

# **Chowchilla Water District**

## **Submission for SIP Section 5.3 Exception for Use of Copper and Acrolein to Control Weeds in Irrigation and Stormwater Canals and Ditches**

**Final Initial Study / Mitigated Negative Declaration**

**December 2019**

Prepared for:  
Chowchilla Water District

Prepared by:  
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Appendix A Biological Evaluation Report

# Acronyms and Abbreviations

AB	Assembly Bill
AFY	Acre Feet per year
AL-20	Limited Agricultural
APN	Assessor's Parcel Number
CAA	Clean Air Act
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CAAQS	California Ambient Air Quality Standards
CCAA	California Clean Air Act
CCR	California Code of Regulations
CWD	Chowchilla Water District
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	U.S. Code of Federal Regulations
CGS	California Geological Survey
CH <sub>4</sub>	Methane
C-M	Commercial/ Light Manufacturing
CNDDDB	California Department of Fish and Wildlife Natural Diversity Database
CNPS	California Native Plant Society
CPUC	California Public Utilities Commission
CO	Carbon Monoxide
CO <sub>2e</sub>	Carbon Dioxide Equivalent
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
DDW	Division of Drinking Water
District	Chowchilla Water District
DOC	California Department of Conservations
DPM	Diesel Particulate Matter

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DTSC.....	Department of Toxic Substance Control
DWR.....	Department of Water Resources
EDP.....	ethylene dibromide
EIR.....	Environmental Impact Report
EPA.....	U.S. Environmental Protection Agency
FEMA.....	Federal Emergency Management Agency
FIRM.....	Flood Insurance Rate Maps
FMMP.....	Farmland Mapping and Monitoring Program
GC.....	Government Code
GHG.....	Greenhouse Gas
GIS.....	Geographic Information System
IPaC.....	U.S. Fish and Wildlife Service’s Information for Planning and Consultation system
IS.....	Initial Study
IS/MND.....	Initial Study/Mitigated Negative Declaration
M-1.....	Light Industrial
MBTA.....	Migratory Bird Treaty Act
MCL.....	Maximum Contaminant Level
MMRP.....	Mitigation Monitoring & Reporting Program
MMT.....	Million Metric Tons
MND.....	Mitigated Negative Declaration
MRZ.....	Mineral Resource Zones
MT CO <sub>2e</sub> .....	Metric Tons of Carbon Dioxide Equivalent
NAAQS.....	National Ambient Air Quality Standards
ND.....	Negative Declaration
NEPA.....	National Environmental Policy Act
NFIP.....	National Flood Insurance Program
NO <sub>2</sub> .....	Nitrogen Dioxide
NO.....	Nitrogen Oxide
NPDES.....	National Pollutant Discharge Elimination System
NRCS.....	Natural Resources Conservation Service
O <sub>3</sub> .....	Ozone
Pb.....	Lead
PC.....	Production-Consumption
PM <sub>10</sub> .....	Particulate Matter less than 10 microns in diameter
PM <sub>2.5</sub> .....	Particulate Matter less than 2.5 microns in diameter

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Project.....	Submission for SIP Exception Project
RCRA.....	Resource Conservation and Recovery Act
RWQCB.....	Regional Water Quality Control Board
SB.....	Senate Bill
SHC.....	Streets and Highways Code
SIP.....	State Implementation Policy
SJVAB.....	San Joaquin Valley Air Basin
SJVAPCD.....	San Joaquin Valley Air Pollution Control District
SO <sub>2</sub> .....	Sulfur Dioxide
SR.....	State Route
SWRCB.....	State Water Resources Control Board
SWPPP.....	Storm Water Pollution Prevention Plan
TAC.....	Toxic Air Contaminants
TPY.....	Tons Per Year
USACE.....	U. S. Army Corps of Engineers
USDA.....	U. S. Department of Agriculture
USFWS.....	U. S. Fish and Wildlife Service
USGS.....	U. S. Geological Survey
WC.....	Water Code

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# Chapter 1 Introduction

Provost & Pritchard Consulting Group (Provost & Pritchard) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) on behalf of Chowchilla Water District to address the environmental effects for SIP Section 5.3 Exception for Use of Copper and Acrolein to Control Weeds in Irrigation and Stormwater Canals and Ditches (Project). This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 *et seq.* The District is the CEQA lead agency for this proposed Project.

The site and the proposed Project are described in detail in the **Chapter 2 Project Description**.

## 1.1 Regulatory Information

An Initial Study (IS) is a document prepared by a lead agency to determine whether a project may have a significant effect on the environment. In accordance with California Code of Regulations Title 14 (Chapter 3, Section 15000, *et seq.*) — also known as the CEQA Guidelines — Section 15064 (a)(1) states that an environmental impact report (EIR) must be prepared if there is substantial evidence in light of the whole record that the proposed Project under review may have a significant effect on the environment and should be further analyzed to determine mitigation measures or project alternatives that might avoid or reduce project impacts to less than significant levels. A negative declaration (ND) may be prepared instead if the lead agency finds that there is no substantial evidence considering the whole record that the project may have a significant effect on the environment. An ND is a written statement describing the reasons why a proposed Project, not otherwise exempt from CEQA, would not have a significant effect on the environment and, therefore, why it would not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a ND or *mitigated* ND shall be prepared for a project subject to CEQA when either:

- a. The IS shows there is no substantial evidence, considering the whole record before the agency, that the proposed Project may have a significant effect on the environment, or
- b. The IS identified potentially significant effects, but:
  1. Revisions in the project plans or proposals made by or agreed to by the applicant before the proposed MND and IS is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur is prepared, and
  2. There is no substantial evidence, considering the whole record before the agency, that the proposed Project *as revised* may have a significant effect on the environment.

## 1.2 Document Format

This IS/MND contains four chapters and one appendix. **Chapter 1 Introduction**, provides an overview of the proposed Project and the CEQA process. **Chapter 2 Project Description**, provides a detailed description of proposed Project components and objectives. **Chapter 3 Impact Analysis**, presents the CEQA checklist and environmental analysis for all impact areas, mandatory findings of significance, and feasible mitigation measures. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion

provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. **Chapter 3 Impact Analysis** concludes with the Lead Agency's determination based upon this initial evaluation. **Chapter 4 Mitigation Monitoring and Reporting Program** (MMRP), provides the proposed mitigation measures, implementation timelines, and the entity/agency responsible for ensuring implementation.

The Biological Resources Evaluation is provided as technical **Appendix A** at the end of this document.

# Chapter 2 Project Description

## 2.1 Project Background and Objectives

### 2.1.1 Project Title

State Implementation Policy Section 5.3 Exception for Use of Copper and Acrolein to Control Weeds in Irrigation and Stormwater Canals and Ditches

### 2.1.2 Lead Agency Name and Address

Chowchilla Water District  
327 South Chowchilla Boulevard  
Chowchilla CA 93610

### 2.1.3 Contact Person and Phone Number

Lead Agency Contact  
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CWD General Manager  
(559) 665-3747

CEQA Consultant  
Provost & Pritchard Consulting Group  
Briza Sholars  
(559) 449-2700

### 2.1.4 Project Location

The Project is located within the Chowchilla Water District's boundaries in both Madera and Merced Counties. The closest incorporated city is Chowchilla, California, approximately 130 miles southeast of Sacramento and approximately 40 miles northwest of Fresno (see [Figure 2-1](#) and [Figure 2-2](#)). Chowchilla Water District's boundaries are shown in [Figure 2-3](#).

### 2.1.5 Latitude and Longitude

The Project area is located at the following approximate latitudes and longitudes:

District Point	Latitude	Longitude
Approximate center	37° 5' 0.276" N	-120° 20' 48.9876" W
Northernmost	37° 17' 2.508" N	-120° 6' 47.2176" W
Southernmost	36° 59' 47.6406" N	-120° 21' 52.308" W
Easternmost	37° 10' 31.7244" N	-120° 4' 29.9964" W
Westernmost	37° 5' 53.4336" N	-120° 27' 56.6274" W

## 2.1.6 Description of Project

### 2.1.6.1 Project Background

Chowchilla Water District (CWD or District) was formed in 1949 for the purpose of furnishing a water supply alternative to groundwater for agriculture within its boundaries. Since its inception, the District has provided consistent and reliable surface water to its customers, resulting in improvements to groundwater conditions.

Chowchilla Water District serves about 85,000 acres situated in southern Merced County and northern Madera County on the eastside of the San Joaquin Valley. The District serves more than 400 water users, with an average farm size of about 162 acres.

The District receives water from two sources; Madera Canal and Buchanan Dam. The District utilizes portions of the Chowchilla River, Ash Slough, and Berenda Slough to convey irrigation water to the District's irrigation water distribution system, which consists of 150 miles of unlined canals and 49 miles of pipeline. There are more than 950 turnouts where irrigation water is delivered to water users. The District utilizes various water management techniques and facilities to deliver water efficiently and accurately to its water users. These facilities include; measurement weirs, water meters, rated canal gates, regulating reservoirs and ponds, long-crested weirs, ITRC flap gates, and the District's SCADA system.

The micro-irrigation methods used throughout the District's service area allow for the most conservative use of available water resources, however, the implementation of the methods is contingent upon a water supply with limited algal population, and therefore the application of aquatic herbicides copper and acrolein in the District's waterways is necessary. Failure to adequately control algal populations not only reduces the volume of water that may be delivered at one time, it also discourages farmers using micro-irrigation techniques from utilizing surface water, thereby increasing groundwater pumping.

In accordance with State Water Resources Control Board Order No. 2013-0002-DWQ and the State Board's Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP), any discharge of aquatic pesticides from public entities to waters of the United States is required to meet water quality-based effluent limitations. Section 5.3 of the SIP allows public entities to receive exceptions from meeting its requirements for resource or pest management. A prerequisite to acquiring an exception includes providing California Environmental Quality Act (CEQA) documentation.

### 2.1.6.2 Project Description

CWD's proposed aquatic herbicide use includes the periodic application of copper sulfate and/or acrolein, as needed to control weeds and the growth of algae in the District's canals as part of an aquatic pesticide application plan (APAP). The growth of vegetation and algae in the District's facilities causes detrimental effects to the District, its farmers, and other beneficial users and uses of groundwater. The presence of emergent plants, floating or submersed plants, and/or algae in the distribution system greatly reduces the volume of surface water that can be delivered and decreases the ability to accurately control water delivery. The micro-irrigation methods employed throughout the CWD service area allow for the most conservative use of available water resources, however, their implementation is contingent upon a water supply with limited algal population, and therefore the use of copper and/or acrolein in the District canals is critical. When the growth of vegetation and algae clogs irrigation control structures, pipelines, pumps, filters, and other irrigation equipment, it inhibits the use of surface water, thereby increasing demand on groundwater supplies. Increasing the demand of groundwater supplies is inconsistent with the water conservation efforts of the critically overdrafted Chowchilla Subbasin and the Sustainable Groundwater Management Act (SGMA). Without the ability to control the plant and algae growth using the periodic application of copper

sulfate and/or acrolein in the District's canals and pipelines, the collateral impacts extend to neighboring disadvantaged communities who solely rely on groundwater supplies for their public drinking water.

Using a preventative maintenance approach, the District would target weeds as early as possible in their lifecycle on a routine basis, thereby requiring lower concentrations of herbicide to be applied. The seasonal exception would cover intermittent, periodic discharges that would occur any time between the months of March and October during the irrigation season. These discharges would last no longer than a period of several hours out of each 14 to 21-day interval in an irrigation season, approximately six months on average. The aquatic herbicides would be applied strictly at the head/beginning of various existing irrigation and stormwater canals at strategic locations that maximize the distance from each potential natural river/slough/creek receiving point and minimize impacts on receiving waters by promoting a dilution and settling process. The aquatic herbicides are applied to the open canal using a tube placed beneath the water surface to prevent splash from a District tank trailer temporarily parked alongside the canal. All applications are performed or supervised by a pest control advisor and/or Qualified Applicator License (QAL) holder certified by the California Department of Pesticide Regulation (DPR). CWD qualified applicators would introduce the aquatic herbicides to waterways under the District's control at a quantity at or below the United States Environmental Protection Agency (EPA) approved label prescribed usage and in accordance with regulations of the California Environmental Protection Agency (CalEPA), the Division of Occupational Safety and Health of California (Cal/OSHA), DPR, and the local Agricultural Commission.

### **2.1.6.3 Operation and Maintenance**

An APAP and a mitigation measures and monitoring plan would be implemented to minimize impacts to less than significant.

## **2.1.7 Site and Surrounding Land Uses and Setting**

Land use throughout the Project area — the waterways of the District — is solely agricultural. Most of the District is planted in permanent crops such as almonds and wine grapes. The irrigation and stormwater canals and ditches run through land zoned for agriculture.

## **2.1.8 Other Public Agencies Whose Approval May Be Required**

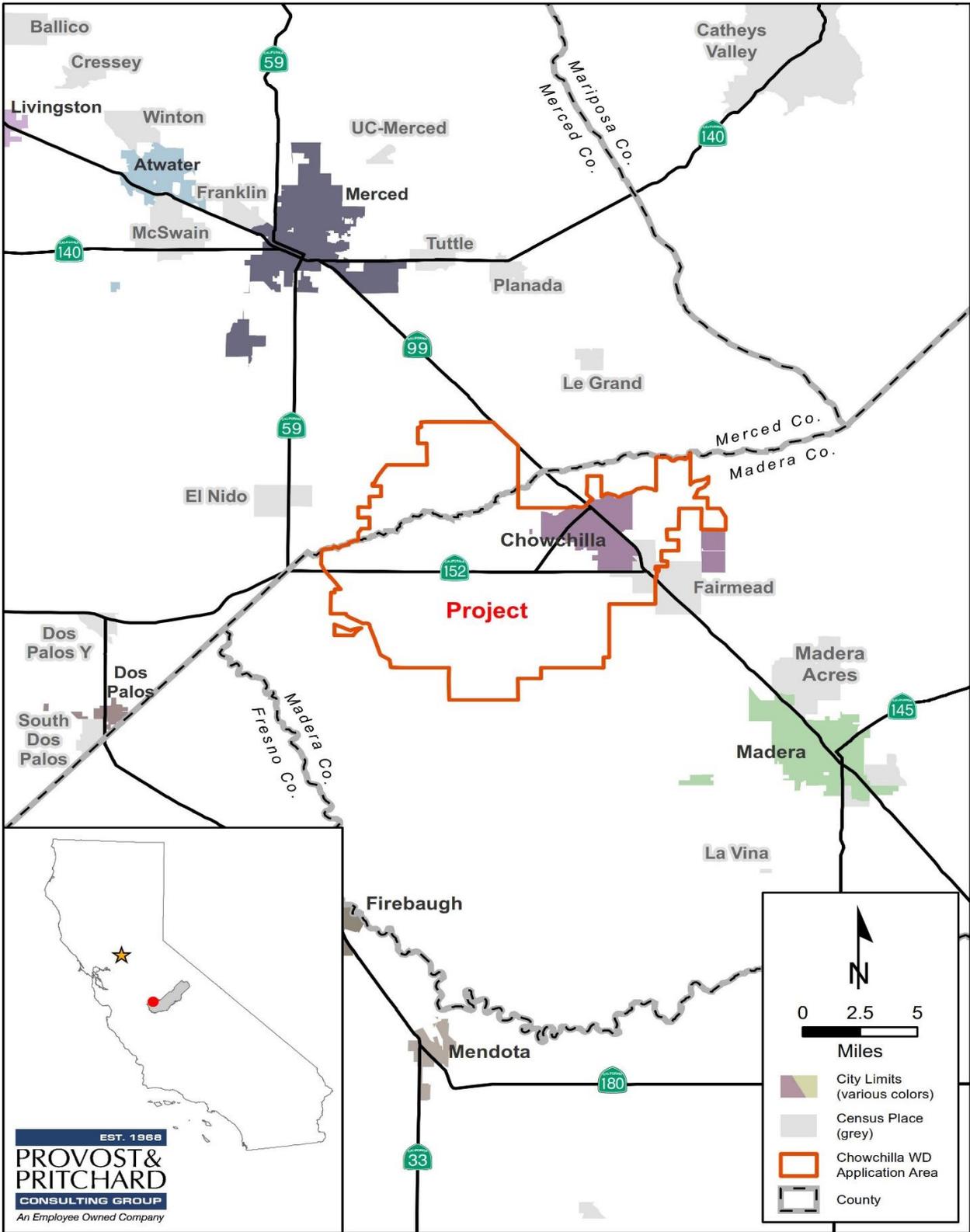
California Department of Fish and Wildlife  
California Department of Pesticide Regulation  
California Department of Toxic Substances Control  
Madera County Agricultural Commissioner  
Merced County Agricultural Commissioner  
Regional Water Quality Control Board  
State Water Resources Control Board

## **2.1.9 Consultation with California Native American Tribes**

Public Resources Code Section 21080.3.1, *et seq.* (codification of AB 52, 2013-14) requires that a lead agency, within 14 days of determining that it will undertake a project, must notify in writing any California Native American Tribe traditionally and culturally affiliated with the geographic area of the project if that Tribe has previously requested notification about projects in that geographic area. The notice must briefly describe the project and inquire whether the Tribe wishes to initiate formal consultation. Tribes have 30 days from receipt of notification to request formal consultation. The lead agency then has 30 days to initiate the consultation, which then continues until the parties come to an agreement regarding necessary mitigation or agree that no

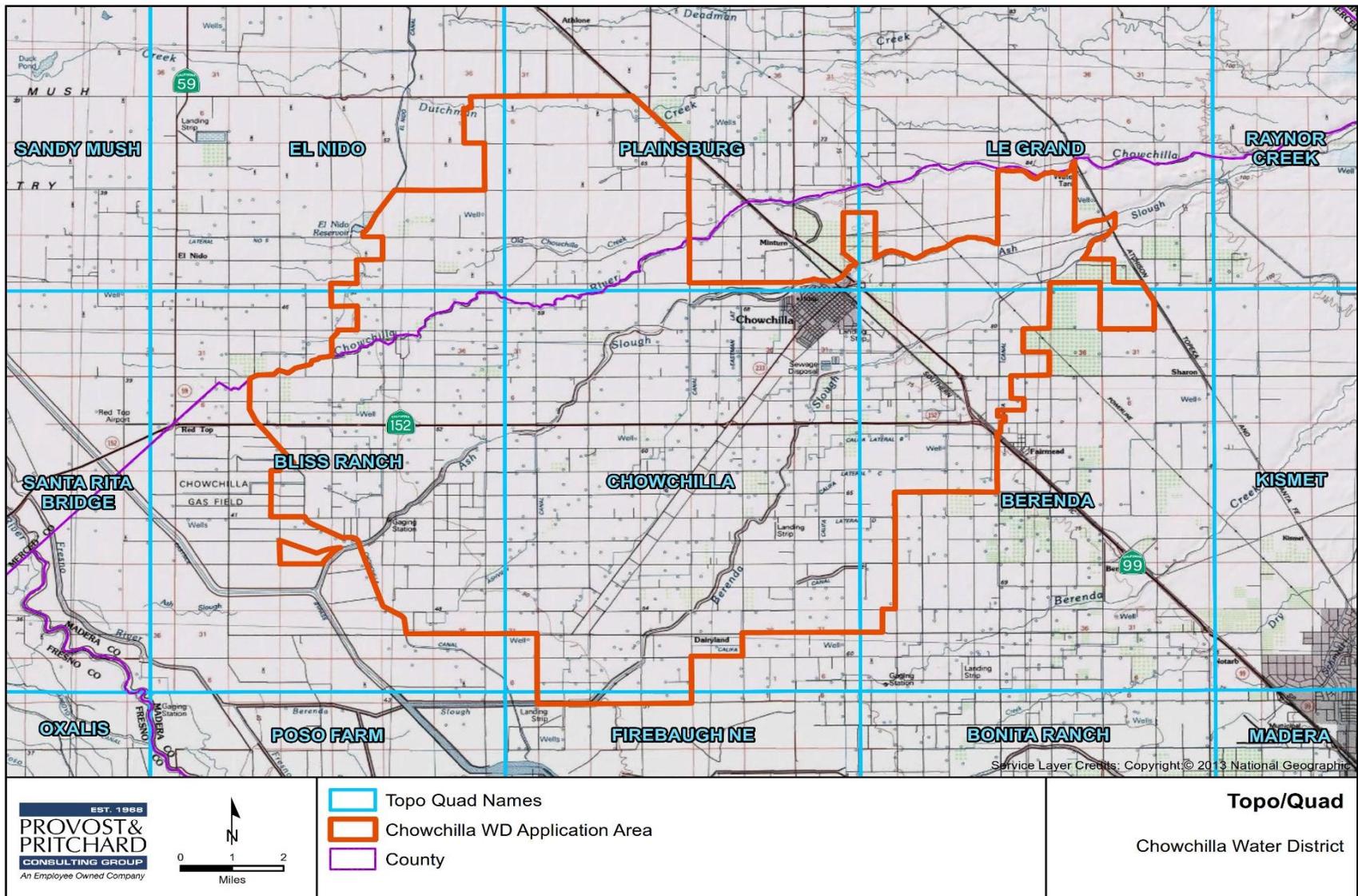
mitigation is needed, or one or both parties determine that negotiation occurred in good faith, but no agreement will be made.

