Modesto song sparrow, loggerhead shrike, yellow-headed blackbird, and other migratory birds. These effects would be considered **potentially significant**.

Dense emergent vegetation and shrubby thickets along the banks of waterways provide suitable nesting habitat for tricolored blackbird, yellow-headed blackbird, and Modesto song sparrow. In addition, trees within and adjacent to the BSA provide nesting habitat for loggerhead shrike and migratory birds not identified in **Table 2**. All native breeding birds (except game birds during the hunting season), regardless of their listing status, are protected under the Migratory Bird Treaty Act. As a result, vegetation clearing during the nesting season could result in direct impacts to nesting birds should they be present. In addition, an increase in noise and other human activity may result in nest abandonment if nesting birds are present within 200 feet of a Project impact area. Due to the presence of suitable habitat for these species, implementation of Project-related activities may result in adverse impacts should they be present in areas proposed for disturbance. In order to reduce potential impacts to a **less than significant** level, implementation of mitigation measure **MM-BIO-6a** is recommended.

Avoidance and Minimization Measures

MM-BIO-6a If clearing and/or maintenance activities would occur during the bird nesting season (February 15–August 15), then preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within three days of maintenance activities. Preconstruction surveys must be performed by a qualified biologist for the purposes of determining presence/absence of active nest sites in the area proposed for maintenance, and a 200-foot setback. If no active nests are found, no further mitigation is required.

If active nest sites are identified within 200 feet of Project activities, the applicant shall impose an exclusionary setback for all active nest sites prior to commencement of any Project-related activities to avoid construction or access-related disturbances to nesting raptors. A setback constitutes an area where Project-related activities (i.e., vegetation removal, earth moving, and construction) will not occur, and shall be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within the setback and the size (i.e., 100 feet) of setbacks may be adjusted through consultation with CDFW and/or the City.

5.3.7 RECOMMENDED ADDITIONAL MITIGATION MEASURES

MM-BIO-6b A qualified biologist(s) shall monitor construction activities that could potentially cause significant impacts to sensitive biological resources. In addition, the applicant shall retain a qualified biologist to conduct mandatory contractor/worker awareness training for construction personnel. The awareness training will be provided to all construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts to biological resources (e.g., plants, wildlife, and jurisdictional waters), and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor will ensure that they receive the mandatory training before starting work.

5.4 IMPACTS TO RIPARIAN HABITAT, SENSITIVE NATURAL COMMUNITIES, OR FEDERALLY PROTECTED WETLANDS (STANDARDS OF SIGNIFICANCE 2 AND 3)

Impact BIO-7 Implementation of Project-related activities could result in the loss of riparian vegetation, sensitive natural communities, and/or federally protected wetlands, which would be considered a **potentially significant** impact.

Sensitive habitats include those that are of special concern to resource agencies and those that are protected under CEQA, Section 1600 of the FGC, and Section 404 of the CWA. Project-related activities are likely to substantially adversely affect riparian habitat, federally protected wetlands, and/or other sensitive natural communities identified in local or regional plans, policies, or regulations, by the CDFW, or by the USFWS. Impacts to these resources would be considered potentially significant. Sensitive resources in the BSA include riparian habitat, emergent wetlands, and WoUS.

The Project may require the temporary or permanent removal of riparian habitat and emergent vegetation, but would be limited to only what is necessary to perform maintenance. Large trees are not proposed for removal as part of Project-related activities. Overall, the conditions and functions of riparian areas in the Project area are expected to remain intact. Although the Project may require the temporary or permanent removal of riparian habitat and emergent vegetation, incorporation of mitigation measure **MM-BIO-7a** would lessen potential impacts to riparian habitat to a less than significant level by requiring no net loss of riparian habitat.

Although emergent vegetation will be removed from channels as a result of Project-related activities, maintained areas typically revegetate the following year. Thus, all impacts to emergent wetlands are anticipated to be temporary in nature. Although removal of sediment from waters of the United States is a proposed activity, sediment removal would be limited and would improve the habitat quality and function of the linear features by returning flows to a more natural state. In addition, the Project proposes a small amount of fill annually; however, all fill is associated with the maintenance of existing structures. Sediment removal will offset the minor loss of waters associated with proposed fill by increasing the capacity of water features, resulting in no-net-loss of federally protected waters. Although no permanent loss of waters of the United States would occur as a result of the proposed Project, maintenance activities could result in indirect impacts to wetland resources. Therefore, Project activities could result in adverse impacts to federally protected waters. In order to reduce potential impacts to a less than significant level, implementation of mitigation measures **MM-BIO-7a** and **MM-BIO-7b** is recommended. These mitigation measures will reduce impacts by requiring implementation of

standard best management practices to protect water quality, as well as requiring no net loss of federally protected waters.

Avoidance and Minimization Measures

MM-BIO-7a The City shall mitigate for permanent impacts to riparian habitat at a 2:1 ratio. Mitigation can include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank.

MM-BIO-7b The City shall employ best management practices (BMPs) on-site to prevent degradation to on-site and off-site WoUS. Water pollution control features will be based on California Storm Water Quality Association standard BMPs.

5.5 IMPACTS TO THE MOVEMENT OF NATIVE RESIDENT OR MIGRATORY FISH OR WILDLIFE SPECIES OR WITHIN ESTABLISHED MIGRATORY CORRIDORS (STANDARD OF SIGNIFICANCE 4)

Implementation of Project-related activities is not expected to result in adverse impacts to the movement of native resident or migratory fish or wildlife species or established migratory corridors. Any impacts would be temporary and considered **less than significant**.

Available data on movement corridors and linkages was accessed via the CDFW BIOS Viewer (2015d). Data reviewed included the Essential Connectivity Areas [ds623] layer and the Missing Linkages in California [ds420] layer. The BSA is not located within an identified corridor; nevertheless, the waterways in the BSA likely provide opportunity for local wildlife movement. Due to the presence of anthropogenic barriers and the intermittent nature of most of the waterways in the BSA, it is unlikely that the creeks act as significant corridors for migratory fish species. The Project will not result in land use change or create any barriers to wildlife movement. All impacts to banks and channels will be minor and temporary in nature. As such, any impacts are considered **less than significant**, and no additional avoidance and minimization measures are proposed.

5.6 CONFLICT WITH LOCAL POLICIES AND ORDINANCES (STANDARD OF SIGNIFICANCE 5)

Implementation of the proposed Project is not expected to conflict with any local policies or ordinances protecting biological resources. As such, there would be **no impact**.

The proposed Project would not conflict with any local policies or ordinances protecting biological resources. The Project is required to comply with the Elk Grove Tree Preservation and Protection Ordinance (Chapter 19.12 of the City Municipal Code). In addition, any impacts to Swainson's hawk foraging habitat (annual grassland) will be temporary in nature; thus, there will be no conflict with the Elk Grove Swainson's Hawk Impact Mitigation Fees Ordinance (Chapter 16.130 of the City Municipal Code). As such, **no impact** is anticipated, and no additional avoidance and minimization measures are proposed.

5.7 CONFLICT WITH CONSERVATION PLANS (STANDARD OF SIGNIFICANCE 6)

Implementation of Project-related activities would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or any adopted biological resources recovery or conservation plan of any federal or State agency. As such, there would be **no impact**.

The proposed Project would not conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or State habitat conservation plan. The BSA is located within the South Sacramento County Habitat Conservation Plan planning area; however, this plan has not been adopted to date. As a result, the proposed Project would not conflict with the plan, and **no impact** is anticipated. No avoidance and minimization measures are proposed.

5.8 SPECIAL-STATUS SPECIES POPULATION IMPACTS (STANDARD OF SIGNIFICANCE 7)

Implementation of Project-related activities would not reduce the number or restrict the range of an endangered, rare, or threatened plant or animal species or biotic community, thereby causing the species or community to drop below self-sustaining levels. As such, there would be **no impact**.

Mitigation measures **MM-BIO-1** through **MM-BIO-6b** will ensure that the proposed Project does not reduce sensitive plant, wildlife, habitats, and/or other biological resources below self-sustaining levels. As such, there would be **no impact**, and no additional avoidance and minimization measures are proposed.

5.9 CUMULATIVE IMPACTS

5.9.1 CUMULATIVE SETTING

The implementation of Project-related activities is not anticipated to contribute to the cumulative loss of native plant communities, wildlife habitat values, special-status species and their potential habitat, and wetland/aquatic resources within the region. Project activities will not result in a change in land use. Thus, there will be no contribution to loss of potential habitat for special-status species. There is the potential for direct loss of species that currently inhabit the maintenance areas or could inhabit the areas in the future; however, implementation of avoidance and minimization measures will ensure there is no direct take of species.

WoUS, including wetland resources, will not be significantly impacted by the proposed Project because proposed activities do not include permanent removal of WoUS, including wetlands, or native vegetation within these features. Although removal of sediment and vegetation from WoUS, including wetlands, is a proposed activity, removal would be limited and would improve the habitat quality and function of the linear features by returning flows to a more natural state. In addition, maintained areas would revegetate naturally within the year. Finally, all fill associated with the Project will be very minor and associated with the maintenance of existing structures, such as riprap, outfalls, and bridges. Ultimately, the proposed Project would improve the habitat quality and function of the waterways in the BSA by returning flows to a more natural state.

Impacts and Mitigation Measures

Impact BIO-8 The proposed Project in combination with other reasonably foreseeable Projects could result in mortality and temporary loss of habitat for special-status species, wetlands, and WoUS. Therefore, this impact is considered **cumulatively considerable**.

The vegetation communities/habitats in the BSA represent only a small portion of the communities/habitats available for special-status species within the Project vicinity. However, implementation of the proposed Project may result in temporary degradation of habitat and

direct loss of special-status species through a variety of actions which, when combined with other habitat impacts occurring from development within surrounding areas, would result in significant cumulative impacts. Future development in the vicinity of the BSA would have an unknown and unquantifiable impact on special-status species, biologically sensitive habitats, and potentially jurisdictional wetlands and WoUS. Furthermore, increased development and disturbance created by human activities could result in direct mortality, habitat loss, and deterioration of habitat suitability. As Project-related activities may contribute incrementally to these effects, the impact is considered **cumulatively considerable**.

Implementation of mitigation measures **MM-BIO-1** through **MM-BIO-7b** described above will reduce the proposed Project's impact and, therefore, result in a **less than cumulatively considerable** contribution to the cumulative impacts by mitigating the Project's contribution to impacts to special-status species and sensitive habitats.

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CHAPTER 6 - REFERENCES

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United States Department of the Interior



FISH AND WILDLIFE SERVICE

Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825



February 3, 2015

Document Number: 150203095224

Leslie Parker
PMC
2729 Prospect Park Drive
Suite 220
Sacramento, CA 95670

Subject: Species List for Elk Grove Routine Maintenance

Dear: Ms. Parker

We are sending this official species list in response to your February 3, 2015 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

Our database was developed primarily to assist Federal agencies that are consulting with us. Therefore, our lists include all of the sensitive species that have been found in a certain area *and also ones that may be affected by projects in the area*. For example, a fish may be on the list for a quad if it lives somewhere downstream from that quad. Birds are included even if they only migrate through an area. In other words, we include all of the species we want people to consider when they do something that affects the environment.

Please read Important Information About Your Species List (below). It explains how we made the list and describes your responsibilities under the Endangered Species Act.

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 04, 2015.

Please contact us if your project may affect endangered or threatened species or if you have any questions about the attached list or your responsibilities under the Endangered Species Act. A list of Endangered Species Program contacts can be found http://www.fws.gov/sacramento/es/Branch-Contacts/es_branch-contacts.htm.

Endangered Species Division

U.S. Fish & Wildlife Service
Sacramento Fish & Wildlife Office

**Federal Endangered and Threatened Species that Occur in
or may be Affected by Projects in the Counties and/or
U.S.G.S. 7 1/2 Minute Quads you requested**

Document Number: 150203095224

Current as of: February 3, 2015

Quad Lists

Listed Species

Invertebrates

Branchinecta conservatio

Conservancy fairy shrimp (E)

Branchinecta lynchi

Critical habitat, vernal pool fairy shrimp (X)

vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus

Critical habitat, valley elderberry longhorn beetle (X)

valley elderberry longhorn beetle (T)

Elaphrus viridis

delta green ground beetle (T)

Lepidurus packardi

Critical habitat, vernal pool tadpole shrimp (X)

vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris

green sturgeon (T) (NMFS)

Hypomesus transpacificus

Critical habitat, delta smelt (X)

delta smelt (T)

Oncorhynchus mykiss

Central Valley steelhead (T) (NMFS)

Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha

Central Valley spring-run chinook salmon (T) (NMFS)

Critical Habitat, Central Valley spring-run chinook (X) (NMFS)

Critical habitat, winter-run chinook salmon (X) (NMFS)

winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense

California tiger salamander, central population (T)

Critical habitat, CA tiger salamander, central population (X)

Rana draytonii

California red-legged frog (T)

Reptiles

Thamnophis gigas

giant garter snake (T)

Birds

Coccyzus americanus occidentalis

Western yellow-billed cuckoo (T)

Vireo bellii pusillus
Least Bell's vireo (E)

Plants

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)

Orcuttia tenuis
Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)

Orcuttia viscida
Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Quads Containing Listed, Proposed or Candidate Species:

SLOUGHHOUSE (495B)

CLAY (495C)

ELK GROVE (496A)

FLORIN (496B)

BRUCEVILLE (496C)

GALT (496D)

CLARKSBURG (497A)

COURTLAND (497D)

BUFFALO CREEK (511C)

SACRAMENTO EAST (512C)

CARMICHAEL (512D)

SACRAMENTO WEST (513D)

County Lists

Sacramento County

Listed Species

Invertebrates

Apodemia mormo langei
Lange's metalmark butterfly (E)

Branchinecta conservatio
Conservancy fairy shrimp (E)

Branchinecta lynchi
Critical habitat, vernal pool fairy shrimp (X)
vernal pool fairy shrimp (T)

Desmocerus californicus dimorphus
Critical habitat, valley elderberry longhorn beetle (X)
valley elderberry longhorn beetle (T)

Elaphrus viridis
delta green ground beetle (T)

Incisalia mossii bayensis
San Bruno elfin butterfly (E)

Lepidurus packardi

Critical habitat, vernal pool tadpole shrimp (X)
vernal pool tadpole shrimp (E)

Fish

Acipenser medirostris
green sturgeon (T) (NMFS)

Hypomesus transpacificus
Critical habitat, delta smelt (X)
delta smelt (T)

Oncorhynchus mykiss
Central Valley steelhead (T) (NMFS)
Critical habitat, Central Valley steelhead (X) (NMFS)

Oncorhynchus tshawytscha
Central Valley spring-run chinook salmon (T) (NMFS)
Critical Habitat, Central Valley spring-run chinook (X) (NMFS)
Critical habitat, winter-run chinook salmon (X) (NMFS)
winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

Ambystoma californiense
California tiger salamander, central population (T)
Critical habitat, CA tiger salamander, central population (X)

Rana draytonii
California red-legged frog (T)

Reptiles

Thamnophis gigas
giant garter snake (T)

Birds

Charadrius alexandrinus nivosus
western snowy plover (T)

Coccyzus americanus occidentalis
Western yellow-billed cuckoo (T)

Rallus longirostris obsoletus
California clapper rail (E)

Sternula antillarum (= *Sterna*, = *albifrons*) *browni*
California least tern (E)

Vireo bellii pusillus
Least Bell's vireo (E)

Mammals

Reithrodontomys raviventris
salt marsh harvest mouse (E)

Sylvilagus bachmani riparius
riparian brush rabbit (E)

Vulpes macrotis mutica
San Joaquin kit fox (E)

Plants

Arctostaphylos myrtifolia
Ione manzanita (T)

Calystegia stebbinsii
Stebbins's morning-glory (E)

Castilleja campestris ssp. succulenta
Critical habitat, succulent (=fleshy) owl's-clover (X)
succulent (=fleshy) owl's-clover (T)

Ceanothus roderickii
Pine Hill ceanothus (E)

Cordylanthus mollis ssp. mollis
soft bird's-beak (E)

Cordylanthus palmatus
palmate-bracted bird's-beak (E)

Eriogonum apricum var. apricum
Ione buckwheat (E)

Eriogonum apricum var. prostratum
Irish Hill buckwheat (E)

Erysimum capitatum ssp. angustatum
Contra Costa wallflower (E)
Critical Habitat, Contra Costa wallflower (X)

Fremontodendron californicum ssp. decumbens
Pine Hill flannelbush (E)

Galium californicum ssp. sierrae
El Dorado bedstraw (E)

Lasthenia conjugens
Contra Costa goldfields (E)

Neostapfia colusana
Colusa grass (T)

Oenothera deltoides ssp. howellii
Antioch Dunes evening-primrose (E)
Critical habitat, Antioch Dunes evening-primrose (X)

Orcuttia tenuis

Critical habitat, slender Orcutt grass (X)
slender Orcutt grass (T)

Orcuttia viscida

Critical habitat, Sacramento Orcutt grass (X)
Sacramento Orcutt grass (E)

Senecio layneae

Layne's butterweed (=ragwort) (T)

Sidalcea keckii

Keck's checker-mallow (=checkerbloom) (E)

Key:

(E) *Endangered* - Listed as being in danger of extinction.

(T) *Threatened* - Listed as likely to become endangered within the foreseeable future.

(P) *Proposed* - Officially proposed in the Federal Register for listing as endangered or threatened.

(NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.

Critical Habitat - Area essential to the conservation of a species.

(PX) *Proposed Critical Habitat* - The species is already listed. Critical habitat is being proposed for it.

(C) *Candidate* - Candidate to become a proposed species.

(V) *Vacated* by a court order. Not currently in effect. Being reviewed by the Service.

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, **or may be affected by** projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist and/or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We

recommend that your surveys include any proposed and candidate species on your list. See our [Protocol](#) and [Recovery Permits](#) pages.

For plant surveys, we recommend using the [Guidelines for Conducting and Reporting Botanical Inventories](#). The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal [consultation](#) with the Service.

During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.

- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.

Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our [Map Room](#) page.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning

process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts.

[More info](#)

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6520.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be May 04, 2015.