Chowchilla Water District, Lead Agency received any written correspondence from any Tribe pursuant to Public Resources Code Section 21080.3.1 requesting notification of proposed project.



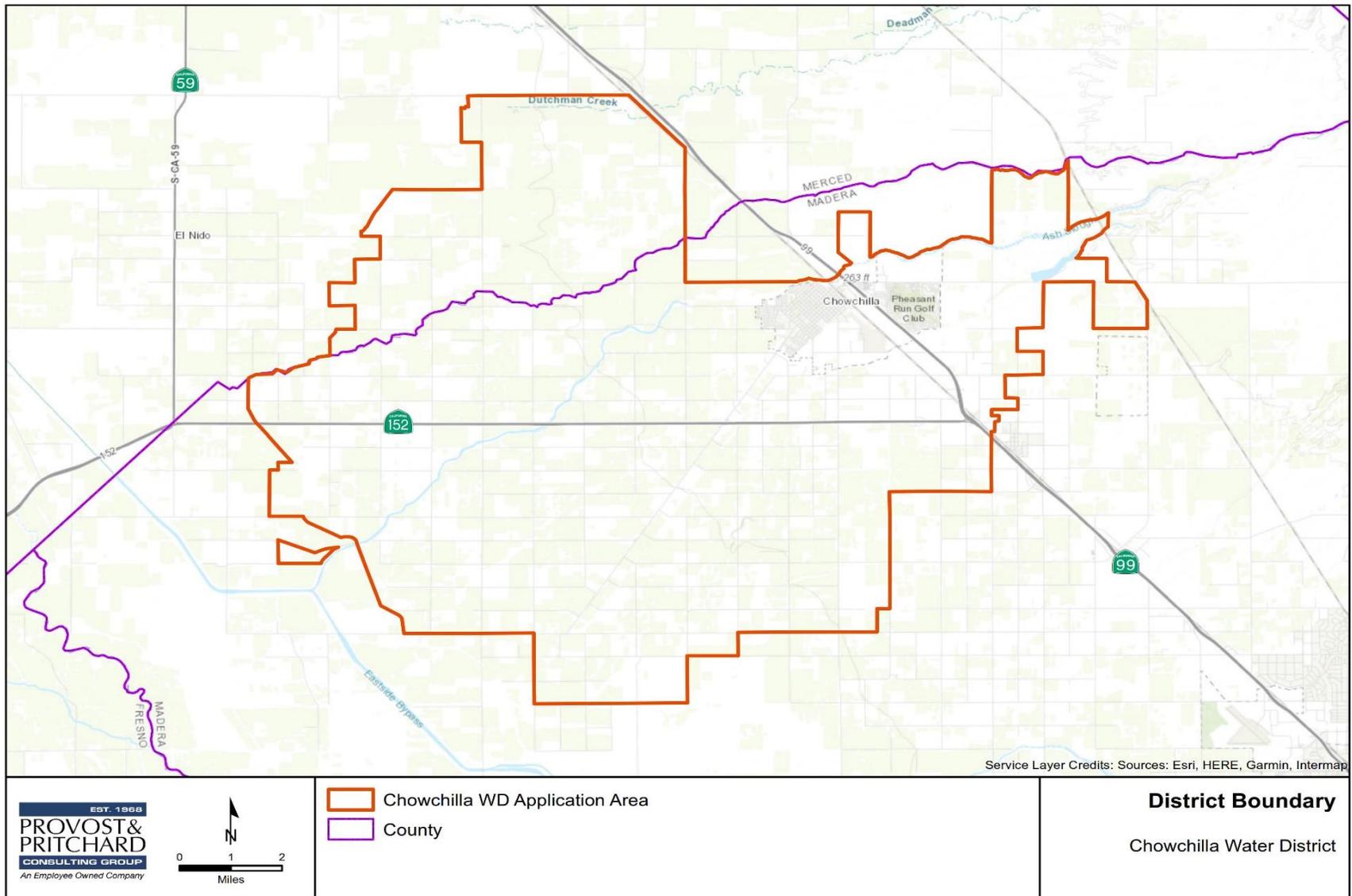
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Figure 2-1. Regional Location



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Figure 2-2. Topographic Quadrangle Map



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Figure 2-3. District Boundary Map

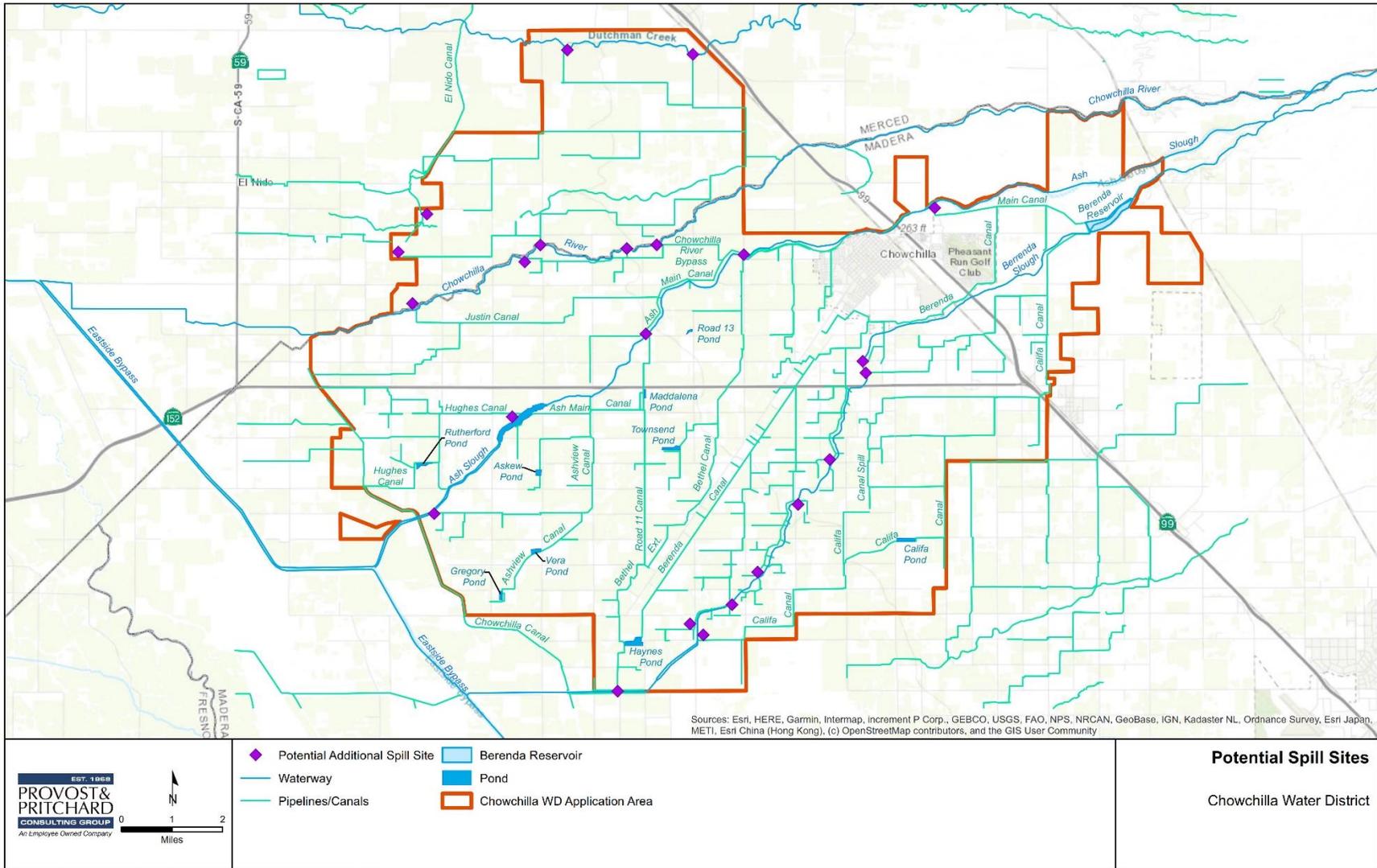


Figure 2-4. Potential Spill Sites

# Chapter 3 Impact Analysis

## 3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, as indicated by the checklist and subsequent discussion on the following pages.

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Aesthetics                         | <input checked="" type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality                                   |
| <input checked="" type="checkbox"/> Biological Resources    | <input type="checkbox"/> Cultural Resources               | <input type="checkbox"/> Energy  |
| <input type="checkbox"/> Geology/Soils                      | <input type="checkbox"/> Greenhouse Gas Emissions         | <input checked="" type="checkbox"/> Hazards & Hazardous Materials      |
| <input checked="" 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 checked="" type="checkbox"/> Transportation        | <input type="checkbox"/> Tribal Cultural Resources                     |
| <input type="checkbox"/> Utilities/Service Systems          | <input type="checkbox"/> Wildfire                         | <input checked="" type="checkbox"/> Mandatory Findings of significance |

**DETERMINATION:** (To be completed by the Lead Agency)

Based on this initial evaluation:

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

  
Signature

10/31/19  
Date

Brandon Terolinson / GM  
Printed Name/Position

## 3.2 Aesthetics

Table 3-1. Aesthetics Impacts

Aesthetics				
Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.2.1 Environmental Setting and Baseline Conditions

The Project area consists of the waterways of the District which flow through agricultural land and near rural residences. The site consists of highly disturbed lands that include access roads and canals and ditches used for irrigation and stormwater. As this Project consists of the periodic application of copper and acrolein to waterways, it would take place only within District waterways and their banks. The Project would be visually consistent with the surrounding ag land.

### 3.2.2 Impact Assessment

**I-a) Would the project have a substantial adverse effect on a scenic vista?**

**I-b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

a and b) **No Impact.** No designated scenic vistas or highways occur within the District’s boundaries.

**I-c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

c) **No Impact.** The Project is consistent with the existing visual character of the District’s service area.

**I-d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**d) No Impact.** The aquatic herbicides would be applied during daylight hours and the Project does not involve construction of any kind. There will be no new source of light or glare.

### 3.3 Agriculture and Forestry Resources

Table 3-2. Agriculture and Forest Resources Impacts

Agriculture and Forest Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input 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, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.3.1 Environmental Setting and Baseline Conditions

Land use throughout the Project area is solely agricultural. Most of the District is planted to permanent crops such as almonds and wine grapes. Land classifications and Williamson Act contracts in the area will not be affected by the proposed Project because it involves existing District waterways and their banks. No changes in agricultural designation are proposed. The Project is in support of and an accessory to existing agricultural operations.

#### 3.3.2 Impact Assessment

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

**II-b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**II-c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code**

section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

**II-d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

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

**a–e) No Impact.** As the Project is ag-related and will be implemented solely in waterways currently used for agriculture, it will have no impact on the existing zoning or designated use in the Project area and its surroundings.

## 3.4 Air Quality

Table 3-3. Air Quality Impacts

Air Quality				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.4.1 Environmental Setting and Baseline Conditions

The Project lies within the eight-county San Joaquin Valley Air Basin (SJVAB), which is managed by the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local, and regional meteorology. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O<sub>3</sub>), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb). The CAAQS also set standards for sulfates (SO<sub>4</sub>), hydrogen sulfide (H<sub>2</sub>S), vinyl chloride (C<sub>2</sub>H<sub>3</sub>Cl) and visibility.

Air quality plans or attainment plans are used to bring the applicable air basin into attainment with all State and Federal ambient air quality standards designed to protect the health and safety of residents within that air basin. Areas are classified under the Federal Clean Air Act as either “attainment”, “nonattainment”, or “extreme nonattainment” areas for each criteria pollutant based on whether the NAAQS have been achieved or not. Attainment relative to the State standards is determined by the California Air Resources Board (CARB). The San Joaquin Valley is designated as a State and Federal nonattainment area for O<sub>3</sub>, a State and Federal nonattainment area for PM<sub>2.5</sub>, a State nonattainment area for PM<sub>10</sub>, a Federal and State attainment area for CO, SO<sub>2</sub>, and NO<sub>2</sub>, and a State attainment area for sulfates, vinyl chloride, and Pb<sup>1</sup>.

#### 3.4.1.1 Thresholds of Significance

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts*. This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts. Accordingly, the SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed Project would result in a

<sup>1</sup> San Joaquin Valley Air Pollution Control District. Ambient Air Quality Standards and Valley Attainment Status. <http://www.valleyair.org/aqinfo/attainment.htm>. Accessed 11 September 2019.

significant air quality impact. Projects that exceed these recommended thresholds would be considered to have a potentially significant impact to human health and welfare. The thresholds of significance are summarized, as follows:

**Short-Term Emissions of Particulate Matter (PM<sub>2.5</sub> and PM<sub>10</sub>):** Construction impacts associated with the proposed Project would be considered significant if the feasible control measures for construction in compliance with Regulation VIII as listed in the SJVAPCD guidelines are not incorporated or implemented, or if project-generated emissions would exceed 15 tons per year (TPY).

**Short-Term Emissions of Ozone Precursors (ROG and NO<sub>x</sub>):** Construction impacts associated with the proposed Project would be considered significant if the project generates emissions of Reactive Organic Gases (ROG) or NO<sub>x</sub> that exceeds 10 TPY.

**Long-Term Emissions of Particulate Matter (PM<sub>2.5</sub> and PM<sub>10</sub>):** Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of PM<sub>2.5</sub> or PM<sub>10</sub> that exceed 15 TPY.

**Long-Term Emissions of Ozone Precursors (ROG and NO<sub>x</sub>):** Operational impacts associated with the proposed Project would be considered significant if the project generates emissions of ROG or NO<sub>x</sub> that exceeds 10 TPY.

**Conflict with or Obstruct Implementation of Applicable Air Quality Plan:** Due to the region's nonattainment status for ozone, PM<sub>2.5</sub>, and PM<sub>10</sub>, if the project-generated emissions of either of the ozone precursor pollutants (i.e., ROG and NO<sub>x</sub>) or PM<sub>10</sub> would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans. In addition, if the project would result in a change in land use and corresponding increases in vehicle miles traveled, the project may result in an increase in vehicle miles traveled that is unaccounted for in regional emissions inventories contained in regional air quality control plans.

**Local Mobile-Source CO Concentrations:** Local mobile source impacts associated with the proposed Project would be considered significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e., 9.0 ppm for 8 hours or 20 ppm for 1 hour).

Exposure to toxic air contaminants (TAC) would be considered significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 10 in 1 million or would result in a Hazard Index greater than 1.

Odor impacts associated with the proposed Project would be considered significant if the project has the potential to frequently expose members of the public to objectionable odors.

Table 3-4. Summary of Ambient Air Quality Standards and Attainment Designation

Summary of Ambient Air Quality Standards & Attainment Designation					
Pollutant	Averaging Time	California Standards*		National Standards*	
		Concentration*	Attainment Status	Concentration**	Attainment Status
Ozone (O <sub>3</sub> )	1-hour	0.09 ppm	Nonattainment/ Severe	–	No Federal Standard
	8-hour	0.070 ppm	Nonattainment	0.075 ppm	Nonattainment (Extreme)***
Particulate Matter (PM <sub>10</sub> )	AAM	20 µg/m <sup>3</sup>	Nonattainment	–	Attainment
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	AAM	12 µg/m <sup>3</sup>	Nonattainment	12 µg/m <sup>3</sup>	Nonattainment
	24-hour	No Standard		35 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1-hour	20 ppm	Attainment/ Unclassified	35 ppm	Attainment/ Unclassified
	8-hour	9 ppm		9 ppm	
	8-hour (Lake Tahoe)	6 ppm		–	
Nitrogen Dioxide (NO <sub>2</sub> )	AAM	0.030 ppm	Attainment	53 ppb	Attainment/ Unclassified
	1-hour	0.18 ppm		100 ppb	
Sulfur Dioxide (SO <sub>2</sub> )	AAM	–	Attainment	–	Attainment/ Unclassified
	24-hour	0.04 ppm		–	
	3-hour	–		0.5 ppm****	
	1-hour	0.25 ppm		75 ppb	
Lead (Pb)	30-day Average	1.5 µg/m <sup>3</sup>	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		–	
	Rolling 3-Month Average	–		0.15 µg/m <sup>3</sup>	
Sulfates (SO <sub>4</sub> )	24-hour	25 µg/m <sup>3</sup>	Attainment	No Federal Standards	
Hydrogen Sulfide (H <sub>2</sub> S)	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	Unclassified		
Vinyl Chloride (C <sub>2</sub> H <sub>3</sub> Cl)	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/km-visibility of 10 miles or more due to particles when the relative humidity is less than 70%.	Unclassified		

\* For more information on standards visit: <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

\*\* Primary Standards listed, unless noted otherwise

\*\*\* No Federal 1-hour standard. Reclassified extreme nonattainment for the Federal 8-hour standard May 5, 2010.

\*\*\*\* Secondary Standard

Source: CARB 2019; SJV-APCD 2019

### 3.4.2 Impact Assessment

The District has been performing maintenance activities similar to the proposed Project for decades. The Project does not anticipate an increase in vehicle trips compared to current baseline conditions. The District routinely complies with applicable SJVAPCD rules and regulations designed to reduce air quality impacts.

The proposed Project consists of the periodic application of aquatic herbicides copper and acrolein at strategic locations only in the waterways of the District that maximize the distance from each potential natural river/slough/creek receiving point. The aquatic herbicides would be introduced intermittently and periodically between the months of March and October at a quantity in compliance with thresholds determined by the Water Boards based on CalEPA and EPA standards. The aquatic herbicide applications would be added to the ongoing maintenance routine, so it is expected that the Project would have little impact on existing conditions.

#### 3.4.2.1 Short-Term Construction-Generated Emissions

No construction is necessary for the Project.

#### 3.4.2.2 Long-Term Operational Emissions

During the irrigation season, the aquatic herbicides will be applied at an interval of every 14 to 21 days by existing staff during an ongoing maintenance routine that staff members are already performing. Long-term emissions from this Project would be vehicle-related and are not expected to increase substantially.

#### III-a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

#### III-b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

**a and b) No Impact.** The Project requires the use of pick-up trucks and similar vehicles to transport aquatic herbicide. Pick-up trucks are also used for site reconnaissance before, during, and after application of aquatic herbicide. Short-term vehicle emissions will be generated during aquatic herbicide application; however, they will be minor and last only from March to October. To minimize impacts, the aquatic herbicide-related tasks will be combined with routine maintenance trips and vehicles will be properly tuned and muffled, and unnecessary idling will be minimized.

The District is located within the San Joaquin Valley Air Pollution Control District (SJVAPCD). Aquatic herbicide application does not conflict with the SJVAPCD's air quality attainment plans, violate any air quality standard, or contribute to an existing or projected violation from the SJVAPCD.

#### III-c) Would the project expose sensitive receptors to substantial pollutant concentrations?

#### III-d) Would the project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?

**c and d) Less Than Significant Impact.** Aquatic herbicides will be applied by CWD Qualified Applicators in agricultural areas rarely frequented by people. Applications will not be made within a half-mile of sensitive receptors, including schools, playgrounds, health care facilities, day care facilities, and athletic facilities. District staff would directly apply the aquatic pesticides to the affected areas, thereby eliminating airborne dispersal of pollutants and potentially objectionable odors. It is expected that the impact to any sensitive receptors would be less than significant.

## 3.5 Biological Resources

Table 3-5. Biological Resources Impacts

Biological Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

### 3.5.1 Environmental Setting and Baseline Conditions

Provost & Pritchard conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the Project site and surrounding areas. A reconnaissance-level field survey of several representative application sites and spill sites within the District's boundaries was conducted on August 20, 2019 by Provost & Pritchard's biologist. The survey consisted of walking through the Project area while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the sites and surrounding areas were assessed for suitable habitats of various wildlife species. The following section contains excerpts from the biological evaluation report (**Appendix A**) prepared in order to analyze the Project's potential impacts to biological resources.

Chowchilla Water District Project Application Area encompasses a slice of southeast Merced County and a portion of northwest Madera County, including the City of Chowchilla. The Project lies within the San Joaquin Valley, part of the Great Valley of California. The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The District lies within the Fresno River watershed, Hydrologic Unit Code (HUC):18040007, and the Middle San Joaquin-Lower Chowchilla watershed, HUC:1804001 (EPA, 2019). Four natural stream systems pass through the District: Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough. Dutchman Creek intersects the northernmost portion of the District in Merced County and is one of the many minor tributaries to the San Joaquin River. Water from the Chowchilla River originates in the western Sierra Nevada. Just east of the District's eastern boundary, water from the Chowchilla River and water received by Millerton Lake via the Madera Canal is diverted into Ash and Berenda Sloughs, and excess water continues along the main river channel. Most years, the Chowchilla River channel dries up before it reaches the outlet; however, in high flow years, floodwaters flow from the main channel to the San Joaquin River. Water from Ash and Berenda Sloughs flows in a southwesterly direction through the District. Both sloughs empty into the Eastside Bypass just west of the District's western boundary, and this water flows in a northerly direction until it reaches the San Joaquin River via controlled flood releases in years of heavy rain.

The District lies entirely within the Chowchilla Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. (DWR, 2019). Like most of the lower San Joaquin Valley, the Chowchilla Subbasin has been identified by the Department of Water Resources (DWR) as a “high priority” and “critically over-drafted” subbasin (DWR, 2016). CWD receives water from three main sources: the San Joaquin River, the Chowchilla River, and Merced Irrigation District (Provost & Pritchard Consulting Group, 2014), and utilizes the Chowchilla River, Ash Slough, and Berenda Slough for the transport of water and groundwater recharge (Chowchilla Water District, 2017).

### Potential Application Sites

In general, potential application sites include existing canals used for irrigation and water conveyance. These canals typically have in-channel control and measurement structures such as gates, weirs, and flumes. Vegetation management and other routine maintenance activities are conducted by the District on a regular basis year-round. Portions of the channel are covered in hardscape or rip-rap, and the remaining areas are composed of compacted dirt and clay lining. The streambed, banks, and floodplain are usually either barren or ruderal with a cover of non-native grasses and forbs. Ruderal habitats are characterized by a high level of human disturbance and absence of vegetation or dominated by non-native plant species. Frequent human disturbance, absence of native riparian vegetation, and the fact that most of these canals are dry more than half of the year generally makes these areas of low value to most native wildlife species. However, some wildlife, especially those adapted to urbanized environments may occur within the potential application sites. For example, many of the surveyed canals contained ground squirrel burrows along the top of bank and several rodent bait stations were observed. The following species were observed at potential application sites during the biological survey: domestic dog, American bullfrog (*Lithobates catesbeianus*), crayfish (*Procambarus* sp.), California ground squirrel (*Otospermophilus beecheyi*), San Joaquin fence lizard (*Sclerophorus occidentalis biseratus*), and red-tailed hawk (*Buteo jamaicensis*). Several of the in-channel structures contained potential bat roosts and old mud nests, indicative of swallow colonization. Survey of a potential application site at Main Canal heading revealed active barn owl (*Tyto alba*) nests within ornamental palm trees in the vicinity, evidenced by significant whitewash, prey remnants, and

pellets at the base of the tree. Although not observed during the field survey, additional disturbance tolerant species expected to frequent canals or adjacent habitats dominated by agricultural uses include: striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), Botta's pocket gopher (*Thomomys bottae*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), western side-blotched lizard (*Uta stansburiana elegans*), Pacific gophersnake (*Pituophis catenifer catenifer*), California kingsnake (*Lampropeltis californiae*), valley gartersnake (*Thamnophis sirtalis fitchi*), Sierran treefrog (*Pseudacris sierra*), and California toad (*Anaxyrus boreas halophilus*). Although suitable nesting habitat is scarce within the frequently disturbed canals, a variety of avian species could pass over or through potential application sites during foraging or dispersal movements.

### Potential Spill Sites

Potential spill sites include all locations where treated water could be released into one of the District's natural stream systems that could be considered a Water of the U.S. (Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough). During the biological survey several potential spill sites were observed along each of these drainage courses. In general, potential spill sites included riverine, riparian, and freshwater emergent wetland habitat. Several inactive raptor nests were observed within large oaks and cottonwood trees along the riparian corridors, and red-tailed hawks (*Buteo jamaicensis*) were observed overhead at every surveyed site. Additional observations include a Cooper's hawk (*Accipiter cooperii*) and a pair of loggerhead shrikes (*Lanius ludovicianus*) along Ash Slough. Several inactive oriole nests were observed along surveyed areas of Berenda Slough, and although American bullfrogs (*Lithobates catesbeianus*) were observed throughout all survey locations, this species was especially prevalent in Dutchman Creek. All of the species listed above as observed or expected to occur within canals or habitats dominated by agricultural uses would also be expected to occur within the potential spill sites. In addition, emergent vegetation and the riparian habitats of these natural stream systems likely serve as suitable nesting and foraging habitat for a variety of avian species (see [Figure 2-4](#)).

### Special Status Plants and Animals

California contains several "rare" plant and animal species. In this context, "rare" is defined as species known to have low populations or limited distributions. As the human population grows, resulting in urban expansion which encroaches on the already limited suitable habitat, these sensitive species become increasingly more vulnerable to extirpation. State and Federal regulations have provided the CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The California Native Plant Society (CNPS) has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as "special status species."

A thorough search of the CNDDDB for published accounts of special status plant and animal species was conducted for the seven 7.5-minute quadrangles containing all potential Project areas within the District: *El Nido*, *Plainsburg*, *Le Grand*, *Bliss Ranch*, *Chowchilla*, *Firebaugh NE*, and *Berenda*. Additionally, all 16 surrounding quadrangles (*Sandy Mush*, *Atwater*, *Merced*, *Planada*, *Owens Reservoir*, *Illinois Hill*, *Raynor Creek*, *Kismet*, *Bonita Ranch*, *Poso Farm*, *Oxalis*, *Santa Ridge Bridge*, *Madera*, *Firebaugh*, *Mendota Dam*, and *Gravelly Ford*) were included in this CNDDDB search. These species, and their potential to occur within the Project area are listed in [Table 3-6](#) and [Table 3-7](#) on the following pages. Raw data obtained from CNDDDB is available in [Appendix A](#) at the end of this document. Other sources of information utilized in the preparation of this analysis included the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California, CalFlora's online database of California native plants, the Jepson Herbarium online database (Jepson eFlora), U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS), the NatureServe Explorer online database, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database, the California Department of Fish and Wildlife (CDFW)

California Wildlife Habitat Relationships (CWHR) database, ebird.org, and the California Herps online database.

For a complete list of references, please see the biological evaluation report ([Appendix A](#)).

**Table 3-6. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity**

Species	Status	Habitat	Occurrence on Project Site
<b>American badger (<i>Taxidea taxus</i>)</b>	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	<b>Unlikely.</b> In the past 30 years, there have only been two recorded observations of this species in the District's vicinity. Both occurred within or adjacent to grassland habitat. The Project's application locations are generally unsuitable for this species due to frequent disturbance associated with vegetation management within the canal systems. This species may occupy grassland adjacent to the District's spill sites in natural drainages, but would only be expected occur within the stream systems periodically to forage or in seek of water. Suitable denning habitat is absent from the waterways due to frequent inundation.
<b>bald eagle (<i>Haliaeetus leucocephalus</i>)</b>	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Nests are generally found in large, old-growth trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	<b>Possible.</b> There is a nesting occurrence for this species reported along the Chowchilla River, and this species could potentially forage over the District.
<b>bank swallow (<i>Riparia riparia</i>)</b>	CT	These aerial insectivores nest colonially in burrows constructed along vertical banks and bluffs near waterbodies. This disturbance tolerant species is also known to nest in man-made sites, such as quarries, mounds of gravel or dirt, and road cuts.	<b>Unlikely.</b> This species has not been reported in the Project's vicinity in over 35 years. This species is thought to be extirpated from the Project area. Although Madera County did contain a historic population of this species, there are no known extant populations remaining within the District's boundaries. The Project is outside of the known current distribution range of this species (Anderson-Abbs, 2013) (NatureServe Explorer, 2019) (California Department of Fish and Wildlife, 2019)
<b>blunt-nosed leopard lizard (<i>Gambelia sila</i>)</b>	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on	<b>Unlikely.</b> This species would not be expected to occur within canals or stream systems. There is one recent (2006) recorded observation that could be considered within the District's boundaries. This occurrence was reported near the intersection of Avenue 17 and Road 13 within grazed grassland habitat approximately 1.5

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Species	Status	Habitat	Occurrence on Project Site
		kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	miles southeast of the nearest potential spill site into Berenda Slough.
<b>burrowing owl</b> <i>(Athene cunicularia)</i>	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by burrowing mammals, most often ground squirrels.	<b>Possible.</b> This species could breed within ground squirrel burrows along the banks of canals. While the presence of large trees and an abundance of raptors along natural drainage courses may make those areas generally unsuitable as breeding habitat, burrowing owls could use the stream systems and adjacent lands as wintering or foraging habitat.
<b>California tiger salamander</b> <i>(Ambystoma californiense)</i>	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	<b>Unlikely.</b> Suitable breeding habitat is absent from the Project area's canals and stream systems. This species has never been reported within the Project area, although there are several recorded occurrences north of Ash Slough just outside of the District's northern boundary. The nearest occurrence was reported in 1994, and it was located along Road 19 north of Ash Slough, approximately 1.5 miles east (upstream) of the nearest potential spill site into Ash Slough. At most, this species could aestivate in burrows along canal banks or pass through Project areas during dispersal movements.
<b>coast horned lizard</b> <i>(Phrynosoma blainvillii)</i>	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	<b>Unlikely.</b> There are no recorded observations of this species within the District and this species would not be expected to occur within canals or stream systems of the Project area.
<b>Conservancy fairy shrimp</b> <i>(Branchinecta conservatio)</i>	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley. Found in large, turbid pools.	<b>Absent.</b> Suitable habitat for this species is absent from Project areas.
<b>ferruginous hawk</b> <i>(Buteo regalis)</i>	CWL	Occurs in a variety of habitats including open grassland, sagebrush flats, desert scrub, low foothills and the fringes of pinyon and juniper woodlands. Population trends may follow cycle of prey species populations, which include ground squirrels, mice, and lagomorphs.	<b>Possible.</b> Although there are no recorded nesting occurrences of this species within the District's boundaries, suitable nesting and foraging habitat is present.

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Species	Status	Habitat	Occurrence on Project Site
<b>Fresno kangaroo rat</b> <i>(Dipodomys nitratoides exilis)</i>	FE, CE	An inhabitant of alkali sink open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.	<b>Absent.</b> This species would not be expected to inhabit Project areas, which are composed of canals and stream systems. There are two recorded observations of this species in the District's vicinity. Both observations correspond to historic collections made over 60 years ago, the nearest of which was made approximately 7 miles south of the District's southern boundary.
<b>giant garter snake</b> <i>(Thamnophis gigas)</i>	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	<b>Absent.</b> With the exception of one historic (1908) record which is now believed to be extirpated, all giant garter snake occurrences in the San Joaquin Valley originate south and west of the San Joaquin River. There have been nor recorded observations of this species within the District and there are no known extant populations in the vicinity. The Project area is outside of the accepted current distribution range of this species (U.S. Fish and Wildlife Service, 2017).
<b>merlin</b> ( <i>Falco columbarius</i> )	CWL	Found throughout North America in habitats ranging from tidal estuaries to open woodlands and valley grasslands. Generally, roosts in clumps of trees or windbreaks.	<b>Possible.</b> This species does not breed in California, but it could forage over the District.
<b>mountain plover</b> <i>(Charadrius montanus)</i>	CSC	Breeds on open plains at moderate elevations. Winters in short-grass plains and fields, plowed or fallow fields, and sandy deserts. Prefers flat, bare ground with burrowing rodents.	<b>Possible.</b> This species could winter within fallow fields in the Project's vicinity and could occasionally pass over Project areas. Suitable nesting habitat is absent from the canals and stream systems where Project activities are planned to occur.
<b>Nelson's antelope squirrel</b> <i>(Ammospermophilus nelsoni)</i>	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	<b>Unlikely.</b> This species would not be expected to occur within Project areas which are composed of canals and stream systems. There has only been one recorded observation of this species in the District's vicinity. This observation corresponds to a historic (1918) collection from a location approximately 17 miles south of the District's southern boundary. Furthermore, ground squirrel individuals and burrows were abundant throughout most of the surveyed areas. California ground squirrels have a propensity to inhabit disturbed lands and displace smaller fossorial species, such as the giant kangaroo rat and antelope squirrel.

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Species	Status	Habitat	Occurrence on Project Site
			Harris and Stearns (1991) concluded that “on small habitat fragments surrounded by disturbed or agricultural lands, the potential for California ground squirrels to have a negative impact on antelope squirrels may be significant.”
<b>northern California legless lizard (<i>Anniella pulchra</i>)</b>	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night. Prefers soil with a high moisture content.	<b>Unlikely.</b> Although the riparian corridor of some of the natural drainage courses within the District provide suitable habitat for this species, the only recorded observation in the vicinity was made in 2000 approximately 17 miles south of the District’s southern boundary.
<b>northern harrier (<i>Circus hudsonius</i>)</b>	CSC	Nests and forges in various grasslands, including salt grass in desert sinks, riparian scrub, and wetland edges. Nests constructed on the ground from sticks in wet areas, usually on the edge of marshes.	<b>Likely.</b> There is a recent (2015) nesting occurrence record for this species between Dutchman Creek and Chowchilla River. Suitable nesting and foraging habitat is present in the Project areas and vicinity.
<b>San Joaquin kit fox (<i>Vulpes macrotis mutica</i>)</b>	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	<b>Unlikely.</b> This species would not be expected to occur within canals or stream systems on a regular basis. Suitable denning and foraging habitat is present in the vicinity, and a kit fox could conceivably use the riparian corridor of the stream systems or even canal banks during mating or dispersal movements; however, there are no recorded observations of this species within the District’s boundaries, and the San Joaquin kit fox rarely occurs this far east in the San Joaquin Valley.
<b>steelhead- Central Valley DPS (<i>Oncorhynchus mykiss irideus pop. 11</i>)</b>	FT	This winter-run fish begins migration to fresh water during peak flows during December and February. Spawning season is typically from February to April. After hatching, fry move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat boulders, submerged clay and undercut banks, and large woody debris.	<b>Absent.</b> The Project area is outside of the accepted current distribution range of this species.
<b>Swainson’s hawk (<i>Buteo swainsoni</i>)</b>	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	<b>Likely.</b> There are several nesting occurrence records within the District and suitable nesting and foraging habitat is present.
<b>tricolored blackbird (<i>Agelaius tricolor</i>)</b>	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large	<b>Possible.</b> This species could nest within dense riparian shrubs along the corridor of natural stream systems in the District.

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Species	Status	Habitat	Occurrence on Project Site
		colonies are often found on dairy farm forage fields.	
valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	<b>Absent.</b> Elderberry habitat was not observed within any of the surveyed representative application sites or potential spill sites. There is only one recorded occurrence of this species in the vicinity. The observation was made more than 25 years ago and was based solely on the presence of exit holes. Furthermore, the occurrence was ranked as “poor,” which means this population had a high potential for extirpation at the time of the report. Although this area is located within this species’ presumed historic range, there are known extant occurrences within the District (Dept. of the Interior. Fish and Wildlife Service, 2014).
vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Suitable habitat for this species is absent from Project areas.
vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Suitable habitat for this species is absent from Project areas.
western mastiff bat ( <i>Eumops perotis californicus</i> )	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces but may also use high buildings and tunnels.	<b>Possible.</b> Roosting habitat within Project areas is marginal at best; however, this species may forage over the canals and stream systems in the District.
western pond turtle ( <i>Emys marmorata</i> )	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	<b>Possible.</b> Although there have been no recorded observations of this species within the District’s boundaries, several of the surveyed areas contained suitable habitat.
western red bat ( <i>Lasiurus blossevillii</i> )	CSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	<b>Possible.</b> Although there have been no recorded observations of this species within the District’s boundaries, suitable roosting and foraging habitat is present, especially along the natural stream systems.
western spadefoot ( <i>Spea hammondi</i> )	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands,	<b>Unlikely.</b> There are several recorded observations of this species within vernal pool grassland habitat near the District’s northeast boundary and northwest boundary. However, the

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Species	Status	Habitat	Occurrence on Project Site
		river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	District's canals and stream systems do not provide suitable breeding habitat for this species, and apex predators, such as bullfrogs and crayfish were observed in nearly all of the surveyed areas. At most, this species could aestivate in burrows along canal banks or pass through Project areas during dispersal movements.
<b>western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)</b>	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	<b>Absent.</b> This species is presumed to be extirpated from the District area (Laymon & Halterman, 1989). The only recorded observation of this species in the vicinity was made near the Mendota Pool on the San Joaquin River in 1950, approximately 15 miles south of the District's southern boundary.
<b>Yellow-headed blackbird (<i>Xanthocephalus xanthocephalus</i>)</b>	CSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds.	<b>Unlikely.</b> Suitable nesting habitat is present within the riparian corridor of the natural stream systems in the District, and the Project area is located within the historic and current accepted breeding range. However, there has been only one recorded observation in the vicinity, and it corresponds to a historic (1919) collection made near Dos Palos. There have been no historic breeding sites in Madera County and the Merced County populations are presumed extirpated (NatureServe Explorer, 2019) (Shuford & Gardali, 2008).

Table 3-7. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity

Species	Status	Habitat	Occurrence on Project Site
beaked clarkia ( <i>Clarkia rostrata</i> )	CNPS 1B	Found in woodlands and valley foothill grasslands on the west slope of the Sierra Nevada range, around 1,640 feet in elevation. Blooms April – May.	<b>Absent.</b> Suitable habitat for this species is absent from the Project areas.
Boggs Lake hedge-hyssop ( <i>Gratiola heterosepala</i> )	CE, CNPS 1B	Found in freshwater marshes, swamps, and vernal pools in clay soils at elevations below 5250 feet. Blooms April – September.	<b>Unlikely.</b> Habitats within the Project area are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries.
California alkali grass ( <i>Puccinellia simplex</i> )	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March – May.	<b>Unlikely.</b> Habitats within the Project area are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries.
Colusa grass ( <i>Neostapfia colusana</i> )	FT, CE, CNPS 1B	Found in vernal pools in the San Joaquin Valley at elevations below 410 feet. Blooms May – August.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
Delta button-celery ( <i>Eryngium racemosum</i> )	CE, CNPS 1B	Found in riparian scrublands in floodplains near the California Delta at elevations between 10 and 100 feet. Blooms June – August.	<b>Unlikely.</b> Habitats within the Project area are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries.
Dwarf downingia ( <i>Downingia pusilla</i> )	CNPS 2B	Found in vernal pools in valley and foothill grassland communities at elevations below 1600 feet. Blooms March – May.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
forked hare-leaf ( <i>Lagophylla dichotoma</i> )	CNPS 1B	Found in cismontane woodland, and valley and foothill grassland communities at elevations between 600 feet and 1100 feet.	<b>Absent.</b> Suitable habitat is absent from the Project area. There has been only one recorded observation of this species in the vicinity, and it corresponds to a historic (1915) collection from an unknown location in the vicinity of Merced.
Greene’s tuctoria ( <i>Tuctoria greenei</i> )	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at elevations below 3500 feet. Blooms May – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
hairy Orcutt grass ( <i>Orcuttia pilosa</i> )	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
heartscale ( <i>Atriplex cordulata</i> var. <i>cordulata</i> )	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in saline or alkaline soils within shadescale scrub, valley	<b>Unlikely.</b> Habitats within Project areas are marginal for this species. There have been several recorded observations in the vicinity, but only

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Species	Status	Habitat	Occurrence on Project Site
		grassland, and wetland-riparian communities at elevations below 230 feet. Blooms June – July.	three were located within the District’s boundaries. Two of these observations have been updated to “extirpated,” and the third occurrence although it is still “presumed extant” was made 30 years ago.
<b>Hoover’s calycadenia</b> <i>(Calycadenia hooveri)</i>	CNPS 1B	Found in valley and foothill grassland and cismontane woodland communities on exposed, rocky, barren soil at elevations between 300 feet and 1300 feet. Blooms June – September.	<b>Absent.</b> Suitable habitat is absent from the Project area.
<b>Hoover’s cryptantha</b> <i>(Cryptantha hooveri)</i>	CNPS 1A	Presumed extirpated in California. Found in valley and foothill grassland and inland dunes in coarse sand at elevations below 250 feet. Blooms Mar – May.	<b>Absent.</b> This species is presumed extirpated from California. Suitable habitat is absent from the Project area.
<b>lesser saltscale</b> ( <i>Atriplex minuscula</i> )	CNPS 1B	Found in the San Joaquin Valley in playas; sandy, alkaline soils in shadescale scrub, valley grassland, and alkali sink communities at elevations below 300 feet. Blooms April – October.	<b>Unlikely.</b> Habitats within Project areas are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries in over 30 years.
<b>Lost Hills crownscale</b> <i>(Atriplex coronata var. vallicola)</i>	CNPS 1B	Found in the San Joaquin Valley in chenopod scrub, valley and foothill grassland, and vernal pools at elevations below 1400 feet. Typically found in dried ponds on alkaline soils. Blooms April – September.	<b>Unlikely.</b> Habitats within Project areas are marginal, at best for this species. The only recorded occurrence of this species in the vicinity corresponds to a historic (1938) collection from an unknown location near Mendota.
<b>Madera leptosiphon</b> <i>(Leptosiphon serrulatus)</i>	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet and 4300 feet. Blooms April – May.	<b>Absent.</b> Suitable habitat is absent from the Project area. The District is below the accepted altitudinal range of this species.
<b>Munz’s tidy-tips</b> ( <i>Layia munzii</i> )	CNPS 1B	Found in the San Joaquin Valley in alkali clay soils at elevations between 160 feet and 2625 feet in shadescale scrub, valley grassland, and riparian communities. Occurs predominantly in wetlands, but occasionally found in non-wetlands. Blooms March – April.	<b>Unlikely.</b> Habitats within Project areas are marginal, at best for this species. The only recorded occurrences of this species in the vicinity correspond to historic collections (1938 and 1941) from unknown locations near Firebaugh and Mendota.
<b>palmate-bracted bird’s-beak</b> ( <i>Chloropyron palmatum</i> )	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline soils (usually Pescadero silty clay) in chenopod scrub, valley and foothill grassland at	<b>Unlikely.</b> Habitats of the Project area are marginal, at best for this species. There are no recorded observations of this species within the District’s boundaries, and there

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Species	Status	Habitat	Occurrence on Project Site
		elevations below 500 feet. Blooms June – August.	have been no recorded occurrences of this species in the vicinity in over 25 years.
<b>pincushion navarretia</b> <i>(Navarretia myersii spp. myersii)</i>	CNPS 1B	Found in vernal pools in clay soils at elevations between 65-295 feet. Often associated with non-native grasslands. Blooms in May.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>Pleasant Valley mariposa-lily</b> <i>(Calochortus clavatus var. avius)</i>	CNPS 1B	Found in the lower montane coniferous forests of the Sierra Nevada range, often in rocky areas at elevations between 2950-5900 feet. Blooms May – July.	<b>Absent.</b> Suitable habitat is absent from the Project area. The District is below the accepted altitudinal range of this species.
<b>recurved larkspur</b> <i>(Delphinium recurvatum)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California. Occurs in poorly drained, fine, alkaline soils in grassland at elevations between 100 feet and 1965 feet. Most often found in non-wetlands, but occasionally found in wetlands. Blooms March – June.	<b>Unlikely.</b> This species would not be expected to occur within the canals and stream systems within the Project area. There has only been recorded observation of this species within the District’s boundaries, and it corresponds to a historic (1935) collection from an unknown location near Chowchilla. The status of this occurrence has since been updated to “extirpated” due to agricultural conversion.
<b>San Joaquin Valley Orcutt grass</b> <i>(Orcuttia inaequalis)</i>	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>Sanford’s arrowhead</b> <i>(Sagittaria sanfordii)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May – October.	<b>Unlikely.</b> Suitable habitat is present within Project areas. However, this species has never been recorded within the District. The nearest record in the vicinity occurred approximately 13 miles north of the District’s northern boundary and was reported in 1948.
<b>Shining navarretia</b> <i>(Navarretia nigelliformis ssp. radians)</i>	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	<b>Unlikely.</b> Habitats of the Project area are marginal, at best for this species. There are no recorded observations of this species within the District.
<b>spiny-sepaled button-celery</b> <i>(Eryngium spinosepalum)</i>	CNPS 1B	Found in the Sierra Nevada Foothills and portions of the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches at elevations between 325 feet and 4160 feet	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.