CNDDDB 9-Quad Species List 274 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	CDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	SSC	-	3812132	Clay	Mapped and Unprocessed	Animals - Amphibians - Ambystomatidae - Ambystoma californiense
Animals - Amphibians	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	SSC	-	3812133	Galt	Mapped and Unprocessed	Animals - Amphibians - Ambystomatidae - Ambystoma californiense
Animals - Amphibians	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	SSC	-	3812142	Sloughhouse	Unprocessed	Animals - Amphibians - Ambystomatidae - Ambystoma californiense
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3812142	Sloughhouse	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3812152	Buffalo Creek	Mapped	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Amphibians	Spea hammondii	western spadefoot	AAABF02020	None	None	SSC	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Amphibians - Scaphiopodidae - Spea hammondii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812154	Sacramento East	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812143	Elk Grove	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812144	Florin	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP, WL	-	3812152	Buffalo Creek	Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP, WL	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3812162	Buffalo Creek	Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3812144	Florin	Mapped	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812144	Florin	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812143	Elk Grove	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812142	Sloughhouse	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812132	Clay	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni

Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812133	Galt	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812134	Bruceville	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Circus cyaneus	northern harrier	ABNKC11010	None	None	SSC	-	3812153	Carmichael	Unprocessed	Animals - Birds - Accipitridae - Circus cyaneus
Animals - Birds	Circus cyaneus	northern harrier	ABNKC11010	None	None	SSC	-	3812152	Buffalo Creek	Unprocessed	Animals - Birds - Accipitridae - Circus cyaneus
Animals - Birds	Circus cyaneus	northern harrier	ABNKC11010	None	None	SSC	-	3812142	Sloughhouse	Unprocessed	Animals - Birds - Accipitridae - Circus cyaneus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812143	Elk Grove	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812142	Sloughhouse	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812134	Bruceville	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812133	Galt	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812153	Carmichael	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812134	Bruceville	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Chaetura vauxi	Vaux's swift	ABNUA03020	None	None	SSC	-	3812153	Carmichael	Unprocessed	Animals - Birds - Apodidae - Chaetura vauxi
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812133	Galt	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea alba

Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812133	Galt	Mapped	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812154	Sacramento East	Mapped	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Botaurus lentiginosus	American bittern	ABNGA01020	None	None	-	-	3812144	Florin	Unprocessed	Animals - Birds - Ardeidae - Botaurus lentiginosus
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3812144	Florin	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Ixobrychus exilis	least bittern	ABNGA02010	None	None	SSC	-	3812144	Florin	Unprocessed	Animals - Birds - Ardeidae - Ixobrychus exilis
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3812133	Galt	Mapped	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Cardinalis cardinalis	northern cardinal	ABPBX60010	None	None	WL	-	3812133	Galt	Unprocessed	Animals - Birds - Cardinalidae - Cardinalis cardinalis
Animals - Birds	Pica nuttalli	yellow-billed magpie	ABPAV09020	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Corvidae - Pica nuttalli
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812144	Florin	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Chondestes grammacus	lark sparrow	ABPBX96010	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Emberizidae - Chondestes grammacus
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812154	Sacramento East	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812144	Florin	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812134	Bruceville	Mapped	Animals - Birds - Emberizidae - Melospiza melodia

Animals - Birds	Spizella breweri	Brewer's sparrow	ABPBX94040	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Emberizidae - Spizella breweri
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3812152	Buffalo Creek	Unprocessed	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3812144	Florin	Mapped	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Spinus lawrencei	Lawrence's goldfinch	ABPBY06100	None	None	-	-	3812152	Buffalo Creek	Unprocessed	Animals - Birds - Fringillidae - Spinus lawrencei
Animals - Birds	Grus canadensis canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Birds - Gruidae - Grus canadensis canadensis
Animals - Birds	Grus canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP	-	3812134	Bruceville	Unprocessed	Animals - Birds - Gruidae - Grus canadensis tabida
Animals - Birds	Grus canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP	-	3812144	Florin	Unprocessed	Animals - Birds - Gruidae - Grus canadensis tabida
Animals - Birds	Progne subis	purple martin	ABPAU01010	None	None	SSC	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Hirundinidae - Progne subis
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3812154	Sacramento East	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3812153	Carmichael	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened	-	-	3812142	Sloughhouse	Mapped and Unprocessed	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812142	Sloughhouse	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812143	Elk Grove	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812134	Bruceville	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812133	Galt	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812132	Clay	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Xanthocephalus xanthocephalus	yellow-headed blackbird	ABPBXB3010	None	None	SSC	-	3812144	Florin	Mapped	Animals - Birds - Icteridae - Xanthocephalus xanthocephalus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3812144	Florin	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3812153	Carmichael	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3812152	Buffalo Creek	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus

Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Sterna antillarum browni	California least tern	ABNNM08103	Endangered	Endangered	FP	-	3812144	Florin	Unprocessed	Animals - Birds - Laridae - Sterna antillarum browni
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None	-	-	3812144	Florin	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Setophaga occidentalis	hermit warbler	ABPBX03090	None	None	-	-	3812133	Galt	Unprocessed	Animals - Birds - Parulidae - Setophaga occidentalis
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	-	3812134	Bruceville	Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Picoides nuttallii	Nuttall's woodpecker	ABNYF07020	None	None	-	-	3812144	Florin	Unprocessed	Animals - Birds - Picidae - Picoides nuttallii
Animals - Birds	Picoides nuttallii	Nuttall's woodpecker	ABNYF07020	None	None	-	-	3812152	Buffalo Creek	Unprocessed	Animals - Birds - Picidae - Picoides nuttallii
Animals - Birds	Picoides nuttallii	Nuttall's woodpecker	ABNYF07020	None	None	-	-	3812153	Carmichael	Unprocessed	Animals - Birds - Picidae - Picoides nuttallii
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812142	Sloughhouse	Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812133	Galt	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812132	Clay	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Birds	Athene cucularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812134	Bruceville	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cucularia
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812134	Bruceville	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812132	Clay	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi

Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None			3812142	Sloughhouse	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None			3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None			3812153	Carmichael	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None			3812154	Sacramento East	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None			3812144	Florin	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None			3812152	Buffalo Creek	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812152	Buffalo Creek	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812144	Florin	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812153	Carmichael	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812142	Sloughhouse	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812133	Galt	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Branchinecta mesoallensis	midvalley fairy shrimp	ICBRA03150	None	None			3812132	Clay	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta mesoallensis
Animals - Crustaceans	Dumontia oregonensis	hairy water flea	ICBRA23010	None	None			3812153	Carmichael	Mapped	Animals - Crustaceans - Dumontiidae - Dumontia oregonensis
Animals - Crustaceans	Dumontia oregonensis	hairy water flea	ICBRA23010	None	None			3812152	Buffalo Creek	Mapped	Animals - Crustaceans - Dumontiidae - Dumontia oregonensis

Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812132	Clay	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812134	Bruceville	Mapped	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812142	Sloughhouse	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812142	Sloughhouse	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812134	Bruceville	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812132	Clay	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812154	Sacramento East	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardii

Animals - Crustaceans	<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	ICBRA10010	Endangered	None			3812153	Carmichael	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - <i>Lepidurus packardii</i>
Animals - Crustaceans	<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	ICBRA10010	Endangered	None			3812144	Florin	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - <i>Lepidurus packardii</i>
Animals - Crustaceans	<i>Lepidurus packardii</i>	vernal pool tadpole shrimp	ICBRA10010	Endangered	None			3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - <i>Lepidurus packardii</i>
Animals - Fish	<i>Lavinia exilicauda exilicauda</i>	Central Valley hitch	AFCJB19012	None	None			3812134	Bruceville	Unprocessed	Animals - Fish - Cyprinidae - <i>Lavinia exilicauda exilicauda</i>
Animals - Fish	<i>Mylopharodon conocephalus</i>	hardhead	AFCJB25010	None	None	SSC		3812154	Sacramento East	Unprocessed	Animals - Fish - Cyprinidae - <i>Mylopharodon conocephalus</i>
Animals - Fish	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	AFCJB34020	None	None	SSC		3812154	Sacramento East	Unprocessed	Animals - Fish - Cyprinidae - <i>Pogonichthys macrolepidotus</i>
Animals - Fish	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	AFCJB34020	None	None	SSC		3812144	Florin	Mapped	Animals - Fish - Cyprinidae - <i>Pogonichthys macrolepidotus</i>
Animals - Fish	<i>Pogonichthys macrolepidotus</i>	Sacramento splittail	AFCJB34020	None	None	SSC		3812134	Bruceville	Unprocessed	Animals - Fish - Cyprinidae - <i>Pogonichthys macrolepidotus</i>
Animals - Fish	<i>Hysteroecarpus traski traski</i>	Sacramento-San Joaquin tule perch	AFCQK02012	None	None			3812134	Bruceville	Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traski traski</i>
Animals - Fish	<i>Hysteroecarpus traski traski</i>	Sacramento-San Joaquin tule perch	AFCQK02012	None	None			3812154	Sacramento East	Unprocessed	Animals - Fish - Embiotocidae - <i>Hysteroecarpus traski traski</i>
Animals - Fish	<i>Hypomesus transpacificus</i>	Delta smelt	AFCHB01040	Threatened	Endangered			3812154	Sacramento East	Unprocessed	Animals - Fish - Osmeridae - <i>Hypomesus transpacificus</i>
Animals - Fish	<i>Hypomesus transpacificus</i>	Delta smelt	AFCHB01040	Threatened	Endangered			3812134	Bruceville	Unprocessed	Animals - Fish - Osmeridae - <i>Hypomesus transpacificus</i>
Animals - Fish	<i>Spirinchus thaleichthys</i>	longfin smelt	AFCHB03010	Candidate	Threatened	SSC		3812144	Florin	Mapped	Animals - Fish - Osmeridae - <i>Spirinchus thaleichthys</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None			3812154	Sacramento East	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>
Animals - Fish	<i>Entosphenus tridentatus</i>	Pacific lamprey	AFBAA02100	None	None			3812134	Bruceville	Unprocessed	Animals - Fish - Petromyzontidae - <i>Entosphenus tridentatus</i>
Animals - Fish	<i>Lampetra ayresii</i>	river lamprey	AFBAA02030	None	None	SSC		3812154	Sacramento East	Unprocessed	Animals - Fish - Petromyzontidae - <i>Lampetra ayresii</i>
Animals - Fish	<i>Oncorhynchus mykiss irideus</i>	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None			3812153	Carmichael	Mapped	Animals - Fish - Salmonidae - <i>Oncorhynchus mykiss irideus</i>
Animals - Fish	<i>Oncorhynchus mykiss irideus</i>	steelhead - central California coast DPS	AFCHA0209G	Threatened	None			3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - <i>Oncorhynchus mykiss irideus</i>

Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812154	Sacramento East	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812144	Florin	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812133	Galt	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812134	Bruceville	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812142	Sloughhouse	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812143	Elk Grove	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	-	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	-	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Insects	Andrena blennospermatis	Blennosperma vernal pool andrenid bee	IHYM35030	None	None	-	-	3812142	Sloughhouse	Mapped	Animals - Insects - Andrenidae - Andrena blennospermatis
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812142	Sloughhouse	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812143	Elk Grove	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812134	Bruceville	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812133	Galt	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus

Animals - Insects	<i>Desmocerus californicus dimorphus</i>	valley elderberry longhorn beetle	IICOL48011	Threatened	None			3812152	Buffalo Creek	Mapped	Animals - Insects - Cerambycidae - <i>Desmocerus californicus dimorphus</i>
Animals - Insects	<i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	IICOL5V010	None	None			3812152	Buffalo Creek	Mapped	Animals - Insects - Hydrophilidae - <i>Hydrochara rickseckeri</i>
Animals - Insects	<i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	IICOL5V010	None	None			3812153	Carmichael	Mapped	Animals - Insects - Hydrophilidae - <i>Hydrochara rickseckeri</i>
Animals - Insects	<i>Hydrochara rickseckeri</i>	Ricksecker's water scavenger beetle	IICOL5V010	None	None			3812134	Bruceville	Mapped	Animals - Insects - Hydrophilidae - <i>Hydrochara rickseckeri</i>
Animals - Mammals	<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC		3812134	Bruceville	Mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC		3812153	Carmichael	Mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC		3812154	Sacramento East	Mapped	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC		3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Taxidea taxus</i>	American badger	AMAJF04010	None	None	SSC		3812144	Florin	Mapped and Unprocessed	Animals - Mammals - Mustelidae - <i>Taxidea taxus</i>
Animals - Mammals	<i>Lasiurus blossevillii</i>	western red bat	AMACC05060	None	None	SSC		3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Lasiurus blossevillii</i>
Animals - Mammals	<i>Lasiurus cinereus</i>	hoary bat	AMACC05030	None	None			3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Lasiurus cinereus</i>
Animals - Mammals	<i>Lasiurus cinereus</i>	hoary bat	AMACC05030	None	None			3812134	Bruceville	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Lasiurus cinereus</i>
Animals - Mammals	<i>Myotis ciliolabrum</i>	western small-footed myotis	AMACC01140	None	None			3812134	Bruceville	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Myotis ciliolabrum</i>
Animals - Mammals	<i>Myotis lucifugus</i>	little brown bat	AMACC01010	None	None			3812134	Bruceville	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Myotis lucifugus</i>
Animals - Mammals	<i>Myotis lucifugus</i>	little brown bat	AMACC01010	None	None			3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Myotis lucifugus</i>
Animals - Mammals	<i>Myotis yumanensis</i>	Yuma myotis	AMACC01020	None	None			3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Myotis yumanensis</i>
Animals - Mammals	<i>Myotis yumanensis</i>	Yuma myotis	AMACC01020	None	None			3812134	Bruceville	Unprocessed	Animals - Mammals - Vespertilionidae - <i>Myotis yumanensis</i>
Animals - Reptiles	<i>Emys marmorata</i>	western pond turtle	ARAAD02030	None	None	SSC		3812133	Galt	Mapped	Animals - Reptiles - Emydidae - <i>Emys marmorata</i>

Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812132	Clay	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812134	Bruceville	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812142	Sloughhouse	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812143	Elk Grove	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812144	Florin	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812152	Buffalo Creek	Mapped and Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812153	Carmichael	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812144	Florin	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812143	Elk Grove	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812134	Bruceville	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812132	Clay	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812133	Galt	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Community - Terrestrial	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Coastal and Valley Freshwater Marsh
Community - Terrestrial	Elderberry Savanna	Elderberry Savanna	CTT63440CA	None	None	-	-	3812154	Sacramento East	Mapped	Community - Terrestrial - Elderberry Savanna
Community - Terrestrial	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Great Valley Mixed Riparian Forest
Community - Terrestrial	Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Great Valley Valley Oak Riparian Forest
Community - Terrestrial	Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	-	-	3812143	Elk Grove	Mapped	Community - Terrestrial - Great Valley Valley Oak Riparian Forest
Community - Terrestrial	Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	-	-	3812133	Galt	Mapped	Community - Terrestrial - Great Valley Valley Oak Riparian Forest
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812133	Galt	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812132	Clay	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool

Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812143	Elk Grove	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812142	Sloughhouse	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812153	Carmichael	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812144	Florin	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812152	Buffalo Creek	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3812133	Galt	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812133	Galt	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812134	Bruceville	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812142	Sloughhouse	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812143	Elk Grove	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812144	Florin	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812153	Carmichael	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812154	Sacramento East	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Cicuta maculata var. bolanderi	Bolander's water-hemlock	PDAP10M051	None	None	-	2B.1	3812134	Bruceville	Mapped	Plants - Vascular - Apiaceae - Cicuta maculata var. bolanderi
Plants - Vascular	Lilaeopsis masonii	Mason's lilaeopsis	PDAP119030	None	Rare	-	1B.1	3812134	Bruceville	Mapped	Plants - Vascular - Apiaceae - Lilaeopsis masonii
Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812134	Bruceville	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis
Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812144	Florin	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis
Plants - Vascular	Hesperevax caulescens	hogwallow starfish	PDASTE5020	None	None	-	4.2	3812144	Florin	Unprocessed	Plants - Vascular - Asteraceae - Hesperevax caulescens
Plants - Vascular	Lasthenia ferrisiae	Ferris' goldfields	PDAST5L070	None	None	-	4.2	3812134	Bruceville	Unprocessed	Plants - Vascular - Asteraceae - Lasthenia ferrisiae

Plants - Vascular	Lepidium latipes var. heckardii	Heckard's pepper-grass	PDBRA1M0K1	None	None	-	1B.2	3812144	Florin	Mapped	Plants - Vascular - Brassicaceae - Lepidium latipes var. heckardii
Plants - Vascular	Brasenia schreberi	watershield	PDCAB01010	None	None	-	2B.3	3812134	Bruceville	Mapped	Plants - Vascular - Cabombaceae - Brasenia schreberi
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812133	Galt	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812132	Clay	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812143	Elk Grove	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812144	Florin	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812144	Florin	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812152	Buffalo Creek	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812153	Carmichael	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812143	Elk Grove	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812142	Sloughhouse	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812132	Clay	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812133	Galt	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812134	Bruceville	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Cuscuta obtusiflora var. glandulosa	Peruvian dodder	PDCUS01111	None	None	-	2B.2	3812144	Florin	Mapped	Plants - Vascular - Cuscutaceae - Cuscuta obtusiflora var. glandulosa
Plants - Vascular	Carex comosa	bristly sedge	PMCYP032Y0	None	None	-	2B.1	3812134	Bruceville	Mapped	Plants - Vascular - Cyperaceae - Carex comosa
Plants - Vascular	Lathyrus jepsonii var. jepsonii	Delta tule pea	PDFAB250D2	None	None	-	1B.2	3812134	Bruceville	Mapped	Plants - Vascular - Fabaceae - Lathyrus jepsonii var. jepsonii
Plants - Vascular	Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	-	1B.2	3812134	Bruceville	Mapped	Plants - Vascular - Fabaceae - Trifolium hydrophilum
Plants - Vascular	Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	-	1B.2	3812144	Florin	Mapped	Plants - Vascular - Fabaceae - Trifolium hydrophilum
Plants - Vascular	Juglans hindsii	Northern California black walnut	PDJUG02040	None	None	-	1B.1	3812144	Florin	Mapped	Plants - Vascular - Juglandaceae - Juglans hindsii
Plants - Vascular	Juncus leiospermus var. ahartii	Ahart's dwarf rush	PMJUN011L1	None	None	-	1B.2	3812152	Buffalo Creek	Mapped	Plants - Vascular - Juncaceae - Juncus leiospermus var. ahartii