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Species	Status	Habitat	Occurrence on Project Site
		in valley grassland, freshwater wetlands, and riparian communities. Blooms April – July.	
<b>subtle orache (<i>Atriplex subtilis</i>)</b>	CNPS 1B	Found in the San Joaquin Valley in saline depressions at elevations below 230 feet. Blooms June – October.	<b>Unlikely.</b> Habitats of the Project area are marginal, at best for this species. There is one occurrence record of this species within the District it corresponds to a historic (1936) collection from a now extirpated population.
<b>succulent owl’s-clover (<i>Castilleja campestris</i> var. <i>succulenta</i>)</b>	FT, CE, CNPS 1B	Found in vernal pools, often in acidic soils at elevations below 2500 feet. Blooms April – July.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>vernal pool smallscale (<i>Atriplex persistens</i>)</b>	CNPS 1B	Found in alkaline vernal pools throughout the San Joaquin Valley at elevations between 10-377 feet. Blooms June – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the project area.
<b>watershield (<i>Brasenia schreberi</i>)</b>	CNPS 2B	Found in marshes and swamps, as well as near artificial waterbodies at elevations below 2200 feet. Blooms April – October.	<b>Unlikely.</b> Habitats of the Project areas are marginal, at best for this species. There have been no reported occurrences of this species within the District. The only recorded occurrence in the vicinity corresponds to a historic (1915) collection from an unknown location described only as “Merced.”

**EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

Present: Species observed on the site at time of field surveys or during recent past  
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis  
Possible: Species not observed on the site, but it could occur there from time to time  
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient  
Absent: Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

**STATUS CODES**

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCT	California Threatened (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Special Concern
		CWL	California Watch List
		CCE	California Endangered (Candidate)
		CR	California Rare

**CNPS LISTING**

1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in California, but more common elsewhere
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		

## 3.5.2 Impact Assessment

### IV-a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

a) **Less Than Significant Impact.** The District already conducts water quality testing at predetermined intervals and retains a qualified biologist to conduct biological post-construction surveys of potential spill sites in order to ensure there are no significant adverse effects to wildlife, pursuant to the APAP, NPDES Permit, and Water Quality Order. The District will be required to comply with all of the existing stipulations in applicable permits and regulatory documents. The biological evaluation report determined that implementation of the Project, as described, is not likely to result in significant impacts to special status species and/or protected biological resources. The following sections, which are summarized from the biological evaluation report (**Appendix A**), categorically discuss potential Project-related impacts to special status species or protected resources.

#### Special Status Plant Species

The biological evaluation report (**Appendix A**) determined that the Project area does not provide suitable habitat for regionally occurring special status plants, and in the unlikely event a special status plant was present within the Project area, it would remain highly unlikely for the Project to result in a significant impact to an individual plant or population.

#### Special Status Animal Species

According to the biological evaluation report, Of the 29 regionally occurring special status species documented in the CNDDDB, 18 are considered absent from or unlikely to occur within the Project area either due to past or ongoing disturbance, absence of suitable habitat, or because the species is presumed extirpated from the region. The following 11 special status animal species have been documented in the vicinity and have been determined to have potential to occur within the Project area: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), mountain plover (*Charadrius montanus*), northern harrier (*Circus hudsonis*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), western mastiff bat (*Eumops perotis californicus*), western pond turtle (*Emys marmorata*), and western red bat (*Lasiurus blossevillii*). Potential Project-related impacts to each of these species will be discussed briefly below. For detailed explanations and complete list of references, please refer to the biological evaluation report (**Appendix A**).

#### Special Status Avian Species, Nesting Raptors, and Migratory Birds

As mentioned above, eight special status bird species have been documented in the vicinity and have been determined to have potential to occur within the Project area: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), mountain plover (*Charadrius montanus*), northern harrier (*Circus hudsonis*), Swainson's hawk (*Buteo swainsoni*), and tricolored blackbird (*Agelaius tricolor*). Burrowing owl (*Athene cunicularia*) and ferruginous hawk (*Buteo regalis*) are both associated with upland habitats and their prey base includes terrestrial invertebrates and rodents; therefore, these two species would not be expected to have exposure to copper- or acrolein-treated water, either directly or through a food source. Merlin (*Falco columbarius*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonis*), and tricolored blackbird (*Agelaius tricolor*) are associated with riparian habitats but would not be expected to swim, wade, or forage within the treated canals or potential spill sites. The Merlin (*Falco columbarius*) and mountain plover (*Charadrius montanus*) are winter migrants to this region and would not be expected to be present during the typical application period in Spring and Summer. The bald eagle (*Haliaeetus leucocephalus*) could potentially nest or forage along the Chowchilla River. However, there is little to no risk of exposure to elevated levels of copper and/or acrolein within this waterbody. According to the District's adopted Aquatic Pesticide Application Plan

and the Water Quality Order issued as part of the NPDES permit, copper and acrolein will be applied within District canals as far upstream from potential spill sites as possible. Both copper and acrolein have short half-lives and are highly reactive which prevents transportation over long distances and persistence in the environment (Siemering & Hayworth, 2005). Therefore, waters within potential spill sites, including the Chowchilla River, and aquatic species which could serve as prey for the special status bald eagle, are not likely to be significantly affected by Project activities.

Potential Project-related disturbance is limited to the temporary mobilization and staging of equipment and materials required for the application of aquatic herbicides within the District's canals. Suitable nesting habitat is scarce within the frequently disturbed application sites, and habitats would be considered suboptimal for foraging and nesting. However, some disturbance tolerant avian species could nest in the Project vicinity. For instance, cliff swallows could nest on in-channel structures, raptors could nest in large trees in the vicinity, and killdeer could nest on the bare ground or dirt roads onsite. During the biological survey, old mud nests were observed on structures and an active barn owl nest was observed within an ornamental palm tree near the Main Canal heading. There will be no potential for disturbance to nesting birds at potential spill sites which contain habitat of much greater value to nesting birds.

All of the potential application sites are along existing compacted dirt access roads or paved roads which are used frequently for vehicles associated with canal maintenance and agricultural production. Project activities related to the application of aquatic herbicides will not involve the use of heavy equipment or loud machinery. Avian species inhabiting these areas are likely adapted to urban and agricultural environments and relatively tolerant of disturbance. It should be noted that the District already has an ongoing practice of aquatic herbicide application and channel maintenance at all of the potential application sites. Implementation of the Project will not result in a significant increase in disturbance or a change in the type of disturbance typically experienced onsite, and therefore, should have no impact on nesting birds in the vicinity. Additional mitigation measures to protect special status avian species, nesting birds, and migratory birds are not warranted.

#### **Potential Impacts to Special Status Bats and Roosting Bats**

The special status western mastiff bat (*Eumops perotis californicus*) and western red bat (*Lasiurus blossevillii*) could forage over potential application sites and potential spill sites. Neither of these species would be expected to roost within in-channel structures near application sites, but the western red bat could potentially roost within riparian trees along the natural stream systems. Other small, common bat species such as the little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), or Mexican free-tailed bat (*Tadarida brasiliensis*) could potentially use existing in-channel structures as day or night roosts or for maternity roosts. However, these structures are located within a region frequently disturbed by channel maintenance activities and traffic related to agricultural production. Furthermore, Project activities such as the application of aquatic herbicides will be unchanged from baseline conditions and therefore unlikely to result in a significant disturbance to roosting bats. Bat species with potential to occur within Project areas may forage on flying arthropods and drink from water sources in the Project area. Bats tend to prey on terrestrial invertebrates and therefore would not be expected to ingest increased concentrations of copper or acrolein through a food source. If a bat were to drink from one of the application sites it would do so from the canal's surface, which would only experience high concentrations of acrolein or copper immediately following application. The chemicals would be applied during the day when bats are inactive thereby decreasing the potential for a special status bat to experience exposure to high concentrations of copper or acrolein. For all of these reasons, potential Project-related impacts to special status bat species and roosting bats would be unlikely and considered less than significant.

#### **Potential Impacts to Western Pond Turtle**

Potential application sites include District canals, which are subject to vegetation maintenance activities on a regular basis and therefore lacking an overgrowth of riparian vegetation and basking sites suitable for the western pond turtle. However, this species could occur downstream of potential spill sites into natural stream systems. As mentioned above, both copper and acrolein have short half-lives and are highly reactive which

prevents transportation over long distances and persistence in the environment (Siemering & Hayworth, 2005). According to the District's adopted Aquatic Pesticide Application Plan and the Water Quality Order issued as part of the NPDES permit, copper and acrolein will be applied within District canals as far upstream from potential spill sites as possible thereby reducing the potential for toxicity in downstream natural stream systems which may support western pond turtles. Furthermore, multiple studies, including an extensive three-year worst-case-scenario monitoring analysis (Siemering & Hayworth, 2005) have shown little indication of short-term and no long-term toxicity of aquatic herbicide applications, including copper and acrolein, on fishes. It is reasonable to assume that toxicity would be even less likely to occur in a semi-aquatic species, such as the western pond turtle, since it would have less overall exposure to potentially affected waters. In addition, western pond turtles are accustomed to high levels of contaminants, evidenced by the fact that they are often found occupying wastewater treatment ponds and lumber mill effluent ponds. (USFWS, 2009). The USFWS 2009 publication *Conservation Assessment of the Western Pond Turtle in Oregon* lists a variety of threats with potential to affect conservation of the western pond turtle. While aquatic herbicide and pesticide use is discussed as potentially indirectly affecting turtles by reducing invertebrate prey or altering availability of cover or basking sites, toxicity is not listed as a threat to this species. For all of these reasons, potential Project-related impacts to western pond turtles would be unlikely and considered less than significant.

**IV-b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

**IV-c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**b and c) Less Than Significant Impact.** Riparian habitat and sensitive natural communities are absent the Project's potential application sites. While riparian habitat is present within the potential spill sites into natural watercourses, high concentrations of copper and/or acrolein would not reach these areas. Furthermore, according to the biological evaluation report (**Appendix A**), the EPA has determined that copper sulfate does not pose a risk to freshwater vascular plants (EPA, 2008), and acrolein is typically applied at nearly half the concentration believed to have a potential adverse effect on the most sensitive terrestrial vascular plant (Gomes, Meek, & Eggleton, 2002). Therefore, any potential impacts to riparian habitat, sensitive natural communities, or any other protected aquatic resources would be considered less than significant.

**IV-d) Would the project 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?**

**d) Less Than Significant Impact.** The Project site does contain features that could serve as a wildlife movement corridor. However, Project activities, which include the application of a diluted form of copper sulfate and acrolein, are not likely to impede the use of canal banks or riparian corridors for dispersal, mating, or migratory movements. Potential impacts to nesting birds and roosting bats were discussed in Impact Assessment IV-a above and determined to be less than significant in nature.

**IV-e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**IV-f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**e and f) No Impact.** The Project appears to be consistent with the goals and policies of the City of Chowchilla 2040 General Plan, Madera County General Plan, and the 2030 Merced County General Plan. There are no known habitat conservation plans within the Project area. Therefore, implementation of the Project would not conflict with the any local policies or ordinances protecting biological resources, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other approved local, regional, or state habitat conservation plan.

## 3.6 Cultural Resources

Table 3-8. Cultural Resources Impacts

Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.6.1 Environmental Setting and Baseline Conditions

The Project area involves application of aquatic herbicides in existing District-controlled irrigation and stormwater waterways and canals. No soil will be disturbed as a result of this project. The Project does not require construction.

### 3.6.2 Impact Assessment

**V-a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?**

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

**V-c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?**

**a–c) Less Than Significant Impact.** The proposed Project does not require construction and implementation does not involve soil disturbance. Applying the aquatic herbicides will have no impact on any historical or archaeological resources or human remains.

## 3.7 Energy

Table 3-9. Energy Impacts

Energy				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.7.1 Environmental Setting and Baseline Conditions

PG&E is the primary energy utility purveyor within Madera and Merced Counties. PG&E has sufficient energy supplies to support the growth that has occurred in both counties. Much of the energy consumed in the Central Valley is for residential, commercial, and transportation purposes.

District staff would be applying aquatic herbicide to irrigation and stormwater waterways during existing routine maintenance trips as part of Project operations. Staff vehicles use fossil fuels but because this work will occur during existing maintenance trips, the Project is not expected to have an appreciable impact on energy resources.

### 3.7.2 Impact Assessment

**VI-a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

**VI-b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

**a and b) No Impact.** Because the aquatic herbicide application will be incorporated with the existing maintenance routine, it is not expected to have a significant environmental impact or obstruct plans for renewable energy or energy efficiency.

### 3.8 Geology and Soils

Table 3-10. Geology and Soils Impacts

Geology and Soils				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause 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 type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect 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"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.8.1 Environmental Setting and Baseline Conditions

The Project area involves District-controlled irrigation and stormwater waterways and their banks. No soil will be disturbed as a result of this project. The Project does not require construction.

### 3.8.2 Impact Assessment

**VII-a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

*VII-a-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.*

*VI-a-ii) Strong seismic ground shaking?*

*VII-a-iii) Seismic-related ground failure, including liquefaction?*

*VII-a-iv) Landslides?*

**VII-b) Would the project result in substantial soil erosion or the loss of topsoil?**

**VII-c) Would the project 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?**

**VII-d) Would the project be located on expansive soil, as defined in Table 18-1-B of the most recently adopted Uniform Building Code creating substantial direct or indirect risks to life or property?**

**VII-e) Would the project 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?**

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

**a-f) No Impact.** The proposed Project consists of applying copper and acrolein solely to the District's existing waterways at strategic points to control weeds and algae growth. It will not involve construction or soil disturbance of any kind. As a result, the Project will not directly or indirectly cause adverse effects involving earthquake faults, seismic ground shaking or failure, or landslides. Unstable or expansive soil is not a concern and the Project would not impact these areas. The District inspects the canals yearly for structural integrity and proper management. The Project does not include the installation of septic tanks or other wastewater systems. As the Project involves existing irrigation and stormwater canals and ditches, as well as their banks, and access roads already in use, the Project would have no impact on unique paleontological resources or geologic features.

## 3.9 Greenhouse Gas Emissions

Table 3-11. Greenhouse Gas Emissions Impacts

Greenhouse Gas Emissions				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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"/>

### 3.9.1 Environmental Setting and Baseline Conditions

The Earth’s climate has been warming for the past century. Experts believe this warming trend is related to the release of certain gases into the atmosphere. Greenhouse gases (GHG) absorb infrared energy that would otherwise escape from the Earth. As the infrared energy is absorbed, the air surrounding the Earth is heated. An overall warming trend has been recorded since the late 19<sup>th</sup> century, with the most rapid warming occurring over the past 35 years, with 16 of the 17 warmest years on record occurring since 2001. Not only was 2016 the warmest year on record, but eight of the 12 months that make up the year — from January through September, with the exception of June — were the warmest on record for those respective months. October, November, and December of 2016 were the second warmest of those months on record — in all three cases, behind records set in 2015.<sup>2</sup> Human activities have been attributed to an increase in the atmospheric abundance of greenhouse gases. The following is a brief description of the most commonly recognized GHGs.

#### 3.9.1.1 Greenhouse Gases

Commonly identified GHG emissions and sources include the following:

**Carbon dioxide (CO<sub>2</sub>)** is an odorless, colorless natural greenhouse gas. CO<sub>2</sub> is emitted from natural and anthropogenic sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic out gassing. Anthropogenic sources include the burning of coal, oil, natural gas, and wood.

**Methane (CH<sub>4</sub>)** is a flammable greenhouse gas. A natural source of methane is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain methane, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and ruminants such as cattle.

**Nitrous oxide (N<sub>2</sub>O)**, also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide is produced by microbial processes in soil and water, including those reactions that occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load.

<sup>2</sup> NASA, NOAA Data Show 2016 Warmest Year on Record Globally. <https://www.nasa.gov/press-release/nasa-noaa-data-show-2016-warmest-year-on-record-globally>. Accessed 17 September 2019.

Water vapor is the most abundant, and variable greenhouse gas. It is not considered a pollutant; in the atmosphere, it maintains a climate necessary for life.

Ozone (O<sub>3</sub>) is known as a photochemical pollutant and is a greenhouse gas; however, unlike other greenhouse gases, ozone in the troposphere is relatively short-lived and, therefore, is not global in nature. Ozone is not emitted directly into the atmosphere but is formed by a complex series of chemical reactions between volatile organic compounds, nitrogen oxides, and sunlight.

Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone; therefore, their production was stopped as required by the Montreal Protocol in 1987.

Hydrofluorocarbons (HFCs) are synthetic chemicals that are used as a substitute for CFCs. Of all the greenhouse gases, HFCs are one of three groups (the other two are perfluorocarbons and sulfur hexafluoride) with the highest global warming potential. HFCs are human made for applications such as air conditioners and refrigerants.

Perfluorocarbons (PFCs) have stable molecular structures and do not break down through the chemical processes in the lower atmosphere; therefore, PFCs have long atmospheric lifetimes, between 10,000 and 50,000 years. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur hexafluoride (SF<sub>6</sub>) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It has the highest global warming potential of any gas evaluated. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

### 3.9.1.2 Effects of Climate Change

The impacts of climate change have yet to fully manifest. A hotter planet is causing the sea level to rise, disease to spread to non-endemic areas, as well as more frequent and severe storms, heat events, and air pollution episodes. Also affected are agricultural production, the water supply, the sustainability of ecosystems, and therefore the economy. The magnitude of these impacts is unknown.

Emissions of GHGs contributing to global climate change are largely attributable to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. About three-quarters of human emissions of CO<sub>2</sub> to the global atmosphere during the past 20 years are due to fossil fuel burning. Atmospheric concentrations of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O have increased 31 percent, 151 percent, and 17 percent respectively since the year 1750 (CEC 2008). GHG emissions are typically expressed in carbon dioxide-equivalents (CO<sub>2</sub>e), based on the GHG's Global Warming Potential (GWP). The GWP is dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, one ton of CH<sub>4</sub> has the same contribution to the greenhouse effect as approximately 21 tons of CO<sub>2</sub>. Therefore, CH<sub>4</sub> is a much more potent GHG than CO<sub>2</sub>.

### 3.9.1.3 Short-Term Construction-Generated Emissions

No construction is necessary for the Project.

### 3.9.1.4 Long-Term Operational Emissions

The aquatic herbicides will be applied at an interval of every 14 to 21 days during the irrigation season by existing staff during an ongoing maintenance routine that staff members are already performing. Long-term emissions from this Project would be vehicle-related and are not expected to increase substantially. Off-gassing is not a concern because it is not an expected outcome when copper and acrolein are applied properly.