Plants - Vascular	<i>Juncus leiospermus</i> var. <i>ahartii</i>	Ahart's dwarf rush	PMJUN011L1	None	None	-	1B.2	3812153	Carmichael	Mapped	Plants - Vascular - Juncaceae - <i>Juncus leiospermus</i> var. <i>ahartii</i>
Plants - Vascular	<i>Scutellaria galericulata</i>	marsh skullcap	PDLAM1U0J0	None	None	-	2B.2	3812134	Bruceville	Mapped	Plants - Vascular - Lamiaceae - <i>Scutellaria galericulata</i>
Plants - Vascular	<i>Scutellaria lateriflora</i>	side-flowering skullcap	PDLAM1U0Q0	None	None	-	2B.2	3812134	Bruceville	Mapped	Plants - Vascular - Lamiaceae - <i>Scutellaria lateriflora</i>
Plants - Vascular	<i>Fritillaria agrestis</i>	stinkbells	PMLIL0V010	None	None	-	4.2	3812142	Sloughhouse	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria agrestis</i>
Plants - Vascular	<i>Fritillaria agrestis</i>	stinkbells	PMLIL0V010	None	None	-	4.2	3812154	Sacramento East	Unprocessed	Plants - Vascular - Liliaceae - <i>Fritillaria agrestis</i>
Plants - Vascular	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	PDMAL0H0R3	None	None	-	1B.2	3812144	Florin	Mapped	Plants - Vascular - Malvaceae - <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>
Plants - Vascular	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	woolly rose-mallow	PDMAL0H0R3	None	None	-	1B.2	3812134	Bruceville	Mapped and Unprocessed	Plants - Vascular - Malvaceae - <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>
Plants - Vascular	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812142	Sloughhouse	Mapped	Plants - Vascular - Plantaginaceae - <i>Gratiola heterosepala</i>
Plants - Vascular	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812143	Elk Grove	Mapped	Plants - Vascular - Plantaginaceae - <i>Gratiola heterosepala</i>
Plants - Vascular	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812152	Buffalo Creek	Mapped	Plants - Vascular - Plantaginaceae - <i>Gratiola heterosepala</i>
Plants - Vascular	<i>Gratiola heterosepala</i>	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812153	Carmichael	Mapped	Plants - Vascular - Plantaginaceae - <i>Gratiola heterosepala</i>
Plants - Vascular	<i>Orcuttia tenuis</i>	slender Orcutt grass	PMPOA4G050	Threatened	Endangered	-	1B.1	3812152	Buffalo Creek	Mapped	Plants - Vascular - Poaceae - <i>Orcuttia tenuis</i>
Plants - Vascular	<i>Orcuttia tenuis</i>	slender Orcutt grass	PMPOA4G050	Threatened	Endangered	-	1B.1	3812143	Elk Grove	Mapped	Plants - Vascular - Poaceae - <i>Orcuttia tenuis</i>
Plants - Vascular	<i>Orcuttia viscida</i>	Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	-	1B.1	3812143	Elk Grove	Mapped	Plants - Vascular - Poaceae - <i>Orcuttia viscida</i>
Plants - Vascular	<i>Orcuttia viscida</i>	Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	-	1B.1	3812152	Buffalo Creek	Mapped	Plants - Vascular - Poaceae - <i>Orcuttia viscida</i>
Plants - Vascular	<i>Orcuttia viscida</i>	Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	-	1B.1	3812153	Carmichael	Mapped	Plants - Vascular - Poaceae - <i>Orcuttia viscida</i>
Plants - Vascular	<i>Navarretia eriocephala</i>	hoary navarretia	PDPLM0C060	None	None	-	4.3	3812143	Elk Grove	Unprocessed	Plants - Vascular - Polemoniaceae - <i>Navarretia eriocephala</i>
Plants - Vascular	<i>Limosella australis</i>	Delta mudwort	PDSCR10050	None	None	-	2B.1	3812134	Bruceville	Mapped	Plants - Vascular - Scrophulariaceae - <i>Limosella australis</i>

CNDDDB 9-Quad Species List 334 records.

Element Type	Scientific Name	Common Name	Element Code	Federal Status	State Status	GDFW Status	CA Rare Plant Rank	Quad Code	Quad Name	Data Status	Taxonomic Sort
Animals - Amphibians	Ambystoma californiense	California tiger salamander	AAAAA01180	Threatened	Threatened	SSC	-	3812133	Galt	Mapped and Unprocessed	Animals - Amphibians - Ambystomatidae - Ambystoma californiense
Animals - Amphibians	Spea hammondi	western spadefoot	AAABF02020	None	None	SSC	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Amphibians - Scaphiopodidae - Spea hammondi
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812144	Florin	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812154	Sacramento East	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Accipiter cooperii	Cooper's hawk	ABNKC12040	None	None	WL	-	3812143	Elk Grove	Mapped	Animals - Birds - Accipitridae - Accipiter cooperii
Animals - Birds	Aquila chrysaetos	golden eagle	ABNKC22010	None	None	FP, WL	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Aquila chrysaetos
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Buteo regalis	ferruginous hawk	ABNKC19120	None	None	WL	-	3812144	Florin	Mapped	Animals - Birds - Accipitridae - Buteo regalis
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812143	Elk Grove	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812135	Courtland	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812133	Galt	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812134	Bruceville	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812155	Sacramento West	Mapped and Unprocessed	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812144	Florin	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Buteo swainsoni	Swainson's hawk	ABNKC19070	None	Threatened	-	-	3812145	Clarksburg	Mapped	Animals - Birds - Accipitridae - Buteo swainsoni
Animals - Birds	Circus cyaneus	northern harrier	ABNKC11010	None	None	SSC	-	3812145	Clarksburg	Unprocessed	Animals - Birds - Accipitridae - Circus cyaneus
Animals - Birds	Circus cyaneus	northern harrier	ABNKC11010	None	None	SSC	-	3812153	Carmichael	Unprocessed	Animals - Birds - Accipitridae - Circus cyaneus
Animals - Birds	Circus cyaneus	northern harrier	ABNKC11010	None	None	SSC	-	3812135	Courtland	Unprocessed	Animals - Birds - Accipitridae - Circus cyaneus

Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812135	Courtland	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812143	Elk Grove	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812133	Galt	Mapped	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812134	Bruceville	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812164	Sacramento East	Mapped and Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Elanus leucurus	white-tailed kite	ABNKC06010	None	None	FP	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Accipitridae - Elanus leucurus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812153	Carmichael	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Pandion haliaetus	osprey	ABNKC01010	None	None	WL	-	3812134	Bruceville	Unprocessed	Animals - Birds - Accipitridae - Pandion haliaetus
Animals - Birds	Chaetura vauxi	Vaux's swift	ABNUA03020	None	None	SSC	-	3812153	Carmichael	Unprocessed	Animals - Birds - Apodidae - Chaetura vauxi
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812145	Clarksburg	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812133	Galt	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea alba	great egret	ABNGA04040	None	None	-	-	3812135	Courtland	Unprocessed	Animals - Birds - Ardeidae - Ardea alba
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812135	Courtland	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812133	Galt	Mapped	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812145	Clarksburg	Unprocessed	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Ardeidae - Ardea herodias

Animals - Birds	Ardea herodias	great blue heron	ABNGA04010	None	None	-	-	3812154	Sacramento East	Mapped	Animals - Birds - Ardeidae - Ardea herodias
Animals - Birds	Botaurus lentiginosus	American bittern	ABNGA01020	None	None	-	-	3812144	Florin	Unprocessed	Animals - Birds - Ardeidae - Botaurus lentiginosus
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3812144	Florin	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Egretta thula	snowy egret	ABNGA06030	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Ardeidae - Egretta thula
Animals - Birds	Ixobrychus exilis	least bittern	ABNGA02010	None	None	SSC	-	3812144	Florin	Unprocessed	Animals - Birds - Ardeidae - Ixobrychus exilis
Animals - Birds	Ixobrychus exilis	least bittern	ABNGA02010	None	None	SSC	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Ardeidae - Ixobrychus exilis
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3812135	Courland	Unprocessed	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Nycticorax nycticorax	black-crowned night heron	ABNGA11010	None	None	-	-	3812133	Galt	Mapped	Animals - Birds - Ardeidae - Nycticorax nycticorax
Animals - Birds	Cardinalis cardinalis	northern cardinal	ABPBX60010	None	None	WL	-	3812133	Galt	Unprocessed	Animals - Birds - Cardinalidae - Cardinalis cardinalis
Animals - Birds	Charadrius montanus	mountain plover	ABNNB03100	None	None	SSC	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Charadriidae - Charadrius montanus
Animals - Birds	Pica nuttalli	yellow-billed magpie	ABPAV09020	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Corvidae - Pica nuttalli
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3812145	Clarksburg	Mapped	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Coccyzus americanus occidentalis	western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	-	-	3812134	Bruceville	Unprocessed	Animals - Birds - Cuculidae - Coccyzus americanus occidentalis
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812144	Florin	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812145	Clarksburg	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum

Animals - Birds	Ammodramus savannarum	grasshopper sparrow	ABPBXA0020	None	None	SSC	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Emberizidae - Ammodramus savannarum
Animals - Birds	Chondestes grammacus	lark sparrow	ABPBX96010	None	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Emberizidae - Chondestes grammacus
Animals - Birds	Chondestes grammacus	lark sparrow	ABPBX96010	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Emberizidae - Chondestes grammacus
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812154	Sacramento East	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812145	Clarksburg	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812144	Florin	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812134	Bruceville	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812135	Courtland	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Melospiza melodia	song sparrow (-inModesto-in population)	ABPBXA3010	None	None	SSC	-	3812155	Sacramento West	Mapped	Animals - Birds - Emberizidae - Melospiza melodia
Animals - Birds	Spizella breweri	Brewer's sparrow	ABPBX94040	None	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Emberizidae - Spizella breweri
Animals - Birds	Spizella breweri	Brewer's sparrow	ABPBX94040	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Emberizidae - Spizella breweri
Animals - Birds	Falco columbarius	merlin	ABNKD06030	None	None	WL	-	3812144	Florin	Mapped	Animals - Birds - Falconidae - Falco columbarius
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Falco mexicanus	prairie falcon	ABNKD06090	None	None	WL	-	3812154	Sacramento East	Unprocessed	Animals - Birds - Falconidae - Falco mexicanus
Animals - Birds	Grus canadensis canadensis	lesser sandhill crane	ABNMK01011	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Birds - Gruidae - Grus canadensis canadensis
Animals - Birds	Grus canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP	-	3812134	Bruceville	Unprocessed	Animals - Birds - Gruidae - Grus canadensis tabida
Animals - Birds	Grus canadensis tabida	greater sandhill crane	ABNMK01014	None	Threatened	FP	-	3812144	Florin	Unprocessed	Animals - Birds - Gruidae - Grus canadensis tabida
Animals - Birds	Progne subis	purple martin	ABPAU01010	None	None	SSC	-	3812155	Sacramento West	Mapped and Unprocessed	Animals - Birds - Hirundinidae - Progne subis
Animals - Birds	Progne subis	purple martin	ABPAU01010	None	None	SSC	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Hirundinidae - Progne subis

Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened		3812154	Sacramento East	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Riparia riparia	bank swallow	ABPAU08010	None	Threatened		3812153	Carmichael	Mapped	Animals - Birds - Hirundinidae - Riparia riparia
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812143	Elk Grove	Mapped	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812135	Courtland	Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812134	Bruceville	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812133	Galt	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Agelaius tricolor	tricolored blackbird	ABPBXB0020	None	Endangered	SSC	3812155	Sacramento West	Mapped and Unprocessed	Animals - Birds - Icteridae - Agelaius tricolor
Animals - Birds	Xanthocephalus xanthocephalus	yellow-headed blackbird	ABPBXB3010	None	None	SSC	3812144	Florin	Mapped	Animals - Birds - Icteridae - Xanthocephalus xanthocephalus
Animals - Birds	Xanthocephalus xanthocephalus	yellow-headed blackbird	ABPBXB3010	None	None	SSC	3812145	Clarksburg	Mapped	Animals - Birds - Icteridae - Xanthocephalus xanthocephalus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	3812144	Florin	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	3812153	Carmichael	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Lanius ludovicianus	loggerhead shrike	ABPBR01030	None	None	SSC	3812134	Bruceville	Unprocessed	Animals - Birds - Laniidae - Lanius ludovicianus
Animals - Birds	Sternula antillarum browni	California least tern	ABNNM08103	Endangered	Endangered	FP	3812144	Florin	Unprocessed	Animals - Birds - Laridae - Sternula antillarum browni
Animals - Birds	Baeolophus inornatus	oak titmouse	ABPAW01100	None	None		3812144	Florin	Unprocessed	Animals - Birds - Paridae - Baeolophus inornatus
Animals - Birds	Icteria virens	yellow-breasted chat	ABPBX24010	None	None	SSC	3812145	Clarksburg	Unprocessed	Animals - Birds - Parulidae - Icteria virens
Animals - Birds	Setophaga occidentalis	hermit warbler	ABPBX03090	None	None		3812133	Galt	Unprocessed	Animals - Birds - Parulidae - Setophaga occidentalis
Animals - Birds	Setophaga petechia	yellow warbler	ABPBX03010	None	None	SSC	3812155	Sacramento West	Unprocessed	Animals - Birds - Parulidae - Setophaga petechia
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	3812134	Bruceville	Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Phalacrocorax auritus	double-crested cormorant	ABNFD01020	None	None	WL	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Phalacrocoracidae - Phalacrocorax auritus
Animals - Birds	Picoides nuttallii	Nuttall's woodpecker	ABNYF07020	None	None		3812144	Florin	Unprocessed	Animals - Birds - Picidae - Picoides nuttallii

Animals - Birds	Picoides nuttallii	Nuttall's woodpecker	ABNYF07020	None	None	-	-	3812153	Carmichael	Unprocessed	Animals - Birds - Picidae - Picoides nuttallii
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812155	Sacramento West	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812145	Clarksburg	Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812144	Florin	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812134	Bruceville	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Athene cunicularia	burrowing owl	ABNSB10010	None	None	SSC	-	3812133	Galt	Mapped and Unprocessed	Animals - Birds - Strigidae - Athene cunicularia
Animals - Birds	Plegadis chihi	white-faced ibis	ABNGE02020	None	None	WL	-	3812155	Sacramento West	Unprocessed	Animals - Birds - Threskiornithidae - Plegadis chihi
Animals - Birds	Vireo bellii pusillus	least Bell's vireo	ABPBW01114	Endangered	Endangered	-	-	3812155	Sacramento West	Mapped	Animals - Birds - Vireonidae - Vireo bellii pusillus
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812154	Sacramento East	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812153	Carmichael	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812145	Clarksburg	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812134	Bruceville	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi
Animals - Crustaceans	Branchinecta lynchi	vernal pool fairy shrimp	ICBRA03030	Threatened	None	-	-	3812135	Courtland	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta lynchi

Animals - Crustaceans	Branchinecta mesovallensis	midvalley fairy shrimp	ICBRA03150	None	None	-	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Branchinectidae - Branchinecta mesovallensis
Animals - Crustaceans	Branchinecta mesovallensis	midvalley fairy shrimp	ICBRA03150	None	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesovallensis
Animals - Crustaceans	Branchinecta mesovallensis	midvalley fairy shrimp	ICBRA03150	None	None	-	-	3812144	Florin	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesovallensis
Animals - Crustaceans	Branchinecta mesovallensis	midvalley fairy shrimp	ICBRA03150	None	None	-	-	3812153	Carmichael	Mapped	Animals - Crustaceans - Branchinectidae - Branchinecta mesovallensis
Animals - Crustaceans	Dumontia oregonensis	hairy water flea	ICBRA23010	None	None	-	-	3812153	Carmichael	Mapped	Animals - Crustaceans - Dumontiidae - Dumontia oregonensis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812145	Clarksburg	Mapped	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812134	Bruceville	Mapped	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Linderiella occidentalis	California linderiella	ICBRA06010	None	None	-	-	3812135	Courtland	Mapped	Animals - Crustaceans - Linderiellidae - Linderiella occidentalis
Animals - Crustaceans	Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812143	Elk Grove	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - Lepidurus packardi
Animals - Crustaceans	Lepidurus packardi	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812134	Bruceville	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardi

Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812133	Galt	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812145	Clarksburg	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812144	Florin	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812154	Sacramento East	Mapped	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Crustaceans	Lepidurus packardii	vernal pool tadpole shrimp	ICBRA10010	Endangered	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Crustaceans - Triopsidae - Lepidurus packardii
Animals - Fish	Acipenser transmontanus	white sturgeon	AFCAA01050	None	None	-	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Acipenseridae - Acipenser transmontanus
Animals - Fish	Archoplites interruptus	Sacramento perch	AFCQB07010	None	None	SSC	-	3812155	Sacramento West	Mapped	Animals - Fish - Centrarchidae - Archoplites interruptus
Animals - Fish	Lavinia exilicauda exilicauda	Central Valley hitch	AFCJB19012	None	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Cyprinidae - Lavinia exilicauda exilicauda
Animals - Fish	Lavinia exilicauda exilicauda	Central Valley hitch	AFCJB19012	None	None	-	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Cyprinidae - Lavinia exilicauda exilicauda
Animals - Fish	Lavinia exilicauda exilicauda	Central Valley hitch	AFCJB19012	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Fish - Cyprinidae - Lavinia exilicauda exilicauda
Animals - Fish	Mylopharodon conocephalus	hardhead	AFCJB25010	None	None	SSC	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Cyprinidae - Mylopharodon conocephalus
Animals - Fish	Mylopharodon conocephalus	hardhead	AFCJB25010	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Cyprinidae - Mylopharodon conocephalus
Animals - Fish	Mylopharodon conocephalus	hardhead	AFCJB25010	None	None	SSC	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Cyprinidae - Mylopharodon conocephalus
Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3812155	Sacramento West	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus
Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus
Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3812145	Clarksburg	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus
Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3812144	Florin	Mapped	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus

Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3812134	Bruceville	Unprocessed	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus
Animals - Fish	Pogonichthys macrolepidotus	Sacramento splittail	AFCJB34020	None	None	SSC	-	3812135	Courtland	Mapped and Unprocessed	Animals - Fish - Cyprinidae - Pogonichthys macrolepidotus
Animals - Fish	Hysterocharpus traski traski	Sacramento-San Joaquin tule perch	AFCQK02012	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Fish - Embiotocidae - Hysterocharpus traski traski
Animals - Fish	Hysterocharpus traski traski	Sacramento-San Joaquin tule perch	AFCQK02012	None	None	-	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Embiotocidae - Hysterocharpus traski traski
Animals - Fish	Hysterocharpus traski traski	Sacramento-San Joaquin tule perch	AFCQK02012	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Embiotocidae - Hysterocharpus traski traski
Animals - Fish	Hysterocharpus traski traski	Sacramento-San Joaquin tule perch	AFCQK02012	None	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Embiotocidae - Hysterocharpus traski traski
Animals - Fish	Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Osmeridae - Hypomesus transpacificus
Animals - Fish	Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Osmeridae - Hypomesus transpacificus
Animals - Fish	Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Osmeridae - Hypomesus transpacificus
Animals - Fish	Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-	-	3812134	Bruceville	Unprocessed	Animals - Fish - Osmeridae - Hypomesus transpacificus
Animals - Fish	Hypomesus transpacificus	Delta smelt	AFCHB01040	Threatened	Endangered	-	-	3812135	Courtland	Unprocessed	Animals - Fish - Osmeridae - Hypomesus transpacificus
Animals - Fish	Spirinchus thaleichthys	longfin smelt	AFCHB03010	Candidate	Threatened	SSC	-	3812135	Courtland	Mapped	Animals - Fish - Osmeridae - Spirinchus thaleichthys
Animals - Fish	Spirinchus thaleichthys	longfin smelt	AFCHB03010	Candidate	Threatened	SSC	-	3812145	Clarksburg	Mapped	Animals - Fish - Osmeridae - Spirinchus thaleichthys
Animals - Fish	Spirinchus thaleichthys	longfin smelt	AFCHB03010	Candidate	Threatened	SSC	-	3812144	Florin	Mapped	Animals - Fish - Osmeridae - Spirinchus thaleichthys
Animals - Fish	Spirinchus thaleichthys	longfin smelt	AFCHB03010	Candidate	Threatened	SSC	-	3812155	Sacramento West	Mapped	Animals - Fish - Osmeridae - Spirinchus thaleichthys
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Entosphenus tridentatus	Pacific lamprey	AFBAA02100	None	None	-	-	3812134	Bruceville	Unprocessed	Animals - Fish - Petromyzontidae - Entosphenus tridentatus
Animals - Fish	Lampetra ayresii	river lamprey	AFBAA02030	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Petromyzontidae - Lampetra ayresii

Animals - Fish	Lampetra ayresii	river lamprey	AFBAA02030	None	None	SSC	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Petromyzontidae - Lampetra ayresii
Animals - Fish	Lampetra ayresii	river lamprey	AFBAA02030	None	None	SSC	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Petromyzontidae - Lampetra ayresii
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812155	Sacramento West	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812155	Sacramento West	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812145	Clarksburg	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812145	Clarksburg	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812144	Florin	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	AFCHA0209G	Threatened	None	-	-	3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812154	Sacramento East	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812153	Carmichael	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812133	Galt	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812134	Bruceville	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812135	Courtland	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus mykiss irideus	steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	-	-	3812143	Elk Grove	Mapped	Animals - Fish - Salmonidae - Oncorhynchus mykiss irideus
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - spring-run Klamath-Trinity Rivers pop.	AFCHA02056	None	None	SSC	-	3812135	Courtland	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened	-	-	3812135	Courtland	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	-	-	3812135	Courtland	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha

Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	3812135	Courtland	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	3812134	Bruceville	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened		3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered		3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	3812154	Sacramento East	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - spring-run Klamath-Trinity Rivers pop.	AFCHA02056	None	None	SSC	3812145	Clarksburg	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened		3812145	Clarksburg	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered		3812145	Clarksburg	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	3812145	Clarksburg	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - spring-run Klamath-Trinity Rivers pop.	AFCHA02056	None	None	SSC	3812155	Sacramento West	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley spring-run ESU	AFCHA0205A	Threatened	Threatened		3812155	Sacramento West	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered		3812155	Sacramento West	Mapped and Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Fish	Oncorhynchus tshawytscha	chinook salmon - Central Valley fall / late fall-run ESU	AFCHA0205N	None	None	SSC	3812155	Sacramento West	Unprocessed	Animals - Fish - Salmonidae - Oncorhynchus tshawytscha
Animals - Insects	Cicindela hirticollis abrupta	Sacramento Valley tiger beetle	IICOL02106	None	None		3812155	Sacramento West	Mapped	Animals - Insects - Carabidae - Cicindela hirticollis abrupta

Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812155	Sacramento West	Mapped and Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812145	Clarksburg	Mapped and Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812154	Sacramento East	Mapped and Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812153	Carmichael	Mapped and Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812133	Galt	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812134	Bruceville	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812135	Courtland	Unprocessed	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Desmocerus californicus dimorphus	valley elderberry longhorn beetle	IICOL48011	Threatened	None	-	-	3812143	Elk Grove	Mapped	Animals - Insects - Cerambycidae - Desmocerus californicus dimorphus
Animals - Insects	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	IICOL5V010	None	None	-	-	3812134	Bruceville	Mapped	Animals - Insects - Hydrophilidae - Hydrochara rickseckeri
Animals - Insects	Hydrochara rickseckeri	Ricksecker's water scavenger beetle	IICOL5V010	None	None	-	-	3812153	Carmichael	Mapped	Animals - Insects - Hydrophilidae - Hydrochara rickseckeri
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812153	Carmichael	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812154	Sacramento East	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812145	Clarksburg	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812144	Florin	Mapped and Unprocessed	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812134	Bruceville	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Taxidea taxus	American badger	AMAJF04010	None	None	SSC	-	3812135	Courtland	Mapped	Animals - Mammals - Mustelidae - Taxidea taxus
Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	-	3812135	Courtland	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii

Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii
Animals - Mammals	Lasiurus blossevillii	western red bat	AMACC05060	None	None	SSC	3812145	Clarksburg	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus blossevillii
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	3812145	Clarksburg	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	3812135	Courtland	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	3812134	Buceville	Unprocessed	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Lasiurus cinereus	hoary bat	AMACC05030	None	None	-	3812155	Sacramento West	Mapped	Animals - Mammals - Vespertilionidae - Lasiurus cinereus
Animals - Mammals	Myotis ciliolabrum	western small-footed myotis	AMACC01140	None	None	-	3812134	Buceville	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis ciliolabrum
Animals - Mammals	Myotis lucifugus	little brown bat	AMACC01010	None	None	-	3812135	Courtland	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis lucifugus
Animals - Mammals	Myotis lucifugus	little brown bat	AMACC01010	None	None	-	3812134	Buceville	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis lucifugus
Animals - Mammals	Myotis lucifugus	little brown bat	AMACC01010	None	None	-	3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis lucifugus
Animals - Mammals	Myotis lucifugus	little brown bat	AMACC01010	None	None	-	3812145	Clarksburg	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis lucifugus
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	3812145	Clarksburg	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	3812144	Florin	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	3812134	Buceville	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Mammals	Myotis yumanensis	Yuma myotis	AMACC01020	None	None	-	3812135	Courtland	Unprocessed	Animals - Mammals - Vespertilionidae - Myotis yumanensis
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	3812135	Courtland	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	3812143	Elk Grove	Mapped	Animals - Reptiles - Emydidae - Emys marmorata

Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812134	Bruceville	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812133	Galt	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812144	Florin	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812145	Clarksburg	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812154	Sacramento East	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812153	Carmichael	Mapped	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Emys marmorata	western pond turtle	ARAAD02030	None	None	SSC	-	3812155	Sacramento West	Unprocessed	Animals - Reptiles - Emydidae - Emys marmorata
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812155	Sacramento West	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812145	Clarksburg	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812144	Florin	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812133	Galt	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812134	Bruceville	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812143	Elk Grove	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Animals - Reptiles	Thamnophis gigas	giant garter snake	ARADB36150	Threatened	Threatened	-	-	3812135	Courtland	Mapped	Animals - Reptiles - Natricidae - Thamnophis gigas
Community - Terrestrial	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-	-	3812135	Courtland	Mapped	Community - Terrestrial - Coastal and Valley Freshwater Marsh
Community - Terrestrial	Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Coastal and Valley Freshwater Marsh
Community - Terrestrial	Elderberry Savanna	Elderberry Savanna	CTT63440CA	None	None	-	-	3812154	Sacramento East	Mapped	Community - Terrestrial - Elderberry Savanna
Community - Terrestrial	Elderberry Savanna	Elderberry Savanna	CTT63440CA	None	None	-	-	3812155	Sacramento West	Mapped	Community - Terrestrial - Elderberry Savanna
Community - Terrestrial	Great Valley Cottonwood Riparian Forest	Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	-	-	3812155	Sacramento West	Mapped	Community - Terrestrial - Great Valley Cottonwood Riparian Forest
Community - Terrestrial	Great Valley Mixed Riparian Forest	Great Valley Mixed Riparian Forest	CTT61420CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Great Valley Mixed Riparian Forest
Community - Terrestrial	Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Great Valley Valley Oak Riparian Forest
Community - Terrestrial	Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	-	-	3812133	Galt	Mapped	Community - Terrestrial - Great Valley Valley Oak Riparian Forest

Community - Terrestrial	Great Valley Valley Oak Riparian Forest	Great Valley Valley Oak Riparian Forest	CTT61430CA	None	None	-	-	3812143	Elk Grove	Mapped	Community - Terrestrial - Great Valley Valley Oak Riparian Forest
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812143	Elk Grove	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812133	Galt	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812153	Carmichael	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Northern Hardpan Vernal Pool	Northern Hardpan Vernal Pool	CTT44110CA	None	None	-	-	3812144	Florin	Mapped	Community - Terrestrial - Northern Hardpan Vernal Pool
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3812134	Bruceville	Mapped	Community - Terrestrial - Valley Oak Woodland
Community - Terrestrial	Valley Oak Woodland	Valley Oak Woodland	CTT71130CA	None	None	-	-	3812133	Galt	Mapped	Community - Terrestrial - Valley Oak Woodland
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812133	Galt	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812135	Courtland	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812143	Elk Grove	Mapped	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812134	Bruceville	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812144	Florin	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812153	Carmichael	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Sagittaria sanfordii	Sanford's arrowhead	PMALI040Q0	None	None	-	1B.2	3812154	Sacramento East	Mapped and Unprocessed	Plants - Vascular - Alismataceae - Sagittaria sanfordii
Plants - Vascular	Cicuta maculata var. bolanderi	Bolander's water-hemlock	PDAP10M051	None	None	-	2B.1	3812135	Courtland	Mapped	Plants - Vascular - Apiaceae - Cicuta maculata var. bolanderi
Plants - Vascular	Cicuta maculata var. bolanderi	Bolander's water-hemlock	PDAP10M051	None	None	-	2B.1	3812134	Bruceville	Mapped	Plants - Vascular - Apiaceae - Cicuta maculata var. bolanderi
Plants - Vascular	Lilaeopsis masonii	Mason's lilaeopsis	PDAP19030	None	Rare	-	1B.1	3812134	Bruceville	Mapped	Plants - Vascular - Apiaceae - Lilaeopsis masonii
Plants - Vascular	Lilaeopsis masonii	Mason's lilaeopsis	PDAP19030	None	Rare	-	1B.1	3812145	Clarksburg	Mapped	Plants - Vascular - Apiaceae - Lilaeopsis masonii
Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812145	Clarksburg	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis
Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812144	Florin	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis

Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812134	Bruceville	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis
Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812135	Courtland	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis
Plants - Vascular	Centromadia parryi ssp. rudis	Parry's rough tarplant	PDAST4R0P3	None	None	-	4.2	3812155	Sacramento West	Unprocessed	Plants - Vascular - Asteraceae - Centromadia parryi ssp. rudis
Plants - Vascular	Hesperevax caulescens	hogwallow starfish	PDASTE5020	None	None	-	4.2	3812144	Florin	Unprocessed	Plants - Vascular - Asteraceae - Hesperevax caulescens
Plants - Vascular	Lasthenia ferrisiae	Ferris' goldfields	PDAST5L070	None	None	-	4.2	3812134	Bruceville	Unprocessed	Plants - Vascular - Asteraceae - Lasthenia ferrisiae
Plants - Vascular	Symphyotrichum lentum	Suisun Marsh aster	PDASTE8470	None	None	-	1B.2	3812155	Sacramento West	Mapped	Plants - Vascular - Asteraceae - Symphyotrichum lentum
Plants - Vascular	Lepidium latipes var. heckardii	Heckard's pepper-grass	PDBRA1M0K1	None	None	-	1B.2	3812144	Florin	Mapped	Plants - Vascular - Brassicaceae - Lepidium latipes var. heckardii
Plants - Vascular	Lepidium latipes var. heckardii	Heckard's pepper-grass	PDBRA1M0K1	None	None	-	1B.2	3812145	Clarksburg	Mapped	Plants - Vascular - Brassicaceae - Lepidium latipes var. heckardii
Plants - Vascular	Brasenia schreberi	watershield	PDCAB01010	None	None	-	2B.3	3812134	Bruceville	Mapped	Plants - Vascular - Cabombaceae - Brasenia schreberi
Plants - Vascular	Brasenia schreberi	watershield	PDCAB01010	None	None	-	2B.3	3812135	Courtland	Mapped	Plants - Vascular - Cabombaceae - Brasenia schreberi
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812143	Elk Grove	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812133	Galt	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Downingia pusilla	dwarf downingia	PDCAM060C0	None	None	-	2B.2	3812144	Florin	Mapped	Plants - Vascular - Campanulaceae - Downingia pusilla
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812144	Florin	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812153	Carmichael	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812133	Galt	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812134	Bruceville	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Legenere limosa	legenere	PDCAM0C010	None	None	-	1B.1	3812143	Elk Grove	Mapped	Plants - Vascular - Campanulaceae - Legenere limosa
Plants - Vascular	Cuscuta obtusiflora var. glandulosa	Peruvian dodder	PDCUS01111	None	None	-	2B.2	3812144	Florin	Mapped	Plants - Vascular - Cuscutaceae - Cuscuta obtusiflora var. glandulosa
Plants - Vascular	Carex comosa	bristly sedge	PMCYP032Y0	None	None	-	2B.1	3812145	Clarksburg	Mapped	Plants - Vascular - Cyperaceae - Carex comosa
Plants - Vascular	Carex comosa	bristly sedge	PMCYP032Y0	None	None	-	2B.1	3812135	Courtland	Mapped	Plants - Vascular - Cyperaceae - Carex comosa

Plants - Vascular	Carex comosa	bristly sedge	PMCYP032Y0	None	None	2B.1	3812134	Bruceville	Mapped	Plants - Vascular - Cyperaceae - Carex comosa
Plants - Vascular	Astragalus tener var. ferrisiae	Ferris' milk-vetch	PDFAB0F8R3	None	None	1B.1	3812155	Sacramento West	Mapped	Plants - Vascular - Fabaceae - Astragalus tener var. ferrisiae
Plants - Vascular	Lathyrus jepsonii var. jepsonii	Delta tule pea	PDFAB250D2	None	None	1B.2	3812135	Courtland	Mapped	Plants - Vascular - Fabaceae - Lathyrus jepsonii var. jepsonii
Plants - Vascular	Lathyrus jepsonii var. jepsonii	Delta tule pea	PDFAB250D2	None	None	1B.2	3812134	Bruceville	Mapped	Plants - Vascular - Fabaceae - Lathyrus jepsonii var. jepsonii
Plants - Vascular	Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	1B.2	3812134	Bruceville	Mapped	Plants - Vascular - Fabaceae - Trifolium hydrophilum
Plants - Vascular	Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	1B.2	3812145	Clarksburg	Mapped	Plants - Vascular - Fabaceae - Trifolium hydrophilum
Plants - Vascular	Trifolium hydrophilum	saline clover	PDFAB400R5	None	None	1B.2	3812144	Florin	Mapped	Plants - Vascular - Fabaceae - Trifolium hydrophilum
Plants - Vascular	Juglans hindsii	Northern California black walnut	PDJUG02040	None	None	1B.1	3812144	Florin	Mapped	Plants - Vascular - Juglandaceae - Juglans hindsii
Plants - Vascular	Juglans hindsii	Northern California black walnut	PDJUG02040	None	None	1B.1	3812145	Clarksburg	Mapped	Plants - Vascular - Juglandaceae - Juglans hindsii
Plants - Vascular	Juglans hindsii	Northern California black walnut	PDJUG02040	None	None	1B.1	3812135	Courtland	Mapped	Plants - Vascular - Juglandaceae - Juglans hindsii
Plants - Vascular	Juncus leiospermus var. ahartii	Ahart's dwarf rush	PMJUN011L1	None	None	1B.2	3812153	Carmichael	Mapped	Plants - Vascular - Juncaceae - Juncus leiospermus var. ahartii
Plants - Vascular	Scutellaria galericulata	marsh skullcap	PDLAM1U0J0	None	None	2B.2	3812134	Bruceville	Mapped	Plants - Vascular - Lamiaceae - Scutellaria galericulata
Plants - Vascular	Scutellaria lateriflora	side-flowering skullcap	PDLAM1U0Q0	None	None	2B.2	3812134	Bruceville	Mapped	Plants - Vascular - Lamiaceae - Scutellaria lateriflora
Plants - Vascular	Scutellaria lateriflora	side-flowering skullcap	PDLAM1U0Q0	None	None	2B.2	3812135	Courtland	Mapped	Plants - Vascular - Lamiaceae - Scutellaria lateriflora
Plants - Vascular	Fritillaria agrestis	stinkbells	PMLILOV010	None	None	4.2	3812154	Sacramento East	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria agrestis
Plants - Vascular	Fritillaria agrestis	stinkbells	PMLILOV010	None	None	4.2	3812155	Sacramento West	Unprocessed	Plants - Vascular - Liliaceae - Fritillaria agrestis
Plants - Vascular	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	PDMAL0H0R3	None	None	1B.2	3812155	Sacramento West	Mapped	Plants - Vascular - Malvaceae - Hibiscus lasiocarpus var. occidentalis
Plants - Vascular	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	PDMAL0H0R3	None	None	1B.2	3812145	Clarksburg	Mapped	Plants - Vascular - Malvaceae - Hibiscus lasiocarpus var. occidentalis
Plants - Vascular	Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	PDMAL0H0R3	None	None	1B.2	3812144	Florin	Mapped	Plants - Vascular - Malvaceae - Hibiscus lasiocarpus var. occidentalis

Plants - Vascular	Hibiscus lasiocarpus var. occidentalis	wooly rose-mallow	PDMAL0H0R3	None	None	-	1B.2	3812135	Courtland	Mapped	Plants - Vascular - Malvaceae - Hibiscus lasiocarpus var. occidentalis
Plants - Vascular	Hibiscus lasiocarpus var. occidentalis	wooly rose-mallow	PDMAL0H0R3	None	None	-	1B.2	3812134	Bruceville	Mapped and Unprocessed	Plants - Vascular - Malvaceae - Hibiscus lasiocarpus var. occidentalis
Plants - Vascular	Gratiola heterosepala	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812143	Elk Grove	Mapped	Plants - Vascular - Plantaginaceae - Gratiola heterosepala
Plants - Vascular	Gratiola heterosepala	Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	-	1B.2	3812153	Carmichael	Mapped	Plants - Vascular - Plantaginaceae - Gratiola heterosepala
Plants - Vascular	Orcuttia tenuis	slender Orcutt grass	PMPOA4G050	Threatened	Endangered	-	1B.1	3812143	Elk Grove	Mapped	Plants - Vascular - Poaceae - Orcuttia tenuis
Plants - Vascular	Orcuttia viscida	Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	-	1B.1	3812143	Elk Grove	Mapped	Plants - Vascular - Poaceae - Orcuttia viscida
Plants - Vascular	Orcuttia viscida	Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	-	1B.1	3812153	Carmichael	Mapped	Plants - Vascular - Poaceae - Orcuttia viscida
Plants - Vascular	Navarretia eriocephala	hoary navarretia	PDPLM0C060	None	None	-	4.3	3812143	Elk Grove	Unprocessed	Plants - Vascular - Polemoniaceae - Navarretia eriocephala
Plants - Vascular	Limosella australis	Delta mudwort	PDSCR10050	None	None	-	2B.1	3812135	Courtland	Mapped	Plants - Vascular - Scrophulariaceae - Limosella australis
Plants - Vascular	Limosella australis	Delta mudwort	PDSCR10050	None	None	-	2B.1	3812134	Bruceville	Mapped	Plants - Vascular - Scrophulariaceae - Limosella australis