### 3.9.1.5 Thresholds of Significance

CEQA Guidelines Amendments became effective March 18, 2010. Included in the Amendments are revisions to the Appendix G Initial Study Checklist. In accordance with these Amendments, a project would be considered to have a significant impact to climate change if it would:

- a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or,
- b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

In accordance with SJVAPCD's *CEQA Greenhouse Gas Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects*,<sup>3</sup> proposed projects complying with Best Performance Standards (BPS) would be determined to have a less-than-significant impact. Projects not complying with BPS would be considered less than significant if operational GHG emissions would be reduced or mitigated by a minimum of 29 percent, in comparison to business-as-usual (year 2004) conditions. In addition, project-generated emissions complying with an approved plan or mitigation program would also be determined to have a less-than-significant impact.

### 3.9.1.6 Local

#### San Joaquin Valley Air Pollution Control District

#### SJVAPCD Climate Change Action Plan:

On August 21, 2008, the SJVAPCD Governing Board approved the District's Climate Change Action Plan with the following goals and actions:

#### Goals:

- Assist local land-use agencies with California Environmental Quality Act (CEQA) issues relative to projects with GHG emissions increases.
- Assist Valley businesses in complying with mandates of AB 32.
- Ensure that climate protection measures do not cause increase in toxic or criteria pollutants that adversely impact public health or environmental justice communities.

#### Actions:

- Authorize the Air Pollution Control Officer to develop GHG significance threshold(s) or other mechanisms to address CEQA projects with GHG emissions increases. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in the spring of 2009.
- Authorize the Air Pollution Control Officer to develop necessary regulations and instruments for establishment and administration of the San Joaquin Valley Carbon Exchange Bank for voluntary

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<sup>3</sup> Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA.  
<http://www.valleyair.org/Programs/CCAP/12-17-09/3%20CCAP%20-%20FINAL%20LU%20Guidance%20-%20Dec%2017%202009.pdf>  
Accessed 11 September 2019.

GHG reductions created in the Valley. Begin the requisite public process, including public workshops, and develop recommendations for Governing Board consideration in spring 2009.

- Authorize the Air Pollution Control Officer to enhance the District’s existing criteria pollutant emissions inventory reporting system to allow businesses subject to AB 32 emission reporting requirements to submit simultaneous streamlined reports to the District and the State of California with minimal duplication.
- Authorize the Air Pollution Control Officer to develop and administer voluntary GHG emission reduction agreements to mitigate proposed GHG increases from new projects.
- Direct the Air Pollution Control Officer to support climate protection measures that reduce GHG emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted area.

**SJVAPCD CEQA Greenhouse Gas Guidance:** On December 17, 2009, the SJVAPCD Governing Board adopted “Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA” and the policy, “District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.” The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project specific greenhouse gas emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, that their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their greenhouse gas emissions, whether through project design elements or mitigation.

The SJVAPCD’s approach is intended to streamline the process of determining if project-specific greenhouse gas emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources and have a certified final CEQA document.

Best performance standards (BPS) to address operational emissions of a project would be established according to performance-based determinations. Projects complying with BPS would not require specific quantification of GHG emissions and would be determined to have a less than significant cumulative impact for GHG emissions. Projects not complying with BPS would require quantification of GHG emissions and demonstration that operational greenhouse gas emissions have been reduced or mitigated by 29 percent, as targeted by CARB’s AB 32 Scoping Plan. Furthermore, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an Environmental Impact Report is required, regardless of whether the project incorporates BPS.

### 3.9.2 Impact Assessment

**VIII-a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**VIII-b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**a and b) Less Than Significant Impact.** The District has been performing maintenance activities similar to the proposed Project for decades. No new facilities would be needed as a result of the Project, and as a result, no construction-related emissions of pollutants, including criteria pollutants and greenhouse gases, would be produced. The Project requires the use of pick-up trucks and similar vehicles for purposes of transporting aquatic pesticides to application sites. Pick-up trucks are also used for reconnaissance before, during, and

after aquatic herbicide application. Vehicle emissions will be generated for a short time from March to October during the irrigation season when aquatic herbicides are needed. Emissions are expected to be insubstantial. To further minimize impacts, the District's vehicles will be properly tuned and muffled. Unnecessary idling will be minimized.

Aquatic herbicides application does not conflict with any applicable greenhouse gas reduction plan, policy, or regulation. The Project also does not create any new sources of GHG. Therefore, any impacts would be less than significant.

### 3.10 Hazards and Hazardous Materials

Table 3-12. Hazards and Hazardous Materials Impacts

Hazards and Hazardous Materials				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) 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"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.10.1 Environmental Setting and Baseline Conditions

##### 3.10.1.1 Hazardous Materials

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Government Code (GC) Section 65962.5 requires the California Environmental Protection Agency (CalEPA) to develop at least annually an updated Cortese List. The Department of Toxic Substances Control (DTSC) is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies are required to provide additional hazardous material release information for the Cortese List. DTSC’s EnviroStor database provides DTSC’s component of Cortese List data (DTSC, 2010). In addition to the EnviroStor database, the State Water Resources

Control Board (SWRCB) Geotracker database provides information on regulated hazardous waste facilities in California, including underground storage tank (UST) cases and non-UST cleanup programs, including Spills-Leaks-Investigations-Cleanups (SLIC) sites, Department of Defense (DOD) sites, and Land Disposal program. There are no known active hazardous waste generators or hazardous material spill sites affecting the District's waterways.

### 3.10.2 Impact Assessment

**IX-a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

**IX-b) Would the project 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?**

**a and b) Less Than Significant with Mitigation.** The Project would involve handling aquatic pesticides which are regulated hazardous materials. Acute exposure of aquatic pesticides to humans can cause eye, skin, and respiratory irritation, and can be harmful if swallowed. Use of this material would create a potential for spills that could affect worker safety and the environment. The spills could occur potentially at the District's facilities, at the point of application, or during transport. Such hazards, however, are unlikely. The District takes measures to safely transport aquatic herbicides: chemical transport vehicles are inspected regularly and a driver with a hazardous materials endorsement on their driver's license is used as needed; Department of Transportation regulations are followed; and the District has an excellent record due to training and efforts toward safety.

The District also has an excellent record regarding safe herbicide use: applications are supervised or performed by individuals holding a Pest Control Advisor License and/or Qualified Applicator License (QAL) holder certified by the California Department of Pesticide Regulation (DPR); herbicide labels as well as laws and regulations are followed; and Pest Control Recommendations are used. The District does not dispose of hazardous materials but does properly return herbicide containers to the manufacturer as specified by the label instructions and/or recycle them through County certified processes.

To reduce the chance of spilling, overspray, or other accidents, copper or acrolein would be primarily applied as liquids via a tube submerged in the waterway, connected to a tank containing the herbicide. The manufacturer pre-mixes the aquatic herbicides at a concentration approved by CalEPA and EPA, and the solution is supplied to the District in a ready-to-use tank.

The District will implement mitigation measures to ensure operation without a significant impact and reduce any future impacts to a less than significant level. These mitigation measures are:

**HAZ-1.** Copper and acrolein application will be in measured amounts, in accordance with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and registered product label requirements specifying applications rates and requirements.

**HAZ-2.** The chemicals will be applied as far as possible upstream from potential points of discharge into streams and rivers.

**HAZ-3.** Authority personnel shall conduct monitoring of water quality levels in accordance with monitoring and reporting requirements of the NPDES Permit, which shall be reported to the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board.

**IX-c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**c) Less Than Significant Impact.** Applications will not be made within a half-mile of sensitive receptors, including schools, playgrounds, health care facilities, day care facilities, and athletic facilities. District staff will directly apply the aquatic pesticides to the affected areas beneath the water's surface, thereby eliminating airborne dispersal of hazardous materials. Therefore, the Project would not result in a safety hazard for people near the application sites, and any such impacts would be less than significant.

**IX-d) Would the project 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?**

**d) No Impact.** District's waterways are not listed on any hazardous waste site lists compiled in Government Code Section 65962.5.

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

**e) No Impact.** The Project is not located within an airport land use plan or within two miles of an airport. The Project does not include construction of new residences or workplaces. Though Chowchilla Municipal Airport is located at 16487 Avenue 25 in Chowchilla, this Project does not expose people to new or additional airport-related safety hazards or excessive noise.

**IX-f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**f) No Impact.** The Project would not impact emergency response or evacuation because it does not involve public roadways.

**IX-g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

**g) No Impact.** The proposed Project will not have an impact on the risk of wildland fires. CWD Qualified Applicators will take care to ensure their vehicles do not ignite brush and cause a fire. Portions of the District are classified as state responsibility areas and moderate fire hazard severity zones. The Project would not be implemented in these areas.

## 3.11 Hydrology and Water Quality

Table 3-13. Hydrology and Water Quality Impacts

Hydrology and Water Quality				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<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 or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) 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; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.11.1 Environmental Setting and Baseline Conditions

The proposed Project area consists solely of the District-controlled irrigation and stormwater waterways and their banks, specifically strategic aquatic herbicide application locations that maximize the distance from each potential natural river/slough/creek receiving point.

### 3.11.2 Impact Assessment

#### X-a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

a) **Less Than Significant Impact with Mitigation.** Although chemical applications will result in short term exceedance of California Toxics Rule (CTR) numeric water quality standards related to aquatic life within the

treatment area, this exceedance is necessary to control the target pests within the District's waterways. However, a short term or seasonal exception is not required for the exceedance of water quality criteria within the treatment area. Thus, this type of exceedance is not pertinent to this initial study.

The District implements best management practices which determine the points and concentrations of copper and acrolein applications within its irrigation and stormwater canals and ditches. These practices maximize the travel path to a potential point of discharge to a river or stream. As a result, the amount of copper or acrolein that may potentially discharge into rivers and streams is minimal. Thus, environmental effects related to these discharges are insignificant.

Current Draft Statewide National Pollutant Discharge Elimination System (NDPES) permit requirements include water quality objectives that are not to be exceeded within the receiving U.S. waterways. This is to be implemented by monitoring the treated area and downstream of the treated area for residual aquatic herbicide concentrations. Water quality samples are to be taken up to 24 hours before a copper or acrolein application, immediately after the application but after sufficient time has elapsed such that the treated water would have exited the treatment area via control structure, and within the treatment area up to seven days after an application. Monitoring results are to be reported to the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board for their review given that NPDES Permit continuation is contingent upon CTR criteria compliance.

The District will implement mitigation measures to ensure operation without a significant impact and reduce any future impacts to a less than significant level. These mitigation measures are:

**HYD-1.** Copper and acrolein application will be in measured amounts, in accordance with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and registered product label requirements specifying applications rates and requirements.

**HYD-2.** The chemicals will be applied as far as possible upstream from potential points of discharge into streams and rivers.

**HYD-3.** Authority personnel shall conduct monitoring of water quality levels in accordance with monitoring and reporting requirements of the NPDES Permit, which shall be reported to the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board.

**X-b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project would impede sustainable groundwater management of the basin?**

**b) No Impact.** As the Project involves the application of aquatic herbicides to just District-controlled waterways, it will have no impact on the groundwater supply or recharge.

**X-c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

*X-c-i) result in substantial erosion or siltation on- or off-site;*

*X-c-ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;*

*X-c-iii) 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; or*

*X-c-iv) impede or redirect flood flows?*

**ci-iv) No Impact.** The Project will not affect the existing drainage pattern of any land in the District. Aquatic herbicide application does not impact erosion, siltation, surface runoff, or flood flows. The Project will not alter the course of a stream or river, and it does not include the installation of impervious surfaces.

**X-d) Would the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundations?**

**d) Less Than Significant Impact.** In the event of a flood that affects the waterways of the District, the impact will be less than significant because the aquatic herbicides will be applied at a quantity at or below the EPA approved label prescribed usage and in accordance with regulations of CalEPA, Cal/OSHA, the DPR, and the local Agricultural Commissioner. In addition, as the Project would be implemented within irrigation and stormwater canals, there are no habitable structures involved. Project impacts will be less than significant.

**X-e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

**e) Less Than Significant Impact.** Project implementation will help to ensure farmers have a feasible alternative to using only groundwater for crop irrigation so the Project will not conflict with sustainable groundwater management plans. Aquatic herbicides will be applied in compliance with all relevant regulations so impacts on water quality control plans will be less than significant.

## 3.12 Land Use and Planning

Table 3-14. Land Use and Planning Impacts

Land Use and Planning				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.12.1 Environmental Setting and Baseline Conditions

Land use throughout the Project area is solely agricultural. Most of the District is planted to permanent crops such as almonds and wine grapes. The Project area includes existing District-controlled irrigation and stormwater waterways and their banks. The Project is in support of and an accessory to existing agricultural operations.

### 3.12.2 Impact Assessment

#### XI-a) Would the project physically divide an established community?

a) **No Impact.** The Project will be implemented within the District’s existing canals and ditches. Nearby housing, if any, is rural and will not be affected. The Project would not result in any division of an established community. Therefore, no impact would occur.

#### XI-b) Would the project cause a significant environmental conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

b) **No Impact.** The Project will not create any new land uses or alter any existing uses and would not conflict with any applicable land use plan, policy, or agency regulation. No impact will occur.

### 3.13 Mineral Resources

Table 3-15. Mineral Resources Impacts

Mineral Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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"/>

#### 3.13.1 Environmental Setting and Baseline Conditions

As the proposed Project takes place within the existing District-controlled irrigation and stormwater waterways and their banks, there are no known mineral resources in the Project area.

#### 3.13.2 Impact Assessment

**XII-a) Would the project 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?**

**XII-b) Would the project 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?**

**a and b) No Impact.** The Project involves using aquatic pesticides in the District’s irrigation and stormwater canals and ditches and has no impact on the availability of any known or locally important mineral resources. Additionally, the Project will not result in the loss of the ability to recover mineral resources if they were determined to be present.

## 3.14 Noise

Table 3-16. Noise Impacts

Noise				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.14.1 Environmental Setting and Baseline Conditions

The proposed Project involves existing irrigation and stormwater canals and ditches that are the responsibility of the District. The waterways flow through land used for agricultural purposes and near rural residences. The Project is in support of and an accessory to existing agricultural operations and as the aquatic herbicides would be applied during routine maintenance trips, the Project's impact on existing conditions will be insignificant.

### 3.14.2 Impact Assessment

**XIII-a) Would the project result in Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**XIII-b) Would the project result in Generation of excessive groundborne vibration or groundborne noise levels?**

**a and b) No Impact.** Activity occurs in rural and agricultural areas that commonly have other machinery operating, including tractors, generators, large groundwater and irrigation pumps, and heavy trucks. The incidental noise and vibration generated by the project is temporary and inconsequential relative to existing noise sources and thus will have no impact.

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

**c) No Impact.** Aquatic herbicide will be applied to existing waterways currently in use by the District. The Project does not include construction of new residences or workplaces. Though Chowchilla Municipal

Airport is located at 16487 Avenue 25 in Chowchilla, this Project does not expose people to new or additional airport-related safety hazards or excessive noise.

## 3.15 Population and Housing

Table 3-17. Population and Housing Impacts

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

### 3.15.1 Environmental Setting and Baseline Conditions

The Project area consists of the irrigation and stormwater canals and ditches of the District in land used for agriculture. The Project will not introduce new housing or new jobs.

### 3.15.2 Impact Assessment

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

**XIV-b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**a and b) No Impact.** The proposed Project does not include any features that would require the destruction or relocation of existing housing or the construction of replacement housing. In addition, the Project would not increase or decrease the number of available dwelling units in the area. The Project would not displace any people. The proposed Project would have no effect on population growth.

### 3.16 Public Services

Table 3-18. Public Services Impacts

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

#### 3.16.1 Environmental Setting and Baseline Conditions

The proposed Project takes place within existing District-controlled irrigation and stormwater canals and ditches and their banks. The waterways flow through land used for agricultural purposes and near rural residences. The Project is in support of and an accessory to existing agricultural operations.

#### 3.16.2 Impact Assessment

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

a) **No Impact.** The proposed Project does not include any features or facilities that would require additional fire protection resources or enhanced levels of police protection. The Project does not have the potential to increase or decrease the area’s population and will therefore not result in impacts on schools, parks, or landfills. The Project would not result in adverse physical impacts associated with the provision of new or physically altered governmental facilities. No habitable structures that would require any public services would be constructed in the Project area.

### 3.17 Recreation

Table 3-19. Recreation Impacts

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

#### 3.17.1 Environmental Setting and Baseline Conditions

No habitable structures are proposed as part of this project and therefore would not increase the use of local parks or recreational areas.

#### 3.17.2 Impact Assessment

**XVI-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?**

**XVI-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?**

**a and b) No Impact.** The proposed Project does not have the potential to increase or decrease the area’s population and would therefore not result in increased or decreased use of parks or other recreational facilities. The Project does not include recreational facilities and would not require the construction or expansion of such facilities. The Project takes place in the District’s existing irrigation and stormwater canals and ditches. The District strictly forbids unauthorized personnel in and around waterways and posts signs prohibiting trespassing and swimming.

## 3.18 Transportation

Table 3-20. Transportation Impacts

Transportation				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)??	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric 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"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.18.1 Environmental Settings and Baseline Conditions

This Project involves the application of aquatic herbicides to existing District irrigation and stormwater waterways, and the application would take place during routine maintenance using existing waterway banks and access roads.

### 3.18.2 Impact Assessment

#### XVII-a) Would the project conflict with a plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

a) **No Impact.** The Project involves the use of light to medium duty trucks between the months of March and October in primarily rural areas and is not expected to create any additional significant traffic. This will not conflict with a plan, ordinance, or policy regarding the circulation system.

#### XVII-b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3 Subdivision (b)?

b) **Less Than Significant Impact.** The Project is not expected to decrease vehicle miles travels in the project area compared to existing conditions, so it is presumed to have a less than significant impact.

#### XVII-c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

c) **No Impact.** The proposed Project would not increase hazards because it would not alter road design.

#### XVII-d) Would the project result in inadequate emergency access?

d) **Less Than Significant Impact.** District staff will access the waterways using existing access roads in primarily rural areas so the Project’s impact on emergency access would be less than significant.

### 3.19 Tribal Cultural Resources

Table 3-21. Tribal Cultural Resources Impacts

Tribal Cultural Resources				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.19.1 Environmental Setting and Baseline Conditions

The Project area involves application of aquatic herbicides to existing District-controlled irrigation and stormwater waterways and canals. The Project does not require construction of any kind.

#### 3.19.2 Impact Assessment

**XVIII-a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

*XVIII-a-i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)*

*XVIII-a-ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

**a-i and ii) Less Than Significant Impact.** The proposed Project does not require construction and implementation does not involve alteration of the District's existing waterways. Applying the aquatic herbicides will have no impact on any tribal cultural or historical resources.

## 3.20 Utilities and Service Systems

Table 3-22. Utilities and Service Systems Impacts

Utilities and Service Systems				
Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reductions goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.20.1 Environmental Setting and Baseline Conditions

The Project does not include any habitable structures. No utilities, wastewater, or solid waste disposal would be required for the Project.

### 3.20.2 Impact Assessment

**XIX-a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

a) **No Impact.** The Project does not require relocation or construction of any utilities or service systems.

**XIX-b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

b) **No Impact.** The proposed Project does not include the consumptive use of water supplies or require additional water rights.

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

**c) No Impact.** The Project does not discharge to a wastewater treatment plant. The water conveyed is only used for irrigation.

**XIX-d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

**XIX-e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**d and e) No Impact.** The project does not generate solid waste. All containers used to store and transport the aquatic herbicides will be returned to the manufacturer as specified by the label instructions.

## 3.21 Wildfire

Table 3-23. Wildfire Impacts

Wildfire				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrollable spread of wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.21.1 Environmental Setting and Baseline Conditions

As the Project involves the application of aquatic herbicide to the District’s irrigation and stormwater canals and ditches, the Project area is primarily rural. No habitable structures are being constructed as part of the Project, and the Project is not considered to be population growth inducing. Portions of the District are classified as state responsibility areas and moderate fire hazard severity zones. The Project would not be implemented in these areas.

### 3.21.2 Impact Assessment

**If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:**

**XX-a) Substantially impair an adopted emergency response plan or emergency evacuation plan?**

a) **No Impact.** Portions of the District are classified as state responsibility areas and moderate fire hazard severity zones. The aquatic herbicides will not be applied in these areas. Madera and Merced Counties have both adopted emergency operations plans but the Project will have no impact on the plans. The counties have not adopted emergency evacuation plans.

**XX-b) Due to slope, prevailing winds, or other factors exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from wildfire or the uncontrolled spread of wildfire?**

b) **No Impact.** The proposed Project would not exacerbate wildfire risks due to slope, prevailing winds, or other factors. Some areas in the District are located in the state responsibility area but no land within the

Project area is classified as very high fire hazard severity. Further analysis of the Project's potential impacts to wildfire are not warranted. There would be no impacts.

**XX-c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

c) **No Impact.** The Project does not involve the installation or maintenance of infrastructure, only the application of aquatic herbicides.