Plant List

24 matches found. [Click on scientific name for details](#)

Search Criteria
 Found in 9 Quads around 38121D3

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
<u>Brasenia schreberi</u>	watershield	Cabombaceae	perennial rhizomatous herb	2B.3	S2	G5
<u>Carex comosa</u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	2B.1	S2	G5
<u>Centromadia parryi ssp. rudis</u>	Parry's rough tarplant	Asteraceae	annual herb	4.2	S3	G3T3
<u>Cicuta maculata var. bolanderi</u>	Bolander's water-hemlock	Apiaceae	perennial herb	2B.1	S2	G5T3T4
<u>Cuscuta obtusiflora var. glandulosa</u>	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	2B.2	SH	G5T4T5
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	2B.2	S2	GU
<u>Gratiola heterosepala</u>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	S2	G2
<u>Hesperevax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	4.2	S3	G3
<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb	1B.2	S2	G5T2
<u>Juglans hindsii</u>	Northern California black walnut	Juglandaceae	perennial deciduous tree	1B.1	S1	G1
<u>Juncus leiospermus var. ahartii</u>	Ahart's dwarf rush	Juncaceae	annual herb	1B.2	S1	G2T1
<u>Lasthenia ferrisiae</u>	Ferris' goldfields	Asteraceae	annual herb	4.2	S3	G3
<u>Lathyrus jepsonii var. jepsonii</u>	Delta tule pea	Fabaceae	perennial herb	1B.2	S2	G5T2
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	1B.1	S2	G2
<u>Lepidium latipes var. heckardii</u>	Heckard's pepper-grass	Brassicaceae	annual herb	1B.2	S2	G4T2
<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	1B.1	S2	G2
<u>Limosella australis</u>	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	2B.1	S2	G4G5
<u>Navarretia eriocephala</u>	hoary navarretia	Polemoniaceae	annual herb	4.3	S4	G4
<u>Orcuttia tenuis</u>	slender Orcutt grass	Poaceae	annual herb	1B.1	S2	G2
<u>Orcuttia viscida</u>	Sacramento Orcutt grass	Poaceae	annual herb	1B.1	S1	G1
<u>Sagittaria sanfordii</u>	Sanford's arrowhead	Alismataceae		1B.2	S3	G3

			perennial rhizomatous herb			
<u>Scutellaria galericulata</u>	marsh skullcap	Lamiaceae	perennial rhizomatous herb	2B.2	S2	G5
<u>Scutellaria lateriflora</u>	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	2B.2	S1	G5
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	annual herb	1B.2	S2	G2

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Plant List

26 matches found. *Click on scientific name for details*

Search Criteria

Found in 9 Quads around 38121D4

Scientific Name	Common Name	Family	Lifeform	Rare Plant Rank	State Rank	Global Rank
<u>Astragalus tener var. ferrisiae</u>	Ferris' milk-vetch	Fabaceae	annual herb	1B.1	S1	G2T1
<u>Brasenia schreberi</u>	watershield	Cabombaceae	perennial rhizomatous herb	2B.3	S2	G5
<u>Carex comosa</u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	2B.1	S2	G5
<u>Centromadia parryi ssp. rudis</u>	Parry's rough tarplant	Asteraceae	annual herb	4.2	S3	G3T3
<u>Cicuta maculata var. bolanderi</u>	Bolander's water-hemlock	Apiaceae	perennial herb	2B.1	S2	G5T3T4
<u>Cuscuta obtusiflora var. glandulosa</u>	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	2B.2	SH	G5T4T5
<u>Downingia pusilla</u>	dwarf downingia	Campanulaceae	annual herb	2B.2	S2	GU
<u>Gratiola heterosepala</u>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	1B.2	S2	G2
<u>Hesperervax caulescens</u>	hogwallow starfish	Asteraceae	annual herb	4.2	S3	G3
<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb	1B.2	S2	G5T2
<u>Juglans hindsii</u>	Northern California black walnut	Juglandaceae	perennial deciduous tree	1B.1	S1	G1
<u>Juncus leiospermus var. ahartii</u>	Ahart's dwarf rush	Juncaceae	annual herb	1B.2	S1	G2T1
<u>Lasthenia ferrisiae</u>	Ferris' goldfields	Asteraceae	annual herb	4.2	S3	G3
<u>Lathyrus jepsonii var. jepsonii</u>	Delta tule pea	Fabaceae	perennial herb	1B.2	S2	G5T2
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	1B.1	S2	G2
<u>Lepidium fatipes var. heckardii</u>	Heckard's pepper-grass	Brassicaceae	annual herb	1B.2	S2	G4T2
<u>Lilaeopsis masonii</u>	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	1B.1	S2	G2
<u>Limosella australis</u>	Delta mudwort	Scrophulariaceae	perennial stoloniferous herb	2B.1	S2	G4G5
<u>Navarretia eriocephala</u>	hoary navarretia	Polemoniaceae	annual herb	4.3	S4	G4
<u>Orcuttia tenuis</u>	slender Orcutt grass	Poaceae	annual herb	1B.1	S2	G2
<u>Orcuttia viscida</u>		Poaceae	annual herb	1B.1	S1	G1

	Sacramento Orcutt grass					
<u>Sagittaria sanfordii</u>	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb	1B.2	S3	G3
<u>Scutellaria galericulata</u>	marsh skullcap	Lamiaceae	perennial rhizomatous herb	2B.2	S2	G5
<u>Scutellaria lateriflora</u>	side-flowering skullcap	Lamiaceae	perennial rhizomatous herb	2B.2	S1	G5
<u>Symphyotrichum lentum</u>	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	1B.2	S2	G2
<u>Trifolium hydrophilum</u>	saline clover	Fabaceae	annual herb	1B.2	S2	G2

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CITY OF ELK GROVE
ROUTINE CHANNEL MAINTENANCE PROGRAM

Delineation of Waters of the U.S., Including Wetlands

DRAFT

March 4, 2005

Prepared for:
City of Elk Grove
Planning Department
8400 Laguna Palms Way
Elk Grove, CA 95758

Prepared by:
NORTH STATE RESOURCES, INC.
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50476

TABLE OF CONTENTS

1. SUMMARY	1
2. STUDY AREA LOCATION	1
3. ENVIRONMENTAL SETTING.....	4
4. DELINEATION METHODS.....	7
5. DELINEATION RESULTS	9
6. REFERENCES.....	13

FIGURES

Figure 1	Study Area and Vicinity	2
Figure 2	Aerial Photograph of Study Area.....	3

TABLES

Table 1	Linkages of Waterways within the City of Elk Grove to Navigable Waters	6
Table 2	Acreage Summary.....	16

APPENDICES

Appendix A	Mapped Soil Unit Descriptions
Appendix B	Routine Wetland Determination Forms
Appendix C	Wetland Delineation Maps
Appendix D	Photographs of Other Waters and Wetlands Within the Study Area

CITY OF ELK GROVE ROUTINE CHANNEL MAINTENANCE PROGRAM

Delineation of Waters of the U.S., Including Wetlands

Project: City of Elk Grove Routine Channel Maintenance Program
Applicant: City of Elk Grove
Prepared by: North State Resources, Inc.
Date: March 4, 2005

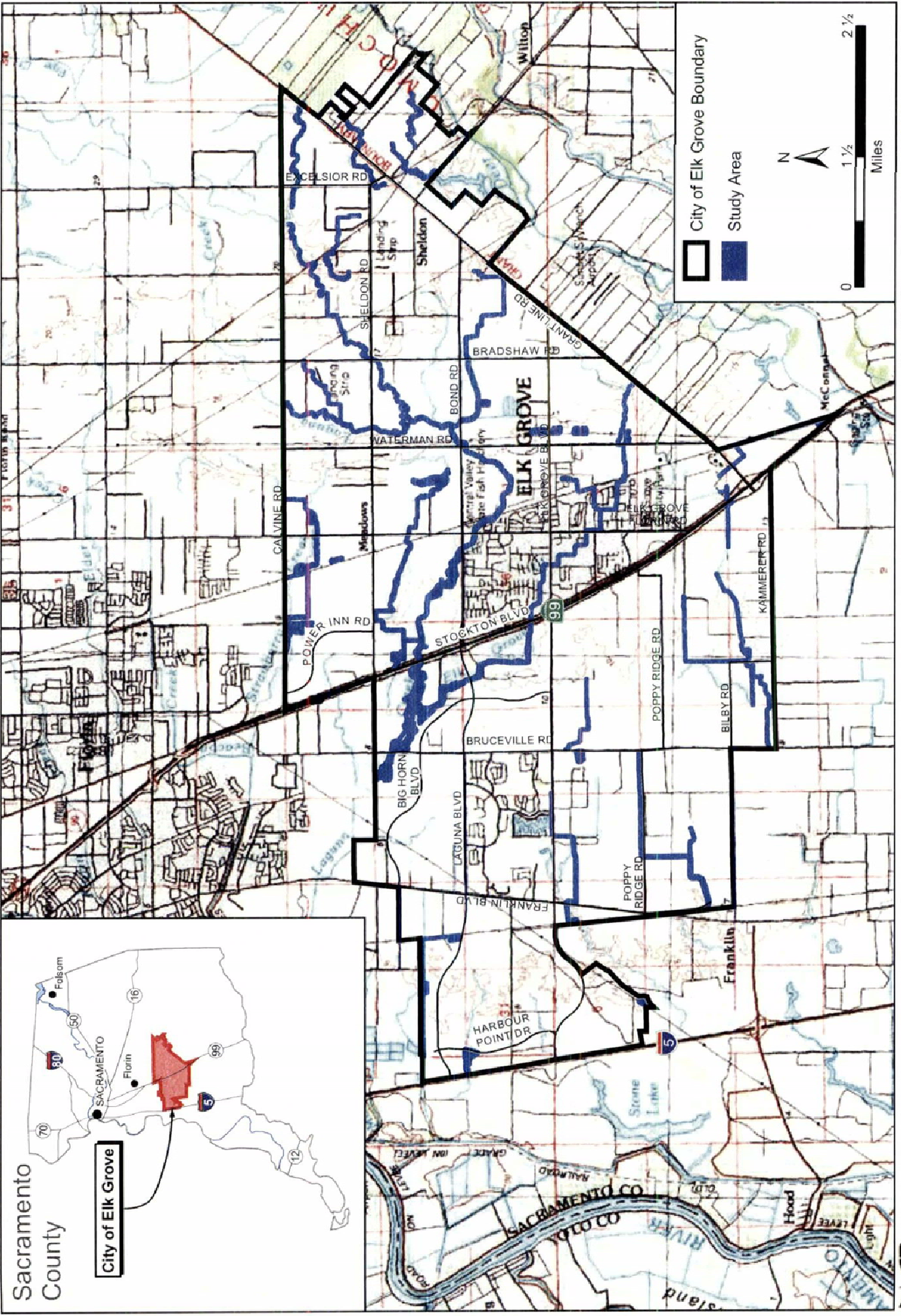
1. SUMMARY

On behalf of the City of Elk Grove, North State Resources, Inc. (NSR) has conducted a delineation of “waters of the U.S.,” including wetlands, occurring within the City of Elk Grove routine channel maintenance areas (study area). The study area was systematically delineated by NSR biologists on June 24th and 28th, July 6th, 7th, 21st, 22nd, 26th, and 27th, and August 19th, 2004. Nine types of “waters of the U.S.” occur within the study area, including perennial stream, intermittent stream, ephemeral stream, agricultural drainage ditch, lake/pond, seasonal wetland, riparian wetland, perennial emergent marsh, and seasonal emergent marsh. These features occupy 291.52 acres of the approximately 898.86 acre study area.

This delineation of “waters of the U.S.” is subject to verification by the U.S. Army Corps of Engineers (ACOE). NSR advises all parties to treat the information contained herein as preliminary until the ACOE provides written verification of the boundaries of federal jurisdiction.

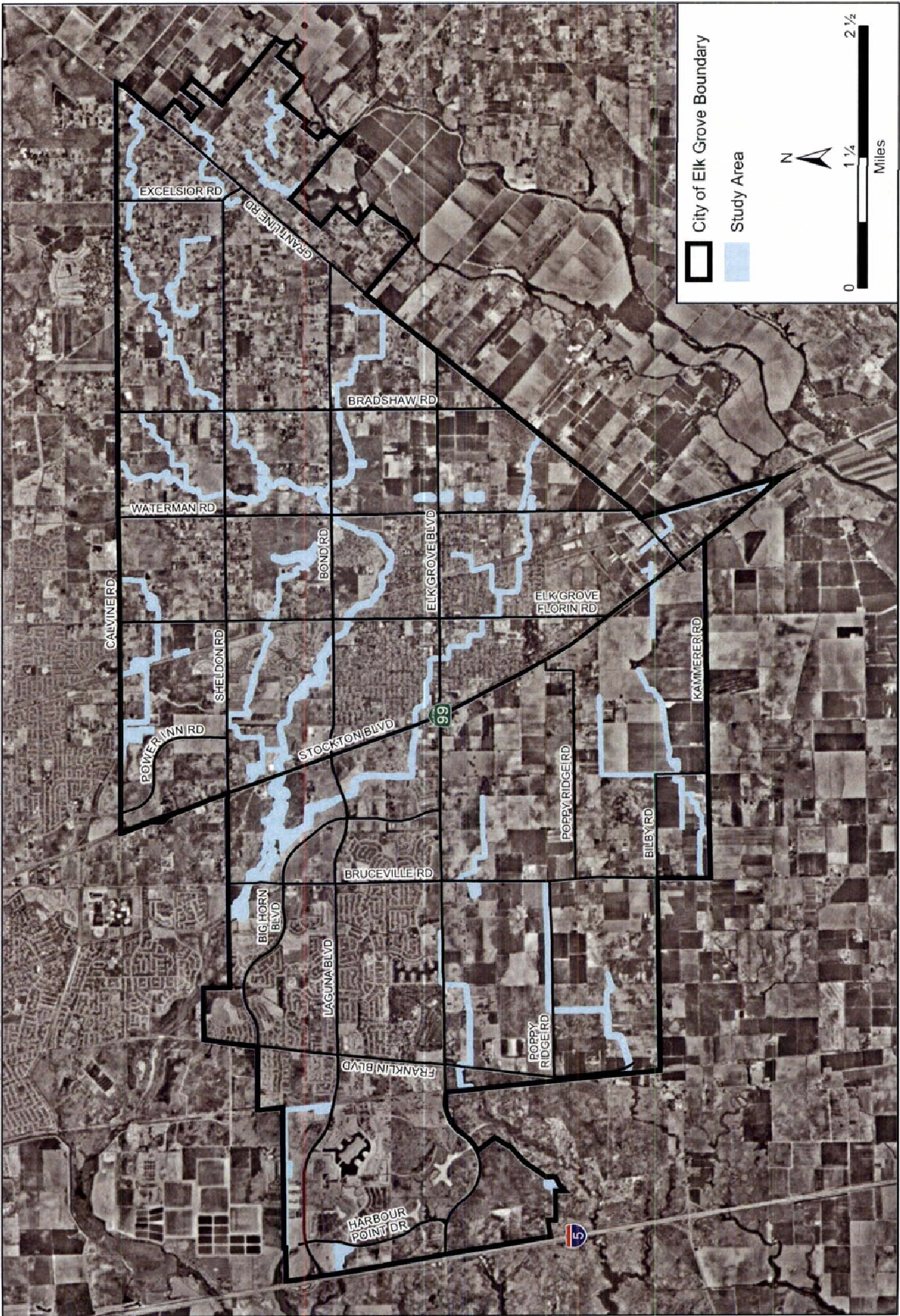
2. STUDY AREA LOCATION

- a) **Study Area Location:** The study area is entirely contained within the City of Elk Grove (City), and is adjacent to the southern border of the City of Sacramento in Sacramento County, California (**Figure 1**). The City is generally bounded to the north by Calvine Road and Laguna Blvd, on the east by Grant Line Road (except in the northeastern corner, where the limits extend to Deer Creek), on the south by Kammerer Road and Bilby Road, and on the west by Franklin Blvd and Interstate 5. This area is contained almost entirely within the “Elk Grove, California” and the “Florin, California” U.S. Geological Survey (USGS) 7.5 minute topographic quadrangles, but also extends into Sections 14 and 15, Township 6N, Range 5E of the “Bruceville, California” quadrangle and the northwestern corner of the Omochumnes Land Grant in the “Galt, California” quadrangle (**Figure 1**). An aerial photograph of the study area and vicinity is presented as **Figure 2**. The study area includes all creeks, channels and basins within the City limits that are currently managed by the City for control of stormwater, as well as 40 feet on either side of the ordinary high water mark of these waterways.
- b) **Acres of Delineation Study Area:** The study area encompasses a total of approximately 898.86 acres within the 42 square mile City.
- c) **Proximity to Major Highways and Streets:** **Figure 1** provides locations of each waterway relative to major highways and streets within the City. The City is adjacent to the southern border of the City of Sacramento, and can be reached via Interstate 5, Highway 99, or other major north-south streets, such as Franklin Boulevard or Bruceville Road.



City of Elk Grove Routine Channel Maintenance Program
Delineation of Waters of the U.S., Including Wetlands

Figure 1
Study Area and Vicinity



City of Elk Grove Routine Channel Maintenance Program
Delineation of Waters of the U.S., Including Wetlands
Figure 2
Aerial Photograph of Study Area

North State Resources, Inc.

- d) **USGS Hydrologic Unit:** The study area is located within the “Lower Sacramento” USGS Hydrologic Map Unit [Map Unit Number 18020109].

3. ENVIRONMENTAL SETTING

- a) **Existing Land Uses:** The City is characterized by a wide range of existing land uses, including residential developments, commercial/retail uses, office uses, and industrial uses. In addition, there are agricultural and public/private recreational uses. According to the land use inventory conducted in Fall 2001, residential and agricultural were the two primary land uses in the City (City of Elk Grove, 2004). Institutional uses such as schools, churches, and other public entities are also major land uses.

The study area is located within the southern Sacramento Valley. Habitat types occurring within the study area include riverine, fresh emergent wetland, seasonal wetland, valley foothill riparian, annual grassland, valley oak woodland, pasture, cropland, and urban.

- b) **Elevation/Topography:** The study area ranges in elevation from approximately 5 feet above mean sea level (msl) at the extreme western edge to approximately 80 feet above msl in the northeastern corner.

The topography of the study area is nearly level. No significant topographical changes were noted within the study area, although the area slopes very gently from east to west.

- c) **Climate:**

Type: Mediterranean with cool, wet winters and hot, dry summers.

Precipitation: Average precipitation is approximately 16 to 18 inches per year and falls almost exclusively as rain (U.S. Department of Agriculture, 1997).

Air temperature: The average annual air temperature is approximately 59° to 62° F (U.S. Department of Agriculture, 1997).

Growing season: The average freeze-free period is approximately 250 to 275 days (U.S. Department of Agriculture, 1997).

- d) **Hydrology:** Drainage of the study area occurs primarily from the east to the west, with most of the water draining to Laguna Creek, although some drains to the Stone Lakes, and a small amount drains to Deer Creek. Laguna Creek is tributary to Morrison Creek, which drains to the Sacramento River. The Stone Lakes drain to Snodgrass Slough, and thence to the Mokelumne River. Deer Creek drains to the Consumnes River, and thence into the Mokelumne River. The Sacramento and Mokelumne Rivers are both navigable waterways. Drainage of each of the waterways occurs as described in **Table 1**, below. The only channels that appear to be primarily influenced by irrigation in the City are the channel south of Elk Grove Road, and east of Bruceville Road (BRC), and the channel located just north of Kammerer Road, and its tributaries (KRC, KRCT1, and MRC).

Table 1
Linkages of waterways within the City of Elk Grove to Navigable Waters

Waterway	Tributary to	Navigable waterway it drains to
Laguna Creek	Morrison Creek	Sacramento River
Whitehouse Creek	Laguna Creek	Sacramento River
Elk Grove Creek	Laguna Creek	Sacramento River
Laguna Creek Tributary 1	Laguna Creek	Sacramento River
Laguna Creek Tributary 2	Laguna Creek	Sacramento River
Sheldon Creek	Laguna Creek	Sacramento River
Strawberry Creek	Beacon Creek	Sacramento River
GLN	Laguna Creek Tributary 1	Sacramento River
DRC	Morrison Creek	Sacramento River
Deer Creek	Consumnes River	Mokelumne River
Deer Creek Tributary	Deer Creek	Mokelumne River
Grant Line Channel	Deer Creek	Mokelumne River
GLC	Deer Creek Tributary	Mokelumne River
MRD	Deer Creek Tributary	Mokelumne River
KRC	Stone Lakes	Mokelumne River
NWC	Stone Lakes	Mokelumne River
MRC	KRC	Mokelumne River
KRCT1	KRC	Mokelumne River
Shed A Channel	Stone Lakes	Mokelumne River
Shed B Channel	Stone Lakes	Mokelumne River
BRC	Shed A Channel	Mokelumne River

e) **Soils:** The *Soil Survey Geographic Database for Sacramento County, California* (U.S. Department of Agriculture, 1998) identifies twenty-seven mapped soils units within the study area including:

- Bruella sandy loam, 0 to 2 percent slopes
- Bruella sandy loam, 2 to 5 percent slopes
- Clear Lake clay, partially drained, 0 to 2 percent slopes, frequently flooded
- Dierrsen sandy clay loam, drained, 0 to 2 percent slopes
- Dumps
- Durixeralfs, 0 to 1 percent slopes
- Durixeralfs-Galt complex, 0 to 2 percent slopes
- Galt clay, 0 to 2 percent slopes
- Galt clay, leveled, 0 to 1 percent slopes
- Hicksville loam, 0 to 2 percent slopes, occasionally flooded
- Kimball silt loam, 2 to 8 percent slopes
- Madera loam, 0 to 2 percent slopes
- Madera loam, 2 to 8 percent slopes
- Madera-Galt complex, 0 to 2 percent slopes
- Redding gravelly loam, 0 to 8 percent slopes
- Redding loam, 2 to 8 percent slopes
- Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded
- San Joaquin silt loam, 0 to 3 percent slopes

- San Joaquin silt loam, 3 to 8 percent slopes
- San Joaquin silt loam, leveled, 0 to 1 percent slopes
- San Joaquin – Durixeralfs complex, 0 to 1 percent slopes
- San Joaquin – Galt complex, 0 to 3 percent slopes
- San Joaquin – Galt complex, leveled, 0 to 1 percent slopes
- San Joaquin – Urban land complex, 0 to 2 percent slopes
- San Joaquin – Xerarents complex, leveled, 0 to 1 percent slopes
- Xerarents – San Joaquin complex, 0 to 1 percent slopes
- Xerarents – Urban land – San Joaquin complex, 0 to 5 percent slopes

Descriptions of these soil units and a soils map of the area are included in **Appendix A**.

- f) **Wildlife Habitats:** Wildlife habitats occurring within the study area include riverine, fresh emergent wetland, seasonal wetland, valley oak woodland, valley foothill riparian, annual grassland, cropland, and urban (Mayer and Laudenslayer 1988) as described below:
- Riverine habitat within the study area is characterized by the presence of intermittent or perennial running water. Within the study area, all of the creeks, channelized creeks, and man-made channels contain riverine habitat. This habitat type may be suitable for the following special-status species: green sturgeon (*Acipenser medirostris*), delta smelt (*Hypomesus transpacificus*), Central Valley steelhead ESU (*Oncorhynchus mykiss*), chinook salmon (winter run ESU; Central Valley spring run ESU; Central Valley fall/late fall run ESU) (*Oncorhynchus tshawytscha*), Sacramento splittail (*Pogonichthys macrolepidotus*), giant garter snake (*Thamnophis gigas*), slender orcutt grass (*Orcuttia tenuis*), and Sanford's arrowhead (*Sagittaria sanfordii*).
 - Fresh emergent wetlands are characterized by erect, rooted herbaceous hydrophytes (water-loving plants). Fresh emergent wetland habitat in the study area is typically dominated by bulrush (*Scirpus acutus* var. *occidentalis*), broad-leaved cattail (*Typha latifolia*), narrow-leaved cattail (*T. angustifolia*), tall flatsedge (*Cyperus eragrostis*), whitemargined flatsedge (*Cyperus flavicomus*), water primrose (*Ludwigia peploides* ssp. *montevidensis*), water plantain (*Alisma plantago-aquatica*), Sanford's arrowhead (*Sagittaria sanfordii*), lady's thumb (*Polygonum persicaria*), willowherb (*Epilobium* spp.), common rush (*Juncus effusus*), dallisgrass (*Paspalum distichum*), Johnson grass (*Sorghum halepense*), sprangletop (*Leptochloa fascicularis*), and barnyard grass (*Echinochloa crus-galli*). This habitat type is found almost exclusively below the ordinary high water mark of most of the creeks, channels and basins within the study area. This habitat type may be suitable for the following special-status species: giant garter snake, Swainson's hawk (*Buteo swainsoni*) foraging, Boggs Lake hedge hyssop (*Gratiola heterosepala*), Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaepsis (*Lilaeopsis masonii*), and Sanford's arrowhead.
 - Seasonal wetland habitat in the study area is typically dominated by curly dock (*Rumex crispus*), fiddle-leaf dock (*Rumex pulcher*), perennial ryegrass (*Lolium perenne*), tall flatsedge, bindweed (*Convolvulus arvensis*), and coyote thistle (*Eryngium* sp.). This habitat type is found adjacent to and within some creeks, channels, and basins within the study area. This habitat type may be suitable for the following special-status species: vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), California tiger salamander (*Ambystoma californiense*), Swainson's hawk foraging, succulent owl's clover (*Castilleja campestris* ssp. *succulenta*), Boggs Lake hedge hyssop, Ahart's dwarf rush (*Juncus leiospermus* ssp. *ahartii*), and legenere (*Legenere limosa*).

- Valley foothill riparian habitat is associated with low-velocity flows, floodplains, and gentle topography and is typically associated with riverine, grassland, oak woodland, and agriculture habitats. Valley foothill riparian vegetation in the study area is dominated by species such as Gooding's willow (*Salix gooddingii*), sandbar willow (*S. exigua*), arroyo willow (*S. lasiolepis*), Fremont cottonwood (*Populus fremontii*), Himalayan blackberry (*Rubus discolor*), tall flatsedge, bird's foot trefoil (*Lotus corniculatus*), dallisgrass, and spike rush (*Eleocharis* sp.). This habitat type is found within and adjacent to creeks, channels and basins throughout the study area. This habitat type may be suitable for the following special-status species: valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), giant garter snake, Swainson's hawk nesting, San Joaquin Valley woodrat (*Neotoma fuscipes riparia*), riparian brush rabbit (*Sylvilagus bachmani riparius*), and Mason's lilaeopsis.
- Annual grasslands are open grasslands composed primarily of annual plant species. Within the study area, annual grassland habitat typically includes wild oat (*Avena fatua*), slender oat (*A. barbata*), soft brome (*Bromus hordeaceus*), ripgut brome (*B. diandrus*), foxtail brome (*B. rubens*), medusahead (*Taeniatherum caput-medusae*), perennial ryegrass, wild mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), prickly lettuce (*Lactuca serriola*), and cocklebur (*Xanthium strumarium*). This habitat type is found adjacent to creeks and channels throughout the study area, most commonly in rural areas. This habitat type may be suitable for the following special-status species: burrowing owl (*Athene cunicularia*) and Swainson's hawk foraging.
- Valley oak woodland habitat hosts many of the same species as are found in annual grassland habitat in addition to valley oaks (*Quercus lobata*). This habitat type is located adjacent to some of the urban creeks within the study area. This habitat type may be suitable for the following special-status species: burrowing owl (*Athene cunicularia*) and Swainson's hawk nesting.
- Cropland occurs only adjacent to the channel north of Kammerer Road, in the southwestern corner of the study area. Common crops grown within the study area include cherry tomatoes, bell peppers, squash, and cut flowers. This habitat type may be suitable Swainson's hawk foraging.
- Urban habitat is characterized by the presence of vegetation such as grass lawns, native and non-native trees and hedges, as well as roads and commercial and industrial areas that lack vegetation. Urban habitat within the study area occurs in areas where creeks pass through private residences and industrial areas. Urban vegetation observed within the study area was almost exclusively composed of ornamental trees, ornamental shrubs, and ornamental grasses. This habitat type is not considered to provide suitable habitat for any special-status species.

4. DELINEATION METHODS

a) Technical Method:

For each waterway, data points were recorded inside and outside of each habitat type that had potential for jurisdictional status. In some cases, more than one set of data points was taken within a habitat type; this occurred when vegetation differed significantly within the habitat type. In some areas where access was unavailable, such as small areas requiring ingress/egress across private residences, delineations were based on interpretation of aerial photographs. These areas occupied approximately 12% of the study area.

Each on-site determination was based on field observations of soil, vegetation, and hydrologic characteristics in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Seventy three (73) three-parameter data points were characterized and documented within the study area. Wetland determination data forms for these data points are presented in **Appendix B**.

Delineation of “other waters” was based upon presence of an ordinary high water mark as defined in ACOE regulations (33 CFR 328.3 and 33 CFR 328.4). The approximate locations of ordinary high water marks were initially identified using color aerial photographs taken in the spring of 2004, and black and white aerial photographs taken in the fall of 2000, and were then field-verified in areas where access was available.

Verification of accuracy of these methods was achieved by reviewing previously verified delineations in the study area, provided by the ACOE. Information received from the ACOE was incorporated into this delineation.

- b) **Date of Field Observations:** The field observations for these delineations were conducted by NSR wetland delineators Sheila Pitts and Daria Hoyer on June 24th and 28th, July 6th, 7th, 21st, 22nd, 26th, and 27th, and August 19th, 2004.
- c) **Existing Field Conditions:** Wetland delineations were conducted during the summer of 2004, which had average temperatures (National Weather Service 2005; Western Regional Climate Center 2005). Rainfall during the previous rainy season (October 2003 through May 2004) was approximately 83% of normal. No precipitation was recorded during the summer of 2004; the average rainfall during the summer is approximately 0.53 inch (National Weather Service 2005; Western Regional Climate Center 2005).
- d) **Wetland Vegetation Indicator Status Reference:** *National List of Plant Species That Occur in Wetlands, California Region 0* (Reed 1988). Note that foxtail brome was listed as NI (Not enough information) on the Region 0 list; therefore, the National Indicator (Facultative Upland) was used to determine status. Additionally, whitemargined flatsedge was not included on the 1988 list referenced above, however, it is accepted by other sources as a wetland species that has recently naturalized in California (DiTomaso & Healy 2003).
- e) **Hydric Soil Method of Determination:** Determinations of hydric soils were based on observations of the indicators identified in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). A standard Munsell[®] soil color chart was used to determine soil matrix and mottle colors.
- f) **Wetland Hydrology Method of Determination:** Determinations of wetland hydrology were based on observations of the indicators identified in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Indicators of depth and duration of soil saturation, ponding, drainage patterns, and the ordinary high water mark were observed in the field.
- g) **Mapping Technique:** The locations of three-parameter data points were mapped, where possible, using a Pathfinder Pro Global Positioning System (GPS) capable of sub-meter accuracy. These data points were then overlain onto aerial photographs, and features were fully delineated with ArcGIS software, based on observed vegetation types and indicators of ordinary high water marks. For those points where accurate GPS points could not be recorded, points were manually mapped based on landscape features visible on aerial photographs.

5. DELINEATION RESULTS

- a) **Features Delineated:** Five “other waters” types and four wetland types have been mapped within the study area, including perennial stream, intermittent stream, ephemeral stream, agricultural drainage ditch, lake/pond, seasonal wetland, riparian wetland, perennial emergent marsh, and seasonal emergent marsh. These features occupy a total of 291.52 acres. Constructed basins and the channel that crosses Grant Line Road in the southeastern corner of the study area possessed wetland characteristics, but were not considered jurisdictional due to lack of connectivity to “waters of the U.S.” Justification for determination of non-jurisdictional status is presented below. **Table 2** below provides an acreage summary; see the attached “waters of the U.S.” delineation maps in **Appendix C** for location and acreage detail.

Table 2
Acreage Summary

Waters of the U.S. Type	Total Acreage
Other Waters:	
Perennial Stream	162.76 acres
Intermittent Stream	85.80 acres
Ephemeral Stream	4.16 acres
Agricultural Drainage Ditch	9.29 acres
Lake/Pond	15.23 acres
Wetland:	
Seasonal Wetland	2.36 acres
Riparian Wetland	0.67 acres
Perennial Emergent Marsh	2.01 acres
Seasonal Emergent Marsh	8.80 acres
TOTAL ACREAGE	291.52 ACRES

b) **Characteristics of Delineated Features:**

Other Waters: Approximately 277.68 acres of “other waters” occur in the study area. Other waters occur within the ordinary high water mark of creeks, channels and basins within the study area. Other waters are present in the following forms:

- **Perennial Stream:** Approximately 162.76 acres of perennial stream occur within the study area. Perennial streams are characterized as areas that are inundated with water throughout the year, and frequently support emergent hydrophytic vegetation. Perennial streams typically receive water from incident precipitation, sheet flow (including urban runoff and nuisance water), and shallow subsurface flow. Perennial streams within the study area were likely historically intermittent streams, but due to their current use as urban stormwater conveyance channels, they receive runoff throughout the year and have become perennial creeks. Perennial streams within the study area include Laguna Creek, Elk Grove Creek, Strawberry Creek, Shed A Channel, most of Shed B Channel, the channel just north of

Laguna Blvd., a small portion of Sheldon Creek and the central portion of Whitehouse Creek. Of the perennial streams in Elk Grove, Elk Grove Creek, Strawberry Creek, Shed A Channel, the channel just north of Laguna Blvd., Sheldon Creek and Whitehouse Creek all have sections that have been channelized. Shed B Channel is a constructed stream. Photographs of typical perennial streams in the study area are provided in **Appendix D, Figure 1**. Elk Grove Creek, Strawberry Creek, Shed A Channel, the channel north of Laguna Blvd, and portions of Whitehouse Creek were channelized during the development of the region, and several portions are concrete-lined. Shed B Channel was recently constructed as a stormwater conveyance channel; no evidence of any waterways is present on the USGS topographic map of the area (USGS 1968c).

- *Intermittent Stream:* Approximately 85.80 acres of intermittent stream occur within the study area. Intermittent streams are characterized as areas that are seasonally inundated with water, and frequently support emergent hydrophytic vegetation. Seasonal streams typically receive water from incident precipitation, sheet flow (including urban runoff and nuisance water), and shallow subsurface flow. Intermittent streams within the study area are Laguna Creek Tributaries 1 and 2, most of Sheldon Creek, the eastern and western ends of Whitehouse Creek, the southern half of Deer Creek Tributary, the easternmost channel in Elk Grove, the eastern end of Shed B Channel, and the channel just west of Harbour Point Drive. Of the intermittent streams in Elk Grove, Laguna Creek Tributary 2, Sheldon Creek, Whitehouse Creek, and the channel just west of Harbour Point Drive. Shed B Channel is a constructed stream. Photographs of typical intermittent streams in the study area are provided in **Appendix D, Figure 2**.
- *Ephemeral Stream:* Approximately 4.16 acres of ephemeral stream occur within the study area. Ephemeral streams are only occasionally inundated with water; water is present only during and immediately after rain events, as their hydrology is not supported by shallow subsurface flow. Within the study area, ephemeral creeks support annual grassland vegetation. Ephemeral streams within the study area are the northern half of Deer Creek Tributary, and the small drainage in the northeastern corner of the study area, between Calvine and Grant Line Roads. Photographs of typical ephemeral streams in the study area are provided in **Appendix D, Figure 3**.
- *Agricultural Drainage Ditch:* Approximately 9.29 acres of agricultural drainage ditch occur within the study area. Agricultural drainage ditches are characterized as channels with a scoured bed and bank that convey agricultural irrigation water; due to the nature of their use, these ditches may be inundated at any time throughout the year. The banks of these ditches support hydrophytic vegetation. Agricultural drainage ditches in the study area include the channel north of Kammerer Lane, and the channel south of Elk Grove Blvd., and east of Bruceville Rd. The agricultural drainage ditch north of Kammerer Lane is perennial constructed channel, while the agricultural drainage ditch south of Elk Grove Blvd. and east of Bruceville Rd. is a channelized intermittent ditch. Photographs of typical agricultural drainage ditches in the study area are provided in **Appendix D, Figure 4**.
- *Lake/Pond:* Approximately 15.23 acres of lake/pond occur within the study area. The lake at the eastern terminus of Whitehouse Creek is characterized as a perennially inundated area that, based on a review of the USGS topographic map (USGS 1968b) appears to have been created by damming the historical alignment of Whitehouse Creek. Very little flow appears to exit the lake into Whitehouse Creek. Other ponds are present throughout the study area, and all appear to be created on private property for either aesthetic reasons or for livestock purposes. All of these features appear to have a hydrologic connection to waters of the U.S. through culverts.

Seasonal Wetland: Approximately 2.36 acres of seasonal wetland occur in the study area. Seasonal wetland occurs adjacent to perennial streams, intermittent streams, and ephemeral streams within the study area, as well as in some of the small drainages in the northeastern corner of the study area. These features are characterized as areas that pond water for a sufficient portion of the growing season to seasonally support herbaceous wetland vegetation. Vegetation in these features is typically dominated by annual grasses, such as perennial ryegrass, and may, in some cases, include species typical of vernal pools. Photographs of typical seasonal wetland in the study area are provided in **Appendix D, Figure 5**.