**XX-d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

d) **No Impact.** The proposed Project would not cause runoff, post-fire slope instability, or drainage changes.

## 3.22 CEQA Mandatory Findings of Significance

Table 3-24. Mandatory Findings of Significance Impacts

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

### 3.22.1 Impact Assessment

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

a) **Less Than Significant Impact with Mitigation Incorporated.** The analysis conducted in this Initial Study/Mitigated Negative Declaration results in a determination that the Project, with incorporation of mitigation measures, would have a less than significant effect on the environment. The potential for impacts to biological resources, and hazards and hazardous materials from the implementation of the proposed Project would be less than significant with the incorporation of the mitigation measures discussed in **Chapter 4 Mitigation Monitoring and Reporting Program**. Accordingly, the Project would involve no potential for significant impacts through the degradation of the quality of the environment, the reduction in the habitat or population of fish or wildlife, including endangered plants or animals, the elimination of a plant or animal community or example of a major period of California history or prehistory.

**XXI-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)?**

**b) Less Than Significant Impact.** CEQA Guidelines Section 15064(i) States that a Lead Agency shall consider whether the cumulative impact of a project is significant and whether the effects of the project are cumulatively considerable. The assessment of the significance of the cumulative effects of a project must, therefore, be conducted in connection with the effects of past projects, other current projects, and probable future projects. The Project would consist of applying aquatic herbicide to the District’s irrigation and stormwater canals and ditches. The aquatic herbicide will be applied by existing staff at an interval of every 14 to 21 days during the irrigation season, March to December. No habitable structures or additional roads would be constructed as a result of the Project, nor would any additional public services be required. The Project is intended to control weeds and prevent algal blooms and would not result in direct or indirect population growth. Therefore, implementation of the Project would not result in significant cumulative impacts and all potential impacts would be reduced to less than significant through the implementation of mitigation measures and basic regulatory requirements incorporated into future Project design.

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

**c) Less Than Significant Impact.** The Project would allow the District to apply copper and acrolein, aquatic herbicides, strategic points in existing District waterways at a quantity at or below the U.S. EPA approved label prescribed usage. The Project in and of itself would not create a significant hazard to the public or the environment. Implementation of basic regulatory requirements identified in this IS/MND would ensure that impacts are less than significant. Therefore, the proposed Project would not have any direct or indirect adverse impacts on humans. Any impacts would be less than significant.

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# Chapter 4 Mitigation Monitoring and Reporting Program

This Mitigation Monitoring and Reporting Program (MMRP) has been formulated based upon the findings of the Initial Study/Mitigated Negative Declaration (IS/MND) for the Submission for State Implementation Plan Section 5.3 Exception for Use of Copper and Acrolein to Control Weeds in Irrigation and Stormwater Canals and Ditches (Project) for Chowchilla Water District. The MMRP lists mitigation measures recommended in the IS/MND for the Project and identifies monitoring and reporting requirements.

**Table 4-1** presents the mitigation measures identified for the proposed Project. Each mitigation measure is numbered with a symbol indicating the topical section to which it pertains, a hyphen, and the impact number. For example, AIR-2 would be the second mitigation measure identified in the Air Quality analysis of the IS/MND.

The first column of **Table 4-1** identifies the mitigation measure. The second column, entitled “When Monitoring is to Occur,” identifies the time the mitigation measure should be initiated. The third column, “Frequency of Monitoring,” identifies the frequency of the monitoring of the mitigation measure. The fourth column, “Agency Responsible for Monitoring,” names the party ultimately responsible for ensuring that the mitigation measure is implemented. The last columns will be used by the District to ensure that individual mitigation measures have been complied with and monitored.

Table 4-1. Mitigation Monitoring and Reporting Program

Mitigation Monitoring and Reporting Program					
Mitigation Measure/Condition of Approval	When Monitoring is to Occur	Frequency of Monitoring	Agency Responsible for Monitoring	Method to Verify Compliance	Verification of Compliance
<b>Biological Resources</b>					
<b>Mitigation Measure BIO-1: Nesting Birds</b>					
If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31.	Prior to construction	During construction	Chowchilla Water District		
<b>Mitigation Measure BIO-2: Pre-Construction Survey</b>					
If construction is to occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active migratory bird nests within 14 days prior to the start of construction. If there is a lapse in construction of 14 days or more, preconstruction surveys would need to be repeated. Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.	Prior to construction	During construction	Chowchilla Water District		
<b>Hazards and Hazardous Materials/Hydrology and Water Quality</b>					
<b>Mitigation Measure HAZ-1/HYD-1</b>					
Copper application will be in measured amounts, in accordance with the requirements of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and registered product label requirements specifying applications rates and requirements.	Upon every application	As needed	Chowchilla Water District		
<b>Mitigation Measure HAZ-2/HYD-2</b>					
The chemical will be applied as far as possible upstream from potential points of discharge into streams and rivers.	Upon every application	As needed	Chowchilla Water District		
<b>Mitigation Measure HAZ-3/HYD-3</b>					
Authority personnel shall conduct monitoring of water quality levels in accordance with monitoring and reporting requirements of the NPDES Permit, which shall be reported to the State Water Resources Control Board and the Central Valley Regional Water Quality Control Board.	24 hours before application, within 24 hours after application, and up to 7 days after application	As needed	Chowchilla Water District		

# Appendix A Biological Evaluation Report

# Chowchilla Water District: State Implementation Policy Exception

## Biological Evaluation



**Prepared by:**  
Brooke Fletcher, Wildlife Biologist



October 2019



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# 1 Introduction

Chowchilla Water District (CWD or District) applies aquatic herbicides to its water conveyance infrastructure under the State Water Resources Control Board (SWRCB) Statewide General National Pollutant Discharge Elimination System (NPDES) Permit# 2013-0002-DWQ. This permit allows for the application of aquatic herbicides, including copper and acrolein, but requires compliance with the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries in California, also known as the State Implementation Policy (SIP). The concentration of copper required to effectively control algal blooms typically exceeds SIP water quality standards. The District may need to apply copper treatment into canals within their jurisdiction or discharge treated water into rivers or streams, which could result in an exceedance of SIP water quality standards for dissolved copper. In order to effectively treat algae within the District's conveyances, CWD is applying for a SIP exception which would allow for short-term or seasonal exceptions from meeting these water quality standards for copper and/or acrolein.

The following technical report, prepared by Provost & Pritchard Consulting Group, in compliance with the California Environmental Quality Act (CEQA), includes a description of the biological resources present or with potential to occur within the Project site and surrounding areas and evaluates potential Project-related impacts to those resources.

## 1.1 Project Description

CWD's proposed aquatic herbicide use includes the periodic application of copper sulfate and/or acrolein, as needed to control weeds and the growth of algae in the District's canals as part of an aquatic pesticide application plan (APAP). The growth of vegetation and algae in the District's facilities causes detrimental effects to the District, its farmers, and other beneficial users and uses of groundwater. The presence of emergent plants, floating or submersed plants, and/or algae in the distribution system greatly reduces the volume of surface water that can be delivered and decreases the ability to accurately control water delivery. The micro-irrigation methods employed throughout the CWD service area allow for the most conservative use of available water resources, however, their implementation is contingent upon a water supply with limited algal population, and therefore the use of copper and/or acrolein in the District canals is critical. When the growth of vegetation and algae clogs irrigation control structures, pipelines, pumps, filters, and other irrigation equipment, it inhibits the use of surface water, thereby increasing demand on groundwater supplies. Increasing the demand of groundwater supplies is inconsistent with the water conservation efforts of the critically overdrafted Chowchilla Subbasin and the Sustainable Groundwater Management Act (SGMA). Without the ability to control the plant and algae growth using the periodic application of copper sulfate and/or acrolein in the District's canals and pipelines, the collateral impacts extend to neighboring disadvantaged communities who solely rely on groundwater supplies for their public drinking water.

Using a preventative maintenance approach, the District would target weeds as early as possible in their lifecycle on a routine basis, thereby requiring lower concentrations of herbicide to be applied. The seasonal exception would cover intermittent, periodic discharges that would occur any time between the months of March and October during the irrigation season. These discharges would last no longer than a period of several hours out of each 14 to 21-day interval in an irrigation season, approximately six months on average. The aquatic herbicide would be applied strictly at the head/beginning of various existing irrigation and stormwater canals at strategic locations that maximize the distance from each potential natural river/slough/creek receiving point and minimize impacts on receiving waters by promoting a dilution and settling process. The aquatic herbicides are applied to the open canal using a tube placed beneath the water surface to prevent splash from a District tank trailer temporarily parked alongside the canal. All applications are performed or supervised by a pest control advisor and/or Qualified Applicator License (QAL) holder

certified by the California Department of Pesticide Regulation (DPR). CWD qualified applicators would introduce the aquatic herbicides to waterways under the District's control at a quantity at or below the United States Environmental Protection Agency (EPA) approved label prescribed usage and in accordance with regulations of the California Environmental Protection Agency (CalEPA), the Division of Occupational Safety and Health of California (Cal/OSHA), DPR, and the local Agricultural Commission.

## 1.2 Report Objectives

Use of aquatic pesticides and herbicides could potentially damage biological resources or modify habitats that are crucial for sensitive plant and wildlife species. In cases such as these, development may be regulated by state or federal agencies, subject to provisions of California Environmental Quality Act (CEQA), and/or addressed by local regulatory agencies.

This report addresses issues related to the following:

- 1) The presence of sensitive biological resources onsite, or with the potential to occur onsite.
- 2) The federal, state, and local regulations regarding these resources.
- 3) Mitigation measures that may be required to reduce the magnitude of anticipated impacts and/or comply with permit requirements of state and federal resource agencies.

Therefore, the objectives of this report are:

- 1) Summarize all site-specific information related to existing biological resources.
- 2) Make reasonable inferences about the biological resources that could occur onsite based on habitat suitability and the proximity of the site to a species' known range.
- 3) Summarize all state and federal natural resource protection laws that may be relevant to the Project.
- 4) Identify and discuss Project impacts to biological resources likely to occur onsite within the context of CEQA or state or federal laws.
- 5) Identify and publish a set of avoidance and mitigation measures that would reduce impacts to a less-than-significant level (as identified by CEQA) and are generally consistent with recommendations of the resource agencies for affected biological resources.

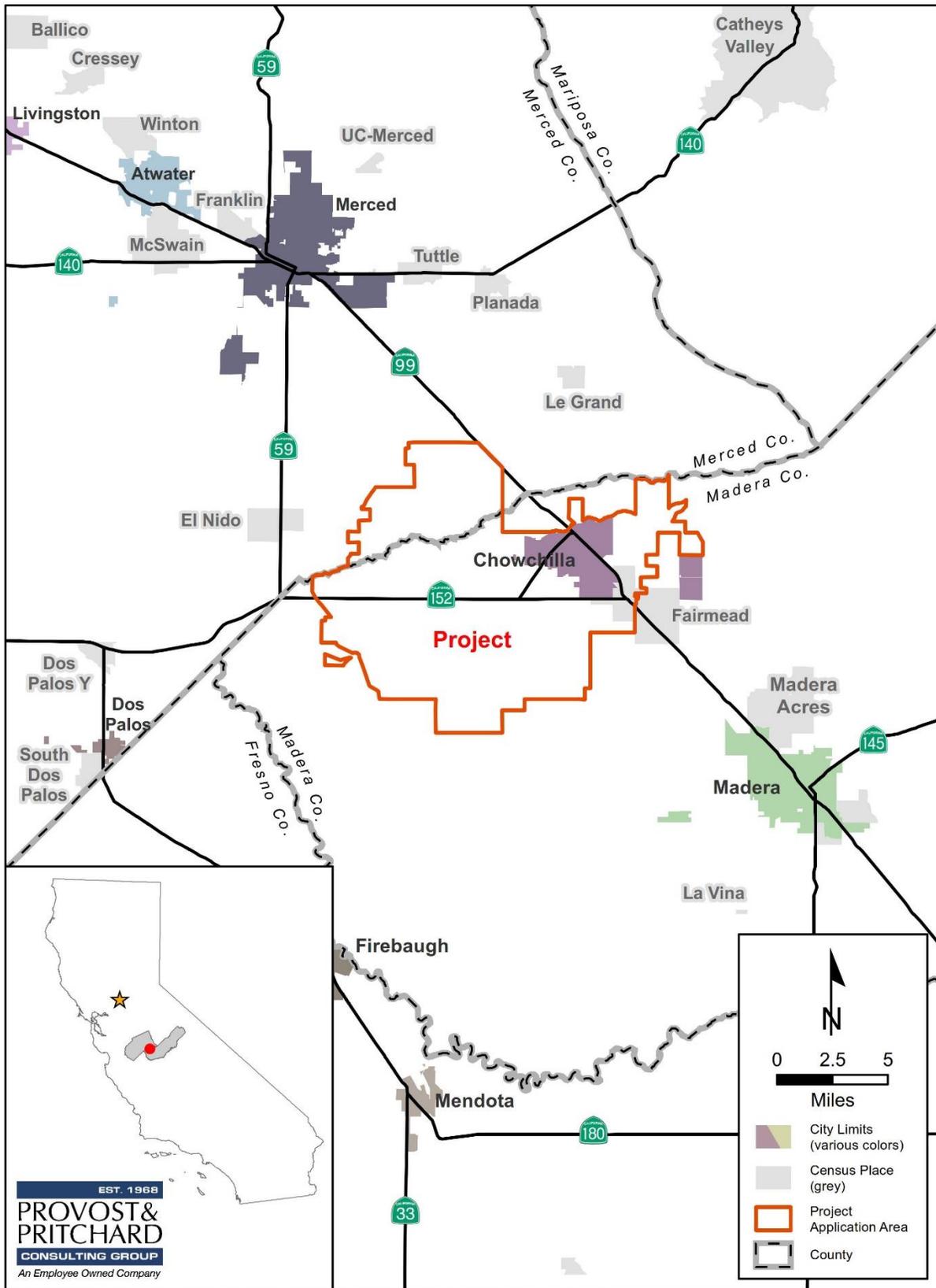
## 1.3 Study Methodology

A reconnaissance-level field survey of several representative application sites and spill sites within the District's boundaries was conducted on August 20, 2019 by Provost & Pritchard biologist, Brooke Fletcher. The survey consisted of walking through the Project area while identifying and noting land uses, biological habitats and communities, and plant and animal species encountered. Furthermore, the sites and surrounding areas were assessed for suitable habitats of various wildlife species.

Provost & Pritchard conducted an analysis of potential Project-related impacts to biological resources based on the resources known to exist or with potential to exist within the Project site and surrounding areas. Sources of information used in preparation of this analysis included: the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB); the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system; the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California; CalFlora's online database of California native plants; the Jepson Herbarium online database (Jepson eFlora); U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS); the NatureServe Explorer online database; the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database; the California Department of Fish and Wildlife (CDFW) California Wildlife Habitat Relationships (CWHR) database; the California Herps online database; and various manuals, reports, and references related to plants and animals of the San Joaquin Valley region.

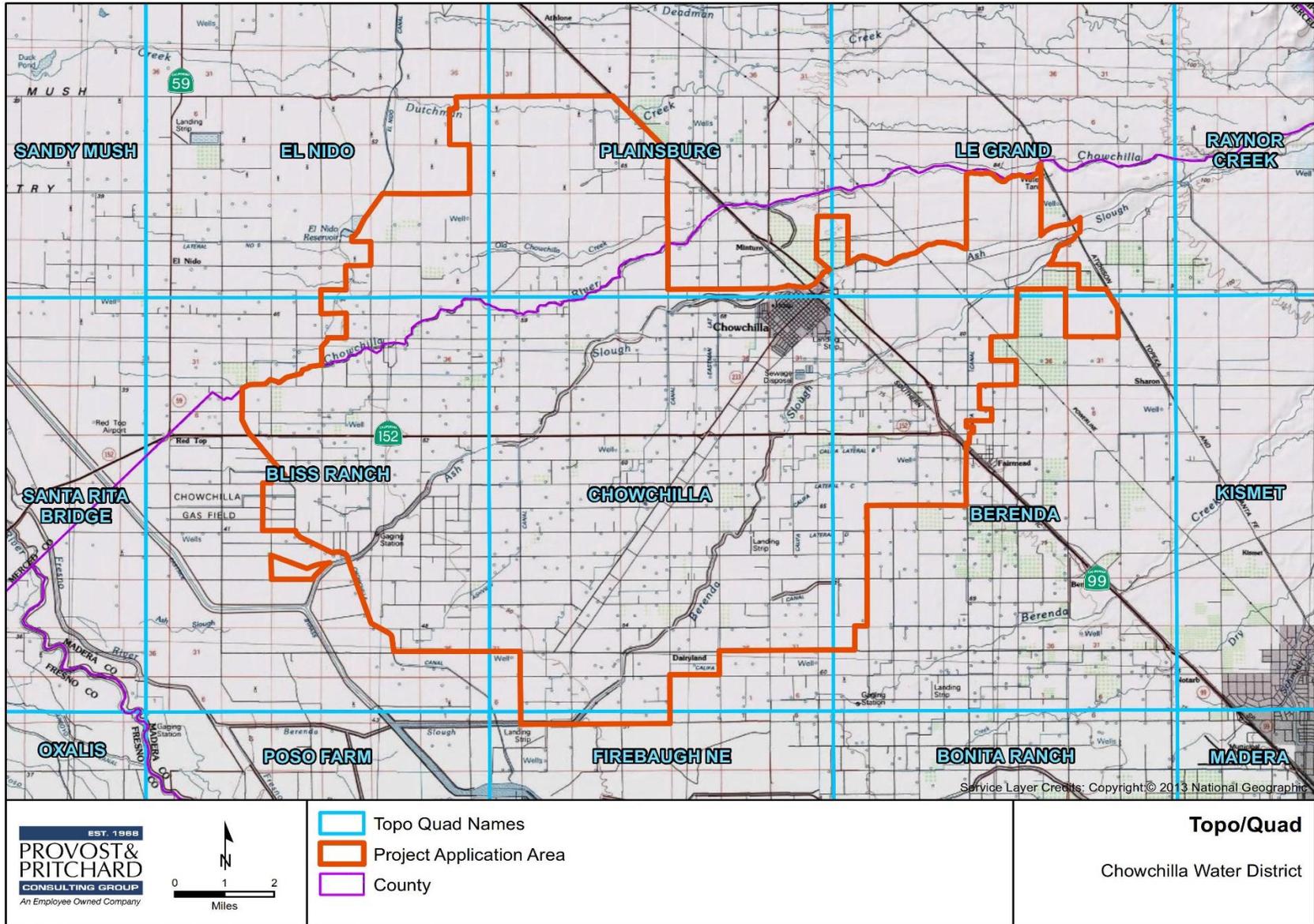
The field investigation did not include a wetland delineation or focused surveys for special status species. The field survey conducted included an appropriate level of detail to assess the significance of potential impacts to sensitive biological resources resulting from Project implementation. Furthermore, the field survey was sufficient to generally describe those features of the Project that could be subject to the jurisdiction of federal and/or State agencies, such as the U.S. Army Corps of Engineers (USACE), CDFW, Regional Water Quality Control Board (RWQCB) and State Water Resources Control Board (SWRCB) .