Riparian Wetland: Approximately 0.67 acre of riparian wetland occurs in the study area. Riparian wetland occurs adjacent to perennial streams and intermittent streams in the study area. These features occupy landscape positions adjacent to other waters and are saturated to the surface and inundated. Vegetation in these features is typically dominated by willows (*Salix* spp.), Fremont cottonwood, and Himalayan blackberry. Photographs of typical riparian wetland in the study area are provided in **Appendix D, Figure 6**.

Perennial Emergent Marsh: Approximately 2.01 acres of perennial emergent marsh occur in the study area. Perennial emergent marsh occurs within and adjacent to perennial streams and intermittent streams within the study area. These features are characterized as areas that are saturated for a sufficient portion of the growing season to support herbaceous wetland vegetation throughout the year. Vegetation in these features is typically dominated by cattails (*Typha* spp.), bulrush, and flatsedges (*Cyperus* spp.). Photographs of typical perennial emergent marsh in the study area are provided in **Appendix D, Figure 7**.

Seasonal Emergent Marsh: Approximately 8.80 acres of seasonal emergent marsh occur in the study area. Seasonal emergent marsh occurs within and adjacent to perennial streams and intermittent streams within the study area. These features are characterized as areas that are saturated for a sufficient portion of the growing season to seasonally support herbaceous wetland vegetation. Vegetation in these features is typically dominated by obligate wetland species, such as cattails, bulrush, and flatsedges. Photographs of typical seasonal emergent marsh in the study area are provided in **Appendix D, Figure 8**.

Non-jurisdictional Features: Non-jurisdictional features include the following:

- **Constructed Basins:** There are eighteen detention/water quality basins within the study area; and the features occupy a total of approximately 70.88 acres. Some basins remain full of water throughout the year, and support emergent vegetation only around the fringes, while other basins empty almost completely during the summer months. These seasonal basins support a variety of habitats during the summer, including fresh emergent wetland, seasonal wetland, valley foothill riparian, and annual grassland. Photographs of typical basins in the study area are provided in **Appendix D, Figure 9**.

Insert Joyce's Rationale for Non-jurisdictional Status

- **Intermittent Stream in the Southeastern Corner of Study Area:** This stream covers approximately 2.07 acres within its ordinary high water mark. We consider this drainage to be non-jurisdictional, as it appears to be a non-tidal drainage ditch excavated on dry land. It is used almost exclusively for conveying storm-water runoff, and there is no evidence from the topographic map that wetland hydrology (i.e. drainage patterns) was present historically (U.S. Geological Survey 1968d). Furthermore, a gate at the stream's downstream end prevents water from being conveyed to Deer Creek, except when necessary to release storm flows.

- *Recently Isolated Section of Agricultural Drainage Ditch:* This feature covers approximately 0.79 acres within its ordinary high water mark. A small portion of the agricultural drainage ditch just north of Kammerer Road in southwestern Elk Grove has recently been isolated by construction activities. It appears that this activity occurred early in the summer of 2004. We consider this portion of the agricultural drainage ditch to be non-jurisdictional, as it appears that water must now be pumped to this fragment ditch, and no culvert is present for return flow to the main channel.

- c) **Discussion of Results:** Jurisdictional “waters of the U.S.” occurring within the study area include perennial stream, intermittent stream, ephemeral stream, agricultural drainage ditch, lake/pond, seasonal wetland, riparian wetland, perennial emergent marsh, and seasonal emergent marsh. These features occupy a total of 291.52 acres and are subject to ACOE jurisdiction. Non-jurisdictional features include constructed basins, the channel that crosses Grant Line Road in the southeastern corner of the study area, and the remnant agricultural ditch discussed above.

No discharge of dredged or fill material into jurisdictional “waters of the U.S.” is permitted unless authorized under a Department of the Army Nationwide Permit or Individual Permit. This delineation of “waters of the U.S.” is subject to verification by the ACOE. NSR advises all parties to treat the information contained herein as preliminary until the ACOE provides written verification of the boundaries of their jurisdiction.

6. REFERENCES

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APPENDIX A

Soil Mapping Unit Descriptions

All soil mapping unit descriptions are from the *Soil Survey of Sacramento County, California* (U.S. Department of Agriculture, 1993).

Bruella sandy loam, 0 to 2 percent slopes: Bruella sandy loams are very deep, well-drained soils that occur on intermediate terrace remnants. They are formed in alluvium derived from granitic rocks. The surface horizon of Bruella soils is typically a yellowish-brown sandy loam. Surface runoff from this unit is slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Bruella sandy loam, 2 to 5 percent slopes: Bruella sandy loams are very deep, well-drained soils that occur on intermediate terrace remnants. They are formed in alluvium derived from granitic rocks. The surface horizon of Bruella soils is typically a yellowish-brown sandy loam. Surface runoff from this unit is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Clear Lake clay, partially drained, 0 to 2 percent slopes, frequently flooded: This very deep, artificially drained soil occur in basins and along drainageways. This soil formed in poorly drained fine textured alluvium derived from mixed rock sources. The surface horizon of this soil is typically a very dark gray or gray clay. Surface runoff from this unit is slow, and the erosion hazard is slight. Hydric soils are recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Dierrsen sandy clay loam, drained, 0 to 2 percent slopes: This moderately deep, artificially drained soil is found on the rims of basins. This soil formed in somewhat poorly drained alluvium derived from mixed rocks, dominantly granite. The surface horizon of this soil is typically a dark brown sandy loam. Surface runoff from this unit is slow, and the erosion hazard is slight. Hydric soils are recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Dumps: This unit consists of open areas used for solid waste disposal. Natural drainage, permeability, erosion hazard, and available water capacity vary from one area to another. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Durixeralfs, 0 to 1 percent slopes: This soil is shallow or moderately deep, well-drained, and altered, and occurs on low terraces. This soil formed in alluvium derived from mixed granitic rocks. The surface horizon in a reference pedon is brown clay. Surface runoff from this unit is slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Durixeralfs-Galt complex, 0 to 2 percent slopes: This map unit is on low terraces, and is found in a borrow area used during the construction of Interstate Highway 5. This unit is composed of approximately 50 percent Durixeralfs and 40 percent Galt soil.

The Durixeralfs are shallow or moderately deep and are moderately well-drained or well-drained. They formed in alluvium derived from mixed granitic rocks. The surface horizon in a reference pedon is brown clay. Surface runoff from the Durixeralfs is slow or very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The Galt soil is moderately deep and moderately well-drained. It formed in fine textured alluvium derived from dominantly granitic rocks. The surface horizon of the Galt soil is typically grayish brown clay. Surface runoff from the Galt soil is slow or very slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Galt clay, 0 to 2 percent slopes: This moderately deep, moderately well-drained soil is found in basins on low terraces. This soil formed in fine-textured alluvium derived from granitic rocks. The surface horizon of this soil is typically grayish brown clay. Surface runoff from this unit is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Galt clay, leveled, 0 to 1 percent slopes: This moderately deep, moderately well-drained soil is found in basins on low terraces. This soil formed in fine-textured alluvium derived from granitic rocks. The surface horizon of this soil is typically grayish brown clay. Surface runoff from this unit is slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Hicksville loam, 0 to 2 percent slopes, occasionally flooded: This very deep, moderately well-drained soil is found on low stream terraces and the alluvial flats along drainageways on high terraces and hills. This soil is formed in alluvium derived from mixed rock sources. The surface horizon of this soil is typically grayish brown loam. Surface runoff from this unit is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Kimball silt loam, 2 to 8 percent slopes: This very deep, well-drained soil is found on descending side slopes on low terraces. It formed in alluvium derived from mixed granitic rocks. The surface horizon of this soil is typically brown and light brown silt loam. Surface runoff from this unit is medium, and the erosion hazard is moderate. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Madera loam, 0 to 2 percent slopes: This moderately deep, moderately well-drained soil is found in low areas on low terraces commonly adjacent to floodplains. This soil formed in alluvium derived from granitic rocks. The surface horizon of this soil is typically light brownish gray and brown loam. Surface runoff from this unit is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Madera loam, 2 to 8 percent slopes: This moderately deep, moderately well-drained soil is found on the side slopes of low terraces commonly adjacent to floodplains. This soil formed in alluvium derived from granitic rocks. The surface horizon of this soil is typically light brownish gray and brown loam. Surface runoff from this unit is medium, and the erosion hazard is moderate. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Madera-Galt complex, 0 to 2 percent slopes: This map unit is found in low areas on low terraces. This unit is composed of approximately 50 percent Madera soil and 35 percent Galt soil.

The Madera soil is moderately deep and moderately well-drained. It formed in alluvium derived from granitic rocks. The surface horizon of the Madera soil is typically light brownish gray and brown loam. Surface runoff from the Madera soil is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The Galt soil is moderately deep and moderately well-drained. It formed in fine textured alluvium derived from dominantly granitic rocks. The surface horizon of the Galt soil is typically grayish brown clay. Surface runoff from the Galt soil is slow or very slow, and the erosion hazard is slight. Hydric soils are recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Redding gravelly loam, 0 to 8 percent slopes: This moderately deep, moderately well-drained soil is found on high terraces and terrace remnants. This soil formed in gravelly and cobbly alluvium derived from mixed rock sources. The surface horizon of this soil is typically strong brown gravelly loam. Surface runoff from this soil is very slow or medium, and the erosion hazard is slight or moderate. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Redding loam, 2 to 8 percent slopes: This moderately deep, moderately well-drained soil is found on high terraces and terrace remnants. It formed in gravelly and cobbly alluvium derived from mixed rock sources. The surface horizon of this soil is typically strong brown loam. Surface runoff from this soil is slow or medium, and the erosion hazard is slight or moderate. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Sailboat silt loam, drained, 0 to 2 percent slopes, occasionally flooded: This very deep, artificially drained soil is found on narrow, low floodplains. This soil formed in somewhat poorly drained alluvium derived from mixed rock sources. The surface horizon of this soil is typically light yellowish brown silt loam. Surface runoff from this soil is slow, and the erosion hazard is slight. Hydric soils are recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin silt loam, 0 to 3 percent slopes: This moderately deep, moderately well-drained soil is found on low terraces. The soil formed in alluvium derived from dominantly granitic rocks. The surface horizon of this soil is typically strong brown silt loam. Surface runoff from

this soil is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin silt loam, 3 to 8 percent slopes: This moderately deep, moderately well-drained soil is found on the side slopes of low terraces. The soil formed in alluvium derived from mixed granitic rocks. The surface horizon of this soil is typically strong brown silt loam. Surface runoff from this soil is medium, and the erosion hazard is moderate. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin silt loam, leveled, 0 to 1 percent slopes: This moderately deep, moderately well-drained soil is found on low terraces. The soil formed in alluvium derived from mixed granitic rocks. The surface horizon of this soil is typically strong brown silt loam. Surface runoff from this soil is slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin – Durixeralfs complex, 0 to 1 percent slopes: This map unit is found on low terraces. This unit is composed of 55 percent San Joaquin soil, and 35 percent Durixeralfs.

The San Joaquin soil is moderately deep and moderately well-drained. It formed in alluvium derived from granitic rocks. The surface horizon in the San Joaquin soil is typically strong brown silt loam. Surface runoff from the San Joaquin soil is very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The Durixeralfs are shallow or moderately deep, are moderately well-drained, and are altered. They formed in alluvium derived from mixed granitic rocks. The surface horizon in a reference pedon is brown clay. Surface runoff from the Durixeralfs is very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin – Galt complex, 0 to 3 percent slopes: This map unit is found on low terraces. This unit is composed of approximately 45 percent San Joaquin soil, and 40 percent Galt soil.

The San Joaquin soil is moderately deep and moderately well-drained. It formed in alluvium derived from mixed granitic rocks. The surface horizon in the San Joaquin soil is typically strong brown silt loam. Surface runoff from the San Joaquin soil is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The Galt soil is moderately deep and moderately well-drained. It formed in fine textured alluvium derived from granitic rocks. The surface horizon of the Galt soil is typically grayish brown clay. Surface runoff from the Galt soil is ponded, and the soil is not susceptible to erosion. Hydric soils are recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin – Galt complex, leveled, 0 to 1 percent slopes: This map unit is found on low terraces. This unit is composed of approximately 45 percent San Joaquin soil, and 40 percent Galt soil.

The San Joaquin soil is moderately deep and moderately well-drained. It formed in alluvium derived from mixed granitic rocks. The surface horizon in the San Joaquin soil is typically strong brown silt loam. Surface runoff from the San Joaquin soil is very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The Galt soil is moderately deep and moderately well-drained. It formed in fine textured alluvium derived from granitic rocks. The surface of the Galt soil is typically covered by about 6 inches of pale brown silt loam fill material. Below this, the surface layer is typically grayish brown clay. Surface runoff from the Galt soil is very slow, and the erosion hazard is slight. Hydric soils are recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin – Urban land complex, 0 to 2 percent slopes: This map unit is found on low terraces. Slopes have been shaped for urban uses. This unit is composed of approximately 50 percent San Joaquin soil and 35 percent Urban land.

The San Joaquin soil is moderately deep and well-drained. It formed in alluvium derived from mixed granitic rocks. The surface horizon in the San Joaquin soil is typically strong brown silt loam. Surface runoff from the San Joaquin soil is slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Urban land consists of areas covered by impervious surfaces or structures, such as roads, driveways, sidewalks, buildings and parking lots. The soil material under the impervious surfaces is similar that of the San Joaquin soil, although it may have been truncated or otherwise altered. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

San Joaquin – Xerarents complex, leveled, 0 to 1 percent slopes: This map unit is found on low terraces. This unit is composed of approximately 45 percent San Joaquin soil and 40 percent Xerarents. The San Joaquin soil is in areas that have been left relatively undisturbed when leveled. The Xerarents are in filled areas.

The San Joaquin soil is moderately deep and moderately well-drained. It formed in alluvium derived from granitic rocks. The surface horizon in the San Joaquin soil is typically strong brown silt loam. Surface runoff from the San Joaquin soil is very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The Xerarents are moderately deep to very deep, well-drained and altered. They formed in fill material mixed by leveling activities. The fill material is derived from nearby soils of mixed but dominantly granitic origin. The surface layer in a reference pedon is pale brown, yellowish

brown, light gray, white, and brown sandy loam and sandy clay loam fill that has remnant subsoil fragments of clay loam or clay. Surface runoff from the Xerarents is very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Xerarents – San Joaquin complex, 0 to 1 percent slopes: This map unit is found on low terraces. This unit is composed of approximately 65 percent Xerarents and 20 percent San Joaquin soil. The Xerarents are found in areas that were filled when the land was leveled. The San Joaquin soil is found in relatively undisturbed areas.

The Xerarents are moderately deep to very deep, well-drained and altered. They formed in fill material mixed by leveling activities. The fill material is derived from nearby soils of mixed but dominantly granitic origin. The surface layer in a reference pedon is pale brown, yellowish brown, light gray, white, and brown sandy loam and sandy clay loam fill that has remnant subsoil fragments of clay loam or clay. Surface runoff from the Xerarents is very slow, and the erosion hazard is slight to zero. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The San Joaquin soil is moderately deep and moderately well-drained. The surface horizon in the San Joaquin soil is typically yellowish brown and brown fine sandy loam. Surface runoff from the San Joaquin soil is very slow or slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Xerarents – Urban land – San Joaquin complex, 0 to 5 percent slopes: This map unit is found in filled areas on low terraces. Slopes have been shaped for urban uses. This unit is composed of approximately 45 percent Xerarents, 25 percent Urban land, and 15 percent San Joaquin soil.

The Xerarents are moderately deep to very deep, well-drained and altered. They formed in fill material mixed during grading and excavation activities. The fill material is derived from nearby soils of mixed but dominantly granitic origin. The surface layer in a reference pedon is pale brown, yellowish brown, light gray, white, and brown sandy loam and sandy clay loam fill that has remnant subsoil fragments of clay loam or clay. Surface runoff from the Xerarents is very slow or slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

Urban land consists of areas covered by impervious surfaces or structures, such as roads, driveways, sidewalks, buildings and parking lots. The soil material under the impervious surfaces is similar that of many soils, including San Joaquin, Madera, Hedge, Galt, Clear Lake, Red Bluff and Redding soils, although it may have been truncated or otherwise altered. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of Hydric Soil Map Units for Sacramento County, California* (U.S. Department of Agriculture, 1992).

The San Joaquin soil is moderately deep and moderately well-drained. The surface horizon in the San Joaquin soil is typically yellowish brown and brown fine sandy loam. Surface runoff from the San Joaquin soil is very slow or slow, and the erosion hazard is slight. Hydric soils are not recognized components or inclusions for this mapping unit in the *Field Office Official List of*

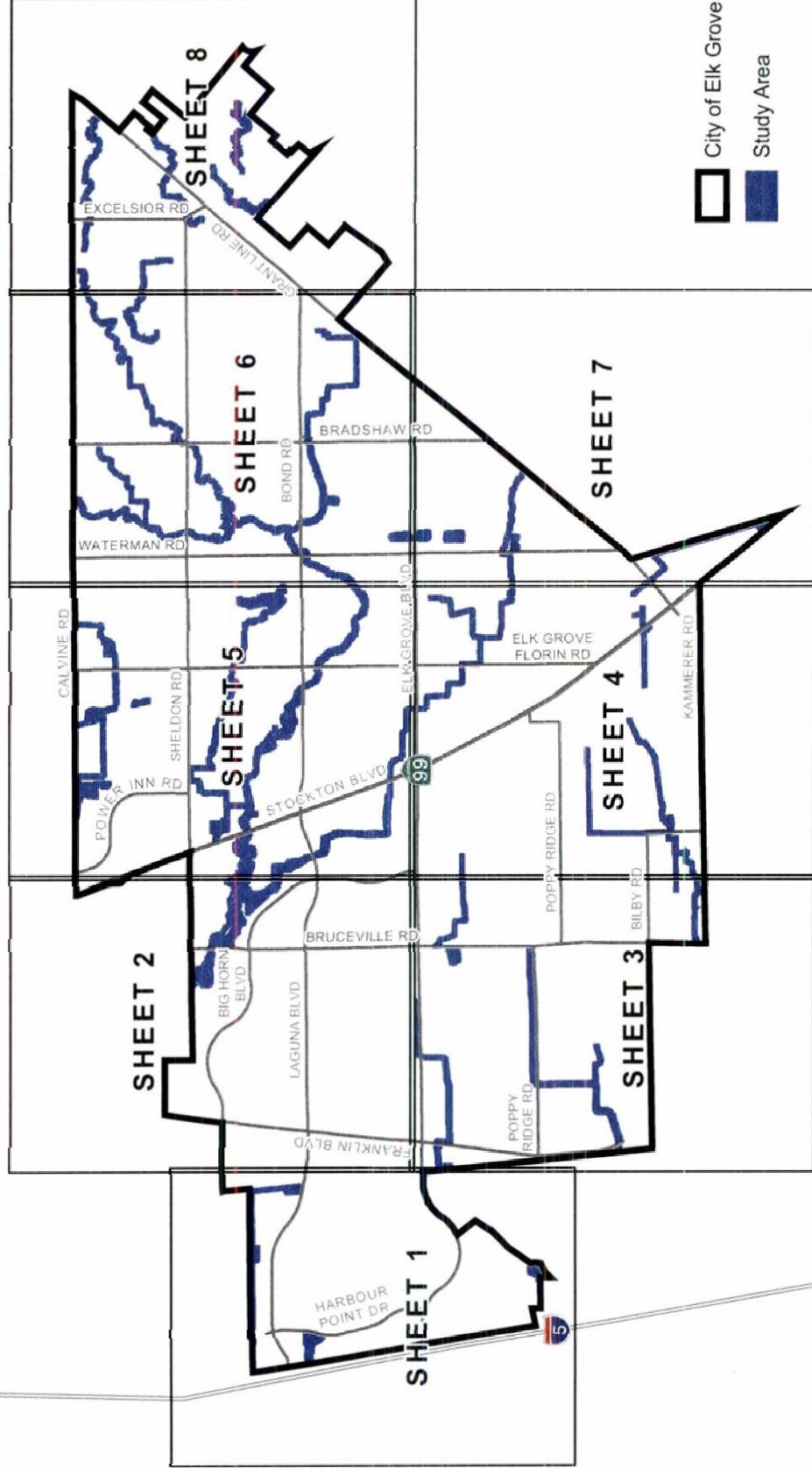
Hydric Soil Map Units for Sacramento County, California (U.S. Department of Agriculture, 1992).

APPENDIX B

Routine Wetland Determination Forms

APPENDIX C

Wetland Delineation Maps



APPENDIX D

**Photographs of Other Waters and Wetlands
Within the Study Area**



Photograph 1
Shed B Channel is a constructed perennial stream in Elk Grove.



Photograph 2
Strawberry Creek is a channelized perennial stream in northern Elk Grove that is nearly choked with fresh emergent wetland vegetation. This photograph is taken from Sheldon North Drive, looking north.

J:\Projects\50476 - Elk Grove Delineation\Graphics\Fig_3.ai Source: NSR, Inc. DH/SP 3/4/2005



North State Resources, Inc.

City of Elk Grove Routine Channel Maintenance Delineation of Waters of the U.S., Including Wetlands

Appendix D
Figure 1
Perennial Stream



Photograph 1

Laguna Creek Tributary 1 is an intermittent stream that is bordered by flatsedges (*Cyperus* sp.), and has a well-defined channel.



Photograph 2

Grant Line Channel is a channelized intermittent stream in southeastern Elk Grove. Sparse hydrophytic vegetation is found throughout the bottom of the channel.

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North State Resources, Inc.



Photograph 1

This ephemeral stream winding through a private horse pasture is on MRD in northeastern Elk Grove. This photograph is taken from Mooney Road, looking east.



Photograph 2

This ephemeral stream (GLC) is located in the northeastern corner of Elk Grove, and is dominated by annual grassland species. This photograph is taken from Kinder Lane, looking west.





Photograph 1

This reach of the agricultural drainage ditch just north of Kammerer Road in southwestern Elk Grove travels through Annual Grassland and Pasture.



Photograph 2

The agricultural drainage ditch south of Elk Grove Blvd. and east of Bruceville Rd. is dominated by Himalayan blackberry. This photograph is taken from the terminus of Johnston Rd., looking west.





Photograph 1

This seasonal wetland is fed by a small channel in northeastern Elk Grove, and is dominated by forbs and grasses.



Photograph 2

This seasonal wetland is also in northeastern Elk Grove, but is dominated by annual grassland species. It can be differentiated from the surrounding area by its depressional nature and the different grassland species.





Photograph 1

This riparian wetland is adjacent to Shed B Channel in southwestern Elk Grove. This photograph is taken from the terminus of Amyjan Ct., looking southeast.



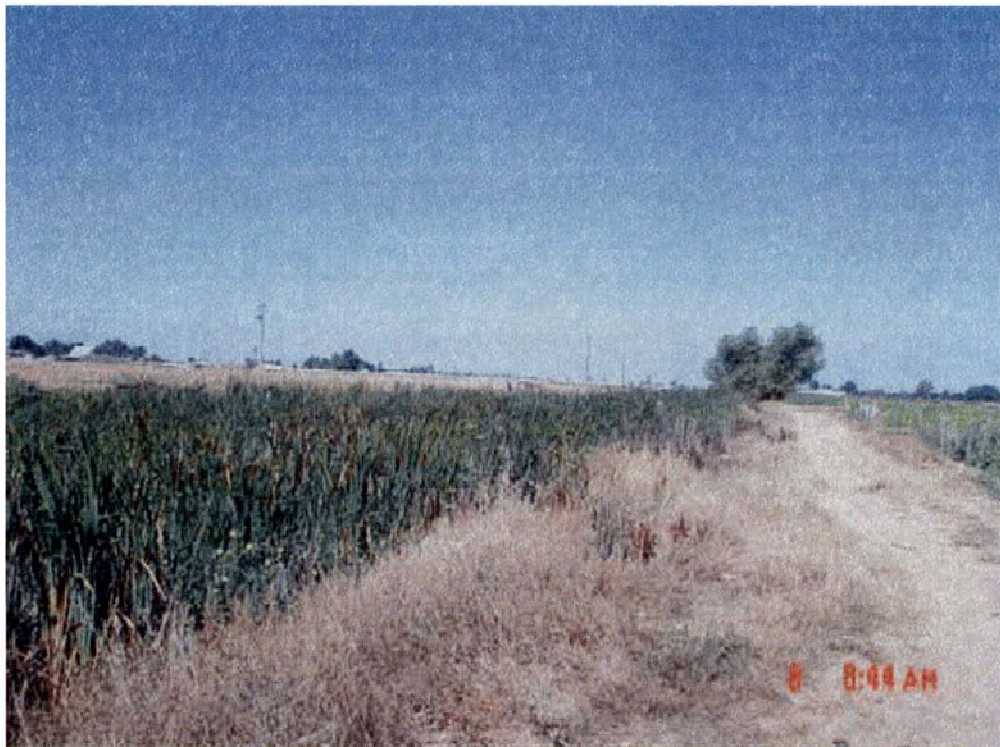
Photograph 2

This riparian wetland is adjacent to Strawberry Creek in northern Elk Grove. Photograph taken from the road between Basin 2 and Strawberry Creek, looking south.



Photograph 1

This perennial emergent marsh is adjacent to a small unnamed channel in northeastern Elk Grove. This photograph was taken where the channel crosses Grant Line Road, looking east.



Photograph 2

This perennial emergent marsh is adjacent to the channel just north of Kammerer Road, in southwestern Elk Grove.





Photograph 1

This seasonal emergent marsh is located within the Laguna Creek channel in northwestern Elk Grove.



Photograph 2

This seasonal emergent marsh is located adjacent to the confluence of Elk Grove Creek and Laguna Creek. This photograph was taken in the wintertime, and thus, appears greener than the photo above.





Photograph 1

Basin 4, adjacent to Strawberry Creek in northern Elk Grove, is full of water throughout the year, and is surrounded by fresh emergent vegetation. This photograph was taken from the eastern end, looking west.



Photograph 2

Basin 10, just north of Elk Grove Blvd, and east of Waterman Blvd, is a seasonally inundated basin. During the summer months, much of the basin is vegetated by annual grassland species, with fresh emergent vegetation clustered around the last of the water in the low-flow channel. This photograph was taken from the southern end, looking north.

EXHIBIT B

MITIGATION MONITORING AND REPORTING PROGRAM

INTRODUCTION

The California Environmental Quality Act (CEQA) Guidelines, Section 15097, requires public agencies, as part of the certification of an environmental impact report or mitigated negative declaration, to adopt a reporting and monitoring program to ensure that changes made to the project as conditions of project approval to mitigate or avoid significant environmental effects are implemented. The Mitigation Monitoring and Reporting Program (MMRP) contained herein is intended to satisfy the requirements of CEQA as they relate to the Stormwater Routine Maintenance Project (Project) in the City of Elk Grove (City). The MMRP is intended to be used by City staff and mitigation monitoring personnel during implementation of the Project.

The MMRP will provide for monitoring of project activities as necessary, in-the-field identification and resolution of environmental concerns, and reporting to City staff. The MMRP will consist of the components described below.

COMPLIANCE CHECKLIST

Table 1 contains a compliance-monitoring checklist that identifies all newly adopted mitigation measures, identification of agencies responsible for enforcement and monitoring, and timing of implementation.

FIELD MONITORING OF MITIGATION MEASURE IMPLEMENTATION

During implementation of the Project, the City of Elk Grove's designated inspector will be responsible for monitoring the implementation of mitigation measures. The inspector will report to the City of Elk Grove Department of Public Works, and will be thoroughly familiar with all plans and requirements of the project. In addition, the inspector will be familiar with construction contract requirements, construction schedules, standard construction practices, and mitigation techniques. Aided by Table 1, the inspector will typically be responsible for the following activities:

1. On-site, day to day monitoring of project activities;
2. Reviewing plans to ensure conformance with adopted mitigation measures;
3. Ensuring contractor knowledge of and compliance with all appropriate conditions of project approval;
4. Evaluating the adequacy of impact mitigation measures, and proposing improvements to the contractors and City staff;
5. Requiring correction of activities that violate project mitigation measures, or that represent unsafe or dangerous conditions. The inspector shall have the ability and authority to secure compliance with the conditions or standards through the City of Elk Grove Public Works Department, if necessary;
6. Acting in the role of contact for property owners or any other affected persons who wish to register observations of violations of project mitigation measures, or unsafe or dangerous conditions. Upon receiving any complaints, the inspector shall immediately contact the maintenance representative. The inspector shall be responsible for verifying any such observations and for developing any necessary corrective actions in consultation with the construction representative and the City of Elk Grove Public Works Department;
7. Maintaining prompt and regular communication with City staff;

MITIGATION MONITORING AND REPORTING PROGRAM

8. Obtaining assistance as necessary from technical experts, such as archaeologists and wildlife biologists, to develop site-specific procedures for implementing the mitigation measures adopted by the City for the Project; and
9. Maintaining a log of all significant interactions, violations of permit conditions or mitigation measures, and necessary corrective measures.

MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/Implementation	Enforcement/Monitoring	Verification (date and Signature)
Initial Study Mitigation Measures:				
3.4-1	<p>Prior to commencement of maintenance activities, a qualified biologist shall conduct surveys for Sanford's arrowhead and woolly rose-mallow. If neither of these species is found in or adjacent to (within 100 feet) proposed maintenance areas, no further mitigation is required.</p> <p>If either of the species is found in or adjacent to (within 100 feet) proposed impact areas during the surveys, these plant species shall be avoided. Any special-status plant species that are identified in or adjacent to the Project area shall be protected by barrier fencing (exclusion zone) to ensure maintenance activities do not impact any special-status plant species.</p>	Prior to commencement of maintenance activities	City of Elk Grove Public Works Department	
3.4-2	<p>Prior to commencement of maintenance activities, a qualified biologist shall conduct a preconstruction survey for elderberry shrubs. If no elderberry shrubs are found in or adjacent to (within 100 feet) proposed maintenance areas, no further mitigation is required.</p> <p>If elderberry shrubs are found in or adjacent to (within 100 feet) proposed maintenance areas, avoidance and minimization measures shall be implemented in accordance with the July 9, 1999, USFWS Conservation Guidelines for the Valley Elderberry Longhorn Beetle.</p>	Prior to and during maintenance activities	City of Elk Grove Public Works Department	
3.4-3	<p>A preconstruction survey for giant garter snake shall be conducted within 24 hours of the onset of maintenance activities.</p>	Within 24 hours prior to the onset of maintenance activities	City of Elk Grove Public Works Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/Implementation	Enforcement/Monitoring	Verification (date and Signature)
3.4-4	The City shall implement Appendix C of the Programmatic Consultation with the US Army Corps of Engineers 404 Permitted Projects with Relatively Small Effects on the Giant Garter Snake within Butte, Colusa, Glenn, Fresno, Merced, Sacramento, San Joaquin, Solano, Stanislaus, Sutter, and Yolo Counties, California.	Throughout maintenance activities	City of Elk Grove Public Works Department	
3.4-5	If a giant garter snake is encountered in the Project work area, the snake must be allowed to move away of its own volition.	Throughout maintenance activities	City of Elk Grove Public Works Department	
3.4-6	The City shall prohibit the use of plastic, monofilament, jute, or similar erosion control netting with mesh sizes larger than 0.25 inch that could entangle snakes at the Project site.	Throughout maintenance activities	City of Elk Grove Public Works Department	
3.4-7	A preconstruction survey for western pond turtle shall be conducted within 24 hours prior to the onset of maintenance activities. The survey area shall include a 100-foot buffer of the area to be affected. If juvenile or adult turtles are found within the survey area, the individuals shall be moved at least 500 feet downstream to a suitable habitat. If a turtle nest is found within the survey area, construction activities shall not take place within 100 feet of the nest until the turtles have hatched or the eggs have been moved to an appropriate location by a qualified biologist, under consultation with the CDFW.	Within 24 hours prior to the onset of maintenance activities	City of Elk Grove Public Works Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/ Implementation	Enforcement/ Monitoring	Verification (date and Signature)
3.4.8	<p>For any clearing and/or maintenance activities that would occur during the raptor nesting season (January 15–August 15), preconstruction surveys to identify burrowing owls and active raptor nests shall be conducted by a qualified biologist within three days prior to maintenance activities. Preconstruction surveys must be performed by a qualified biologist for the purpose of determining presence/absence of active nest sites in the area proposed for maintenance, and a 1,000-foot buffer. If no active nests are found, no further mitigation is required.</p> <p>If active white-tailed kite or other raptor (excluding Swainson's hawk) nest sites are identified within 1,000 feet of Project activities, the City shall impose a 500-foot setback to all active nest sites prior to commencement of any Project-related activities to avoid maintenance- or access-related disturbances to nesting raptors. Project-related activities (i.e., vegetation removal and earth moving) shall not occur within the setback until the nest is deemed inactive. Activities permitted within setbacks and the size of setbacks may be adjusted through consultation with the CDFW.</p> <p>If active Swainson's hawk nest sites are identified within 1,000 feet of Project activities, the City shall impose a 1,000-foot setback to all active nest sites prior to commencement of any Project-related activities to avoid maintenance- or access-related disturbances to nesting raptors. Project-related activities (i.e., vegetation removal and earth moving) shall not occur within the setback until the nest is deemed inactive. Activities permitted within setbacks and the size of setbacks may be adjusted through consultation with the CDFW.</p>	Prior to and during maintenance activities	City of Elk Grove Public Works Department	
City of Elk Grove July 2015	<p>If active burrowing owl nest sites are detected, the avoidance, minimization, and mitigation methodologies outlined in the CDFG's 2012 Staff Report on Burrowing Owl Mitigation shall be implemented prior to initiating Project-related activities that may impact burrowing owls. Burrowing owl surveys are valid for one year from the date of the survey. If no burrowing owls are detected, no mitigation for burrowing owls is required.</p>	Mitigation Monitoring and Reporting Program	Routine Creek Maintenance	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/Implementation	Enforcement/Monitoring	Verification (date and Signature)
3.4-9	<p>For any clearing and/or maintenance activities that would occur during the bird nesting season (February 15–August 15), preconstruction surveys to identify active migratory bird nests shall be conducted by a qualified biologist within three days prior to maintenance activities. Preconstruction surveys must be performed by a qualified biologist for the purpose of determining the presence/absence of active nest sites in the area proposed for maintenance, and a 200-foot setback. If no active nests are found, no further mitigation is required.</p> <p>If active nest sites are identified within 200 feet of Project activities, the City shall impose an exclusionary setback for all active nest sites prior to commencement of any Project-related activities to avoid maintenance- or access-related disturbances to nesting migratory birds. A setback constitutes an area where Project-related activities (i.e., vegetation removal and earth moving) shall not occur and shall be imposed within 100 feet of any active nest sites until the nest is deemed inactive by a qualified biologist. Activities permitted within the setback and the size (i.e., 100 feet) of setbacks may be adjusted through consultation with the CDFW.</p>	Prior to and during maintenance activities	City of Elk Grove Public Works Department	

MITIGATION MONITORING AND REPORTING PROGRAM

MM Number	Mitigation Measure	Timing/Implementation	Enforcement/Monitoring	Verification (date and Signature)
3.4-10	A qualified biologist(s) shall monitor Project-related activities that could potentially cause significant impacts to sensitive biological resources. In addition, a qualified biologist shall be retained to conduct mandatory contractor/worker awareness training for construction personnel. The awareness training shall be provided to all construction personnel to brief them on the identified location of sensitive biological resources, including how to identify species (visual and auditory) most likely to be present, the need to avoid impacts to biological resources (e.g., plants, wildlife, and jurisdictional waters), and the penalties for not complying with biological mitigation requirements. If new construction personnel are added to the Project, the contractor shall ensure that they receive the mandatory training before starting work.	Prior to maintenance activities	City of Elk Grove Public Works Department	
3.4-11	The City shall mitigate for permanent impacts to riparian habitat at a 2:1 ratio. Mitigation can include on-site restoration, in-lieu fee payment, or purchase of mitigation credits at an agency-approved mitigation bank.	As necessary throughout maintenance activities	City of Elk Grove Public Works Department	
3.4-12	The City shall employ best management practices (BMPs) on-site to prevent degradation to on-site and off-site waters of the United States. Water pollution control features will be based on California Storm Water Quality Association standard BMPs.	Throughout maintenance activities	City of Elk Grove Public Works Department	

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**CERTIFICATION
ELK GROVE CITY COUNCIL RESOLUTION NO. 2015-163**

STATE OF CALIFORNIA)
COUNTY OF SACRAMENTO) ss
CITY OF ELK GROVE)


I, Jason Lindgren, City Clerk of the City of Elk Grove, California, do hereby certify that the foregoing resolution was duly introduced, approved, and adopted by the City Council of the City of Elk Grove at a special meeting of said Council held on August 12, 2015 by the following vote:

AYES : **COUNCILMEMBERS:** *Davis, Hume, Detrick, Ly, Suen*

NOES: **COUNCILMEMBERS:** None

ABSTAIN : **COUNCILMEMBERS:** None

ABSENT: **COUNCILMEMBERS:** None



**Jason Lindgren, City Clerk
City of Elk Grove, California**