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Figure 1. Regional Location Map



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Figure 2. Topographic Quadrangle Map

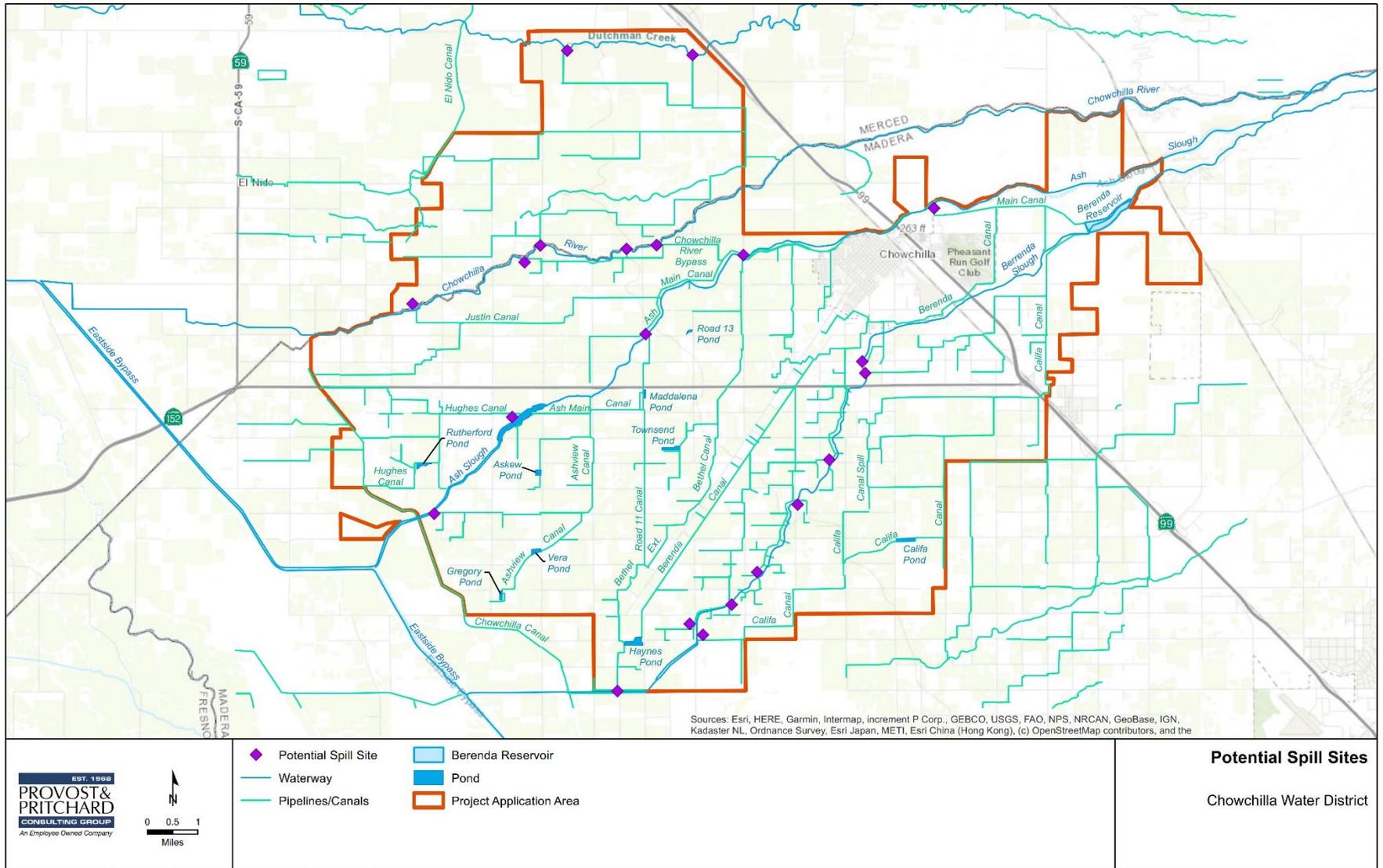


Figure 3. Project Application Area Map

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# 2 Existing Conditions

## 2.1 Regional Setting

As illustrated on **Figure 1**, Chowchilla Water District Project Application Area encompasses a slice of southeast Merced County and a portion of northwest Madera County, including the City of Chowchilla. The Project lies within the San Joaquin Valley, part of the Great Valley of California. The Valley is bordered by the Sierra Nevada Mountain Ranges to the east, the Coast Ranges to the west, the Klamath Mountains and Cascade Range to the north, and the Transverse Ranges and Mojave Desert to the south.

Like most of California, the San Joaquin Valley experiences a Mediterranean climate. Warm, dry summers are followed by cool, moist winters. Summer temperatures often reach above 90 degrees Fahrenheit, and the humidity is generally low. Winter temperatures are often below 60 degrees Fahrenheit during the day and rarely exceed 70 degrees. On average, the Central Valley receives approximately 12 inches of precipitation in the form of rainfall yearly, most of which occurs between October and March.

The District lies within the Fresno River watershed, Hydrologic Unit Code (HUC):18040007, and the Middle San Joaquin-Lower Chowchilla watershed, HUC:1804001 (EPA, 2019). Four natural stream systems pass through the District: Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough. Dutchman Creek intersects the northernmost portion of the District in Merced County and is one of the many minor tributaries to the San Joaquin River. Water from the Chowchilla River originates in the western Sierra Nevada. Just east of the District's eastern boundary, water from the Chowchilla River and water received by Millerton Lake via the Madera Canal is diverted into Ash and Berenda Sloughs, and excess water continues along the main river channel. Most years, the Chowchilla River channel dries up before it reaches the outlet; however, in high flow years, floodwaters flow from the main channel to the San Joaquin River. Water from Ash and Berenda Sloughs flows in a southwesterly direction through the District. Both sloughs empty into the Eastside Bypass just west of the District's western boundary, and this water flows in a northerly direction until it reaches the San Joaquin River via controlled flood releases in years of heavy rain.

The District lies entirely within the Chowchilla Groundwater Subbasin of the San Joaquin Valley Groundwater Basin. (DWR, 2019). Like most of the lower San Joaquin Valley, the Chowchilla Subbasin has been identified by the Department of Water Resources (DWR) as a "high priority" and "critically over-drafted" subbasin (DWR, 2016). CWD receives water from three main sources: the San Joaquin River, the Chowchilla River, and Merced Irrigation District (Provost & Pritchard Consulting Group, 2014), and utilizes the Chowchilla River, Ash Slough, and Berenda Slough for the transport of water and groundwater recharge (Chowchilla Water District, 2017).

## 2.2 Project Areas

Project areas can be divided into potential application sites and potential spill sites. A potential application site could include any District-operated and maintained canal experiencing an overgrowth of algae, and a potential spill site would be the corresponding downstream location where the treated canal water could be released or "spilled" into a natural stream (Dutchman Creek, Chowchilla River, Ash Slough, and/or Berenda Slough).

Representative photos of Project areas are available in **Appendix A**.

## 2.2.1 Potential Applications Sites

In order to gain a better understanding of the Project and adequately describe habitats of potential application sites, representative areas within the District, including several of the District's canals were observed during the biological survey.

In general, potential application sites include existing canals used for irrigation and water conveyance. These canals typically have in-channel control and measurement structures such as gates, weirs, and flumes. Vegetation management and other routine maintenance activities are conducted by the District on a regular basis year round. Portions of the channel are covered in hardscape or rip-rap, and the remaining areas are composed of compacted dirt and clay lining. The streambed, banks, and floodplain are usually either barren or ruderal with a cover of non-native grasses and forbs. Ruderal habitats are characterized by a high level of human disturbance and absence of vegetation or dominated by non-native plant species. Frequent human disturbance, absence of native riparian vegetation, and the fact that most of these canals are dry more than half of the year generally makes these areas of low value to most native wildlife species. However, some wildlife, especially those adapted to urbanized environments may occur within the potential application sites. For example, many of the surveyed canals contained ground squirrel burrows along the top of bank and several rodent bait stations were observed. The following species were observed at potential application sites during the biological survey: domestic dog, American bullfrog (*Lithobates catesbeianus*), crayfish (*Procambarus* sp.), California ground squirrel (*Otospermophilus beecheyi*), San Joaquin fence lizard (*Sclerophorus occidentalis biseratus*), and red-tailed hawk (*Buteo jamaicensis*). Several of the in-channel structures contained potential bat roosts and old mud nests, indicative of swallow colonization. Survey of a potential application site at Main Canal heading revealed active barn owl (*Tyto alba*) nests within ornamental palm trees in the vicinity, evidenced by significant whitewash, prey remnants, and pellets at the base of the tree. Although not observed during the field survey, additional disturbance tolerant species expected to frequent canals or adjacent habitats dominated by agricultural uses include: striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), coyote (*Canis latrans*), Virginia opossum (*Didelphis virginiana*), Botta's pocket gopher (*Thomomys bottae*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), red fox (*Vulpes vulpes*), gray fox (*Urocyon cinereoargenteus*), western side-blotched lizard (*Uta stansburiana elegans*), Pacific gophersnake (*Pituophis catenifer catenifer*), California kingsnake (*Lampropeltis californiae*), valley gartersnake (*Thamnophis sirtalis fitchi*), Sierran treefrog (*Pseudacris sierra*), and California toad (*Anaxyrus boreas halophilus*). Although suitable nesting habitat is scarce within the frequently disturbed canals, a variety of avian species could pass over or through potential application sites during foraging or dispersal movements.

## 2.2.2 Potential Spill Sites

Potential spill sites include all locations where treated water could be released into one of the District's natural stream systems that could be considered a Water of the U.S. (Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough). During the biological survey several potential spill sites were observed along each of these drainage courses. In general, potential spill sites included riverine, riparian, and freshwater emergent wetland habitat. Several inactive raptor nests were observed within large oaks and cottonwood trees along the riparian corridors, and red-tailed hawks (*Buteo jamaicensis*) were observed overhead at every surveyed site. Additional observations include a Cooper's hawk (*Accipiter cooperii*) and a pair of loggerhead shrikes (*Lanius ludovicianus*) along Ash Slough. Several inactive oriole nests were observed along surveyed areas of Berenda Slough, and although American bullfrogs (*Lithobates catesbeianus*) were observed throughout all survey locations, this species was especially prevalent in Dutchman Creek. All of the species listed above as observed or expected to occur within canals or habitats dominated by agricultural uses would also be expected to occur within the potential spill sites. In addition, emergent vegetation and the riparian habitats of these natural stream systems likely serve as suitable nesting and foraging habitat for a variety of avian species.

## 2.3 Natural Communities of Special Concern

Natural communities of special concern are those that are of limited distribution, distinguished by significant biological diversity, or home to special status species. CDFW is responsible for the classification and mapping of all natural communities in California. Just like the special status plant and animal species, these natural communities of special concern can be found within the CNDDDB.

According to CNDDDB, there are no recorded observations of natural communities of special concern with potential to occur within the Project area or immediate vicinity. However, it is estimated that 95 percent of the Central Valley's riparian habitat has been lost to human activities (Kaitbah, 1984). Due to significant declines, limited distribution, and the numerous benefits to wildlife and biological resources, riparian habitat is considered a natural community of special concern. Therefore, significant adverse effects to or the conversion of the riparian corridor present along Dutchman Creek, Chowchilla River, Ash Slough, and Berenda Slough would be considered a significant impact.

## 2.4 Designated Critical Habitat

The USFWS often designates areas of "Critical Habitat" when it lists species as threatened or endangered. Critical Habitat is a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.

As illustrated in **Figure 4**, according to CNDDDB and IPaC, designated critical habitat is present in the vicinity for the following species: Conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), Greene's tuctoria (*Tuctoria greenei*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), and succulent owl's-clover (*Castilleja campestris* var. *succulenta*). However, none of the critical habitat areas intersect with the District's boundaries or proposed application locations.

## 2.5 Wildlife Movement Corridors

Wildlife movement corridors are routes that animals regularly and predictably follow during seasonal migration, dispersal from native ranges, daily travel within home ranges, and inter-population movements. Movement corridors in California are typically associated with valleys, ridgelines, and rivers and creeks supporting riparian vegetation.

The Project's proposed application sites include man-made canals and spill sites where the treated water has to the potential to spill from the canals or pipelines into a natural watercourse. All of the Project areas have features which could serve, at least marginally as a movement corridor for wildlife. However, Project activities, which include the application of a diluted form of copper sulfate and/or acrolein, are not likely to impede the use of canal banks or riparian corridors for dispersal, mating, or migratory movements.

## 2.6 Special Status Plants and Animals

California contains several "rare" plant and animal species. In this context, "rare" is defined as species known to have low populations or limited distributions. As the human population grows, resulting in urban expansion which encroaches on the already limited suitable habitat, these sensitive species become increasingly more vulnerable to extirpation. State and Federal regulations have provided the CDFW and the U.S. Fish and Wildlife Service (USFWS) with a mechanism for conserving and protecting the diversity of plant and animal species native to California. Numerous native plants and animals have been formally designated as "threatened" or "endangered" under state and federal endangered species legislation. Other formal designations include "candidate" for listing or "species of special concern" by CDFW. The California

Native Plant Society (CNPS) has its list of native plants considered rare, threatened, or endangered. Collectively these plants and animals are referred to as “special status species.”

A thorough search of the CNDDDB for published accounts of special status plant and animal species was conducted for the seven 7.5-minute quadrangles containing all potential Project areas within the District: *El Nido*, *Plainsburg*, *Le Grand*, *Bliss Ranch*, *Chowchilla*, *Firebaugh NE*, and *Berenda*. Additionally, all 16 surrounding quadrangles (*Sandy Mush*, *Atwater*, *Merced*, *Planada*, *Owens Reservoir*, *Illinois Hill*, *Raynor Creek*, *Kismet*, *Bonita Ranch*, *Poso Farm*, *Oxalis*, *Santa Ridge Bridge*, *Madera*, *Firebaugh*, *Mendota Dam*, and *Gravelly Ford*) were included in this CNDDDB search. These species, and their potential to occur within the Project area are listed in **Table 1** and **Table 2** on the following pages. Raw data obtained from CNDDDB is available in **Appendix B** at the end of this document. Other sources of information utilized in the preparation of this analysis included the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants of California, CalFlora’s online database of California native plants, the Jepson Herbarium online database (Jepson eFlora), U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS), the NatureServe Explorer online database, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Plants Database, the California Department of Fish and Wildlife (CDFW) California Wildlife Habitat Relationships (CWHR) database, ebird.org, and the California Herps online database. **Figure 2** shows the Project’s 7.5-minute quadrangles, according to USGS Topographic Maps.

**Table 1. List of Special Status Animals with Potential to Occur Onsite and/or in the Vicinity**

Species	Status	Habitat	Occurrence on Project Site
<b>American badger</b> <i>(Taxidea taxus)</i>	CSC	Grasslands, savannas, and mountain meadows near timberline are preferred. Most abundant in drier open spaces of shrub and grassland. Burrows in soil.	<b>Unlikely.</b> In the past 30 years, there have only been two recorded observations of this species in the District’s vicinity. Both occurred within or adjacent to grassland habitat. The Project’s application locations are generally unsuitable for this species due to frequent disturbance associated with vegetation management within the canal systems. This species may occupy grassland adjacent to the District’s spill sites in natural drainages, but would only be expected occur within the stream systems periodically to forage or in seek of water. Suitable denning habitat is absent from the waterways due to frequent inundation.
<b>bald eagle</b> ( <i>Haliaeetus leucocephalus</i> )	CE, CFP	Resides in old growth forests as well as lower montane coniferous forests. Nests are generally found in large, old-growth trees within a mile of water. Nests and winters along ocean shores, lake margins, and rivers.	<b>Possible.</b> There is a nesting occurrence for this species reported along the Chowchilla River, and this species could potentially forage over the District.
<b>bank swallow</b> ( <i>Riparia riparia</i> )	CT	These aerial insectivores nest colonially in burrows constructed along vertical banks and bluffs near waterbodies. This disturbance tolerant species is also known to nest in man-made sites, such as quarries, mounds of gravel or dirt, and road cuts.	<b>Unlikely.</b> This species has not been reported in the Project’s vicinity in over 35 years. This species is thought to be extirpated from the Project area. Although Madera County did contain a historic population of this species, there are no known extant populations remaining within the District’s boundaries. The Project is outside of the known current distribution range of this species (Anderson-Abbs, 2013) (NatureServe Explorer, 2019) (California Department of Fish and Wildlife, 2019)

Species	Status	Habitat	Occurrence on Project Site
<b>blunt-nosed leopard lizard (<i>Gambelia sila</i>)</b>	FE, CE, CFP	Inhabits semi-arid grasslands, alkali flats, low foothills, canyon floors, large washes, and arroyos, usually on sandy, gravelly, or loamy substrate, sometimes on hardpan. Often found where there are abundant rodent burrows in dense vegetation or tall grass. Cannot survive on lands under cultivation. Known to bask on kangaroo rat mounds and often seeks shelter at the base of shrubs, in small mammal burrows, or in rock piles. Adults may excavate shallow burrows but rely on deeper pre-existing rodent burrows for hibernation and reproduction.	<b>Unlikely.</b> This species would not be expected to occur within canals or stream systems. There is one recent (2006) recorded observation that could be considered within the District's boundaries. This occurrence was reported near the intersection of Avenue 17 and Road 13 within grazed grassland habitat approximately 1.5 miles southeast of the nearest potential spill site into Berenda Slough.
<b>burrowing owl (<i>Athene cunicularia</i>)</b>	CSC	Resides in open, dry annual or perennial grasslands, deserts, and scrublands with low growing vegetation. Nests underground in existing burrows created by burrowing mammals, most often ground squirrels.	<b>Possible.</b> This species could breed within ground squirrel burrows along the banks of canals. While the presence of large trees and an abundance of raptors along natural drainage courses may make those areas generally unsuitable as breeding habitat, burrowing owls could use the stream systems and adjacent lands as <u>wintering or foraging</u> habitat.
<b>California tiger salamander (<i>Ambystoma californiense</i>)</b>	FT, CT, CWL	Requires vernal pools or seasonal ponds for breeding and small mammal burrows for aestivation. Generally found in grassland and oak savannah plant communities in central California from sea level to 1500 feet in elevation.	<b>Unlikely.</b> Suitable breeding habitat is absent from the Project area's canals and stream systems. This species has never been reported within the Project area, although there are several recorded occurrences north of Ash Slough just outside of the District's northern boundary. The nearest occurrence was reported in 1994, and it was located along Road 19 north of Ash Slough, approximately 1.5 miles east (upstream) of the nearest potential spill site into Ash Slough. At most, this species could aestivate in burrows along canal banks or pass through Project areas during dispersal movements.
<b>coast horned lizard (<i>Phrynosoma blainvillii</i>)</b>	CSC	Found in grasslands, coniferous forests, woodlands, and chaparral, primarily in open areas with patches of loose, sandy soil and low-lying vegetation in valleys, foothills, and semi-arid mountains. Frequently found near ant hills and along dirt roads in lowlands along sandy washes with scattered shrubs.	<b>Unlikely.</b> There are no recorded observations of this species within the District and this species would not be expected to occur within canals or stream systems of the Project area.

Species	Status	Habitat	Occurrence on Project Site
Conservancy fairy shrimp ( <i>Branchinecta conservatio</i> )	FE	Endemic to the grasslands of the northern two-thirds of the Central Valley. Found in large, turbid pools.	<b>Absent.</b> Suitable habitat for this species is absent from Project areas.
ferruginous hawk ( <i>Buteo regalis</i> )	CWL	Occurs in a variety of habitats including open grassland, sagebrush flats, desert scrub, low foothills and the fringes of pinyon and juniper woodlands. Population trends may follow cycle of prey species populations, which include ground squirrels, mice, and lagomorphs.	<b>Possible.</b> Although there are no recorded nesting occurrences of this species within the District's boundaries, suitable nesting and foraging habitat is present.
Fresno kangaroo rat ( <i>Dipodomys nitratoides exilis</i> )	FE, CE	An inhabitant of alkali sink open grassland environments in western Fresno County. Prefers bare, alkaline, clay-based soils subject to seasonal inundation with more friable soil mounds around shrubs and grasses.	<b>Absent.</b> This species would not be expected to inhabit Project areas, which are composed of canals and stream systems. There are two recorded observations of this species in the District's vicinity. Both observations correspond to historic collections made over 60 years ago, the nearest of which was made approximately 7 miles south of the District's southern boundary.
giant garter snake ( <i>Thamnophis gigas</i> )	FT, CT	Occurs in marshes, sloughs, drainage canals, irrigation ditches, rice fields, and adjacent uplands. Prefers locations with emergent vegetation for cover and open areas for basking. This species uses small mammal burrows adjacent to aquatic habitats for hibernation in the winter and to escape from excessive heat in the summer.	<b>Absent.</b> With the exception of one historic (1908) record which is now believed to be extirpated, all giant garter snake occurrences in the San Joaquin Valley originate south and west of the San Joaquin River. There have been nor recorded observations of this species within the District and there are no known extant populations in the vicinity. The Project area is outside of the accepted current distribution range of this species (U.S. Fish and Wildlife Service, 2017).
merlin ( <i>Falco columbarius</i> )	CWL	Found throughout North America in habitats ranging from tidal estuaries to open woodlands and valley grasslands. Generally roosts in clumps of trees or windbreaks.	<b>Possible.</b> This species does not breed in California, but it could forage over the District.
mountain plover ( <i>Charadrius montanus</i> )	CSC	Breeds on open plains at moderate elevations. Winters in short-grass plains and fields, plowed or fallow fields, and sandy deserts. Prefers flat, bare ground with burrowing rodents.	<b>Possible.</b> This species could winter within fallow fields in the Project's vicinity and could occasionally pass over Project areas. Suitable nesting habitat is absent from the canals and stream systems where Project activities are planned to occur.

Species	Status	Habitat	Occurrence on Project Site
Nelson's antelope squirrel ( <i>Ammospermophilus nelsoni</i> )	CT	Found in the western San Joaquin Valley on dry, sparsely vegetated loamy soils. Relies heavily on existing small mammal burrows.	<b>Unlikely.</b> This species would not be expected to occur within Project areas which are composed of canals and stream systems. There has only been one recorded observation of this species in the District's vicinity. This observation corresponds to a historic (1918) collection from a location approximately 17 miles south of the District's southern boundary. Furthermore, ground squirrel individuals and burrows were abundant throughout most of the surveyed areas. California ground squirrels have a propensity to inhabit disturbed lands and displace smaller fossorial species, such as the giant kangaroo rat and antelope squirrel. Harris and Stearns (1991) concluded that "on small habitat fragments surrounded by disturbed or agricultural lands, the potential for California ground squirrels to have a negative impact on antelope squirrels may be significant."
northern California legless lizard ( <i>Anniella pulchra</i> )	CSC	Found primarily underground, burrowing in loose, sandy soil. Forages in loose soil and leaf litter during the day. Occasionally observed on the surface at dusk and night. Prefers soil with a high moisture content.	<b>Unlikely.</b> Although the riparian corridor of some of the natural drainage courses within the District provide suitable habitat for this species, the only recorded observation in the vicinity was made in 2000 approximately 17 miles south of the District's southern boundary.
northern harrier ( <i>Circus hudsonius</i> )	CSC	Nests and forges in various grasslands, including salt grass in desert sinks, riparian scrub, and wetland edges. Nests constructed on the ground from sticks in wet areas, usually on the edge of marshes.	<b>Likely.</b> There is a recent (2015) nesting occurrence record for this species between Dutchman Creek and Chowchilla River. Suitable nesting and foraging habitat is present in the Project areas and vicinity.
San Joaquin kit fox ( <i>Vulpes macrotis mutica</i> )	FE, CT	Underground dens with multiple entrances in alkali sink, valley grassland, and woodland in valleys and adjacent foothills.	<b>Unlikely.</b> This species would not be expected to occur within canals or stream systems on a regular basis. Suitable denning and foraging habitat is present in the vicinity, and a kit fox could conceivably use the riparian corridor of the stream systems or even canal banks during mating or dispersal movements; however, there are no recorded observations of this species within the District's boundaries, and the San Joaquin kit fox rarely occurs this far east in the San Joaquin Valley.

Species	Status	Habitat	Occurrence on Project Site
steelhead- Central Valley DPS ( <i>Oncorhynchus mykiss irideus pop. 1f</i> )	FT	This winter-run fish begins migration to fresh water during peak flows during December and February. Spawning season is typically from February to April. After hatching, fry move to deeper, mid-channel habitats in late summer and fall. In general, both juveniles and adults prefer complex habitat boulders, submerged clay and undercut banks, and large woody debris.	<b>Absent.</b> The Project area is outside of the accepted current distribution range of this species.
Swainson's hawk ( <i>Buteo swainsoni</i> )	CT	Nests in large trees in open areas adjacent to grasslands, grain or alfalfa fields, or livestock pastures suitable for supporting rodent populations.	<b>Likely.</b> There are several nesting occurrence records within the District and suitable nesting and foraging habitat is present.
tricolored blackbird ( <i>Agelaius tricolor</i> )	CT, CSC	Nests colonially near fresh water in dense cattails or tules, or in thickets of riparian shrubs. Forages in grassland and cropland. Large colonies are often found on dairy farm forage fields.	<b>Possible.</b> This species could nest within dense riparian shrubs along the corridor of natural stream systems in the District.
valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	FT	Lives in mature elderberry shrubs of the Central Valley and foothills. Adults are active March to June.	<b>Absent.</b> Elderberry habitat was not observed within any of the surveyed representative application sites or potential spill sites. There is only one recorded occurrence of this species in the vicinity. The observation was made more than 25 years ago and was based solely on the presence of exit holes. Furthermore, the occurrence was ranked as "poor," which means this population had a high potential for extirpation at the time of the report. Although this area is located within this species' presumed historic range, there are known extant occurrences within the District (Dept. of the Interior. Fish and Wildlife Service, 2014).
vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	FT	Occupies vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Suitable habitat for this species is absent from Project areas.
vernal pool tadpole shrimp ( <i>Lepidurus packardi</i> )	FE	Occurs in vernal pools, clear to tea-colored water, in grass or mud-bottomed swales, and basalt depression pools.	<b>Absent.</b> Suitable habitat for this species is absent from Project areas.

Species	Status	Habitat	Occurrence on Project Site
western mastiff bat ( <i>Eumops perotis californicus</i> )	CSC	Found in open, arid to semi-arid habitats, including dry desert washes, flood plains, chaparral, oak woodland, open ponderosa pine forest, grassland, and agricultural areas, where it feeds on insects in flight. Roosts most commonly in crevices in cliff faces, but may also use high buildings and tunnels.	<b>Possible.</b> Roosting habitat within Project areas is marginal at best; however, this species may forage over the canals and stream systems in the District.
western pond turtle ( <i>Emys marmorata</i> )	CSC	An aquatic turtle of ponds, marshes, slow-moving rivers, streams, and irrigation ditches with riparian vegetation. Requires adequate basking sites and sandy banks or grassy open fields to deposit eggs.	<b>Possible.</b> Although there have been no recorded observations of this species within the District's boundaries, several of the surveyed areas contained suitable habitat.
western red bat ( <i>Lasiurus blossevillii</i> )	CSC	Roosts primarily in trees, 2-40 ft above ground, from sea level up through mixed conifer forests. Prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging.	<b>Possible.</b> Although there have been no recorded observations of this species within the District's boundaries, suitable roosting and foraging habitat is present, especially along the natural stream systems.
western spadefoot ( <i>Spea hammondi</i> )	CSC	Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Vernal pools or temporary wetlands, lasting a minimum of three weeks, which do not contain bullfrogs, fish, or crayfish are necessary for breeding.	<b>Unlikely.</b> There are several recorded observations of this species within vernal pool grassland habitat near the District's northeast boundary and northwest boundary. However, the District's canals and stream systems do not provide suitable breeding habitat for this species, and apex predators, such as bullfrogs and crayfish were observed in nearly all of the surveyed areas. At most, this species could aestivate in burrows along canal banks or pass through Project areas during dispersal movements.
western yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	FT, CE	Suitable nesting habitat in California includes dense riparian willow-cottonwood and mesquite habitats along a perennial river. Once a common breeding species in riparian habitats of lowland California, this species currently breeds consistently in only two locations in the State: along the Sacramento and South Fork Kern Rivers.	<b>Absent.</b> This species is presumed to be extirpated from the District area (Laymon & Halterman, 1989). The only recorded observation of this species in the vicinity was made near the Mendota Pool on the San Joaquin River in 1950, approximately 15 miles south of the District's southern boundary.

Species	Status	Habitat	Occurrence on Project Site
<b>Yellow-headed blackbird</b> <i>(Xanthocephalus xanthocephalus)</i>	CSC	Nests in freshwater emergent wetlands with dense vegetation and deep water. Often along borders of lakes or ponds.	<b>Unlikely.</b> Suitable nesting habitat is present within the riparian corridor of the natural stream systems in the District, and the Project area is located within the historic and current accepted breeding range. However, there has been only one recorded observation in the vicinity, and it corresponds to a historic (1919) collection made near Dos Palos. There have been no historic breeding sites in Madera County and the Merced County populations are presumed extirpated (NatureServe Explorer, 2019) (Shuford & Gardali, 2008).

**Table 2. List of Special Status Plants with Potential to Occur Onsite and/or in the Vicinity**

Species	Status	Habitat	Occurrence on Project Site
<b>beaked clarkia (<i>Clarkia rostrata</i>)</b>	CNPS 1B	Found in woodlands and valley foothill grasslands on the west slope of the Sierra Nevada range, around 1,640 feet in elevation. Blooms April – May.	<b>Absent.</b> Suitable habitat for this species is absent from the Project areas.
<b>Boggs Lake hedge-hyssop (<i>Gratiola heterosepala</i>)</b>	CE, CNPS 1B	Found in freshwater marshes, swamps, and vernal pools in clay soils at elevations below 5250 feet. Blooms April – September.	<b>Unlikely.</b> Habitats within the Project area are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries.
<b>California alkali grass (<i>Puccinellia simplex</i>)</b>	CNPS 1B	Found in the San Joaquin Valley and other parts of California in saline flats and mineral springs within valley grassland and wetland-riparian communities at elevations below 3000 feet. Blooms March – May.	<b>Unlikely.</b> Habitats within the Project area are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries.
<b>Colusa grass (<i>Neostapfia colusana</i>)</b>	FT, CE, CNPS 1B	Found in vernal pools in the San Joaquin Valley at elevations below 410 feet. Blooms May – August.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>Delta button-celery (<i>Eryngium racemosum</i>)</b>	CE, CNPS 1B	Found in riparian scrublands in floodplains near the California Delta at elevations between 10 and 100 feet. Blooms June – August.	<b>Unlikely.</b> Habitats within the Project area are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries.
<b>Dwarf downingia (<i>Downingia pusilla</i>)</b>	CNPS 2B	Found in vernal pools in valley and foothill grassland communities at elevations below 1600 feet. Blooms March – May.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>forked hare-leaf (<i>Lagophylla dichotoma</i>)</b>	CNPS 1B	Found in cismontane woodland, and valley and foothill grassland communities at elevations between 600 feet and 1100 feet.	<b>Absent.</b> Suitable habitat is absent from the Project area. There has been only one recorded observation of this species in the vicinity, and it corresponds to a historic (1915) collection from an unknown location in the vicinity of Merced.
<b>Greene’s tuctoria (<i>Tuctoria greenei</i>)</b>	FE, CR, CNPS 1B	Found in the San Joaquin Valley and other parts of California in vernal pools within valley grassland, wetland, and riparian communities at	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
		elevations below 3500 feet. Blooms May – September.	
<b>hairy Orcutt grass (<i>Orcuttia pilosa</i>)</b>	FE, CE, CNPS 1B	Found in vernal pools in valley grassland, wetland, and riparian communities at elevations below 650 feet. Blooms May – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>heartscale (<i>Atriplex cordulata</i> var. <i>cordulata</i>)</b>	CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in saline or alkaline soils within shadescale scrub, valley grassland, and wetland-riparian communities at elevations below 230 feet. Blooms June – July.	<b>Unlikely.</b> Habitats within Project areas are marginal for this species. There have been several recorded observations in the vicinity, but only three were located within the District’s boundaries. Two of these observations have been updated to “extirpated,” and the third occurrence although it is still “presumed extant” was made 30 years ago.
<b>Hoover’s calycadenia (<i>Calycadenia hooveri</i>)</b>	CNPS 1B	Found in valley and foothill grassland and cismontane woodland communities on exposed, rocky, barren soil at elevations between 300 feet and 1300 feet. Blooms June – September.	<b>Absent.</b> Suitable habitat is absent from the Project area.
<b>Hoover’s cryptantha (<i>Cryptantha hooveri</i>)</b>	CNPS 1A	Presumed extirpated in California. Found in valley and foothill grassland and inland dunes in coarse sand at elevations below 250 feet. Blooms Mar – May.	<b>Absent.</b> This species is presumed extirpated from California. Suitable habitat is absent from the Project area.
<b>lesser saltscale (<i>Atriplex minuscula</i>)</b>	CNPS 1B	Found in the San Joaquin Valley in playas; sandy, alkaline soils in shadescale scrub, valley grassland, and alkali sink communities at elevations below 300 feet. Blooms April – October.	<b>Unlikely.</b> Habitats within Project areas are marginal, at best for this species. There have been no recorded observations of this species within the District’s boundaries in over 30 years.
<b>Lost Hills crownscale (<i>Atriplex coronata</i> var. <i>vallicola</i>)</b>	CNPS 1B	Found in the San Joaquin Valley in chenopod scrub, valley and foothill grassland, and vernal pools at elevations below 1400 feet. Typically found in dried ponds on alkaline soils. Blooms April – September.	<b>Unlikely.</b> Habitats within Project areas are marginal, at best for this species. The only recorded occurrence of this species in the vicinity corresponds to a historic (1938) collection from an unknown location near Mendota.
<b>Madera leptosiphon (<i>Leptosiphon serrulatus</i>)</b>	CNPS 1B	Found in openings in foothill woodland, often yellow-pine forest, and chaparral at elevations between 1000 feet	<b>Absent.</b> Suitable habitat is absent from the Project area. The District is below the accepted altitudinal range of this species.

Species	Status	Habitat	Occurrence on Project Site
		and 4300 feet. Blooms April – May.	
<b>Munz’s tidy-tips (<i>Layia munzii</i>)</b>	CNPS 1B	Found in the San Joaquin Valley in alkali clay soils at elevations between 160 feet and 2625 feet in shadescale scrub, valley grassland, and riparian communities. Occurs predominantly in wetlands, but occasionally found in non-wetlands. Blooms March – April.	<b>Unlikely.</b> Habitats within Project areas are marginal, at best for this species. The only recorded occurrences of this species in the vicinity correspond to historic collections (1938 and 1941) from unknown locations near Firebaugh and Mendota.
<b>palmate-bracted bird’s-beak (<i>Chloropyron palmatum</i>)</b>	FE, CE, CNPS 1B	Found in the San Joaquin Valley and Sacramento Valley in alkaline soils (usually Pescadero silty clay) in chenopod scrub, valley and foothill grassland at elevations below 500 feet. Blooms June – August.	<b>Unlikely.</b> Habitats of the Project area are marginal, at best for this species. There are no recorded observations of this species within the District’s boundaries, and there have been no recorded occurrences of this species in the vicinity in over 25 years.
<b>pincushion navarretia (<i>Navarretia myersii</i> spp. <i>myersii</i>)</b>	CNPS 1B	Found in vernal pools in clay soils at elevations between 65-295 feet. Often associated with non-native grasslands. Blooms in May.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>Pleasant Valley mariposa-lily (<i>Calochortus clavatus</i> var. <i>avius</i>)</b>	CNPS 1B	Found in the lower montane coniferous forests of the Sierra Nevada range, often in rocky areas at elevations between 2950-5900 feet. Blooms May – July.	<b>Absent.</b> Suitable habitat is absent from the Project area. The District is below the accepted altitudinal range of this species.
<b>recurved larkspur (<i>Delphinium recurvatum</i>)</b>	CNPS 1B	Found in the San Joaquin Valley and other parts of California. Occurs in poorly drained, fine, alkaline soils in grassland at elevations between 100 feet and 1965 feet. Most often found in non-wetlands, but occasionally found in wetlands. Blooms March – June.	<b>Unlikely.</b> This species would not be expected to occur within the canals and stream systems within the Project area. There has only been recorded observation of this species within the District’s boundaries, and it corresponds to a historic (1935) collection from an unknown location near Chowchilla. The status of this occurrence has since been updated to “extirpated” due to agricultural conversion.
<b>San Joaquin Valley Orcutt grass (<i>Orcuttia inaequalis</i>)</b>	FT, CE, CNPS 1B	Found in the eastern San Joaquin Valley and the Sierra Nevada foothills in vernal pools within valley grassland, freshwater wetland, and wetland-riparian communities at elevations below 2600 feet. Blooms April – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.

Species	Status	Habitat	Occurrence on Project Site
<b>Sanford's arrowhead</b> <i>(Sagittaria sanfordii)</i>	CNPS 1B	Found in the San Joaquin Valley and other parts of California in freshwater-marsh, primarily ponds and ditches, at elevations below 1000 feet. Blooms May – October.	<b>Unlikely.</b> Suitable habitat is present within Project areas. However, this species has never been recorded within the District. The nearest record in the vicinity occurred approximately 13 miles north of the District's northern boundary and was reported in 1948.
<b>Shining navarretia</b> <i>(Navarretia nigelliformis ssp. radians)</i>	CNPS 1B	Found in cismontane woodland and valley and foothill grassland communities, sometimes in vernal pools. Occurs at elevations between 200 feet and 3200 feet. Blooms May – July.	<b>Unlikely.</b> Habitats of the Project area are marginal, at best for this species. There are no recorded observations of this species within the District.
<b>spiny-sepaled button-celery</b> <i>(Eryngium spinosepalum)</i>	CNPS 1B	Found in the Sierra Nevada Foothills and portions of the San Joaquin Valley. Occurs in vernal pools, swales, and roadside ditches at elevations between 325 feet and 4160 feet in valley grassland, freshwater wetlands, and riparian communities. Blooms April – July.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>subtle orache</b> <i>(Atriplex subtilis)</i>	CNPS 1B	Found in the San Joaquin Valley in saline depressions at elevations below 230 feet. Blooms June – October.	<b>Unlikely.</b> Habitats of the Project area are marginal, at best for this species. There is one occurrence record of this species within the District it corresponds to a historic (1936) collection from a now extirpated population.
<b>succulent owl's-clover</b> <i>(Castilleja campestris var. succulenta)</i>	FT, CE, CNPS 1B	Found in vernal pools, often in acidic soils at elevations below 2500 feet. Blooms April – July.	<b>Absent.</b> Suitable vernal pool habitat is absent from the Project area.
<b>vernal pool smallscale</b> <i>(Atriplex persistens)</i>	CNPS 1B	Found in alkaline vernal pools throughout the San Joaquin Valley at elevations between 10-377 feet. Blooms June – September.	<b>Absent.</b> Suitable vernal pool habitat is absent from the project area.
<b>watershield</b> <i>(Brasenia schreberi)</i>	CNPS 2B	Found in marshes and swamps, as well as near artificial waterbodies at elevations below 2200 feet. Blooms April – October.	<b>Unlikely.</b> Habitats of the Project areas are marginal, at best for this species. There have been no reported occurrences of this species within the District. The only recorded occurrence in the vicinity corresponds to a historic (1915) collection from an unknown location described only as "Merced."

**EXPLANATION OF OCCURRENCE DESIGNATIONS AND STATUS CODES**

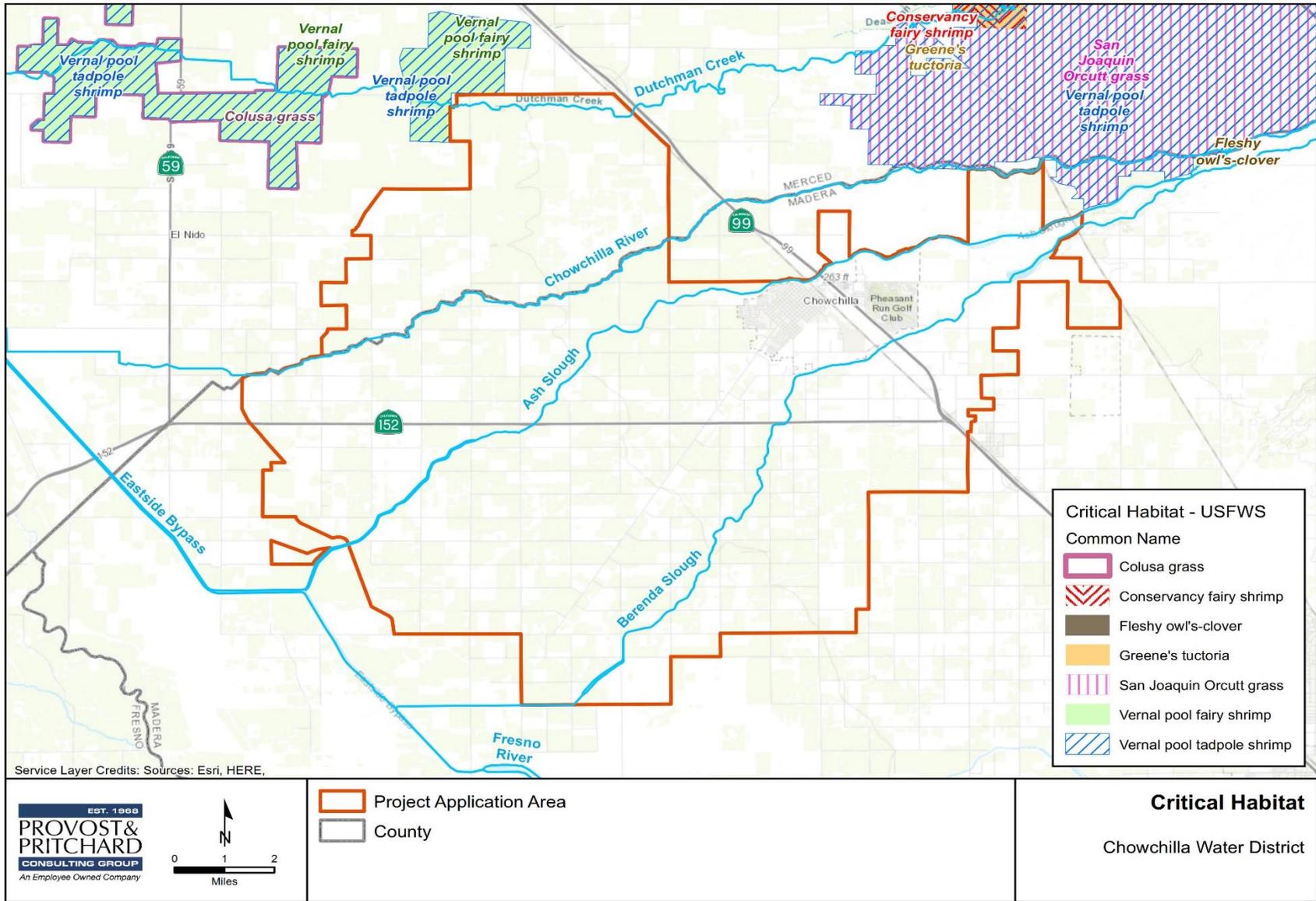
Present: Species observed on the site at time of field surveys or during recent past  
Likely: Species not observed on the site, but it may reasonably be expected to occur there on a regular basis  
Possible: Species not observed on the site, but it could occur there from time to time  
Unlikely: Species not observed on the site, and would not be expected to occur there except, perhaps, as a transient  
Absent: Species not observed on the site, and precluded from occurring there due to absence of suitable habitat

**STATUS CODES**

FE	Federally Endangered	CE	California Endangered
FT	Federally Threatened	CT	California Threatened
FPE	Federally Endangered (Proposed)	CCT	California Threatened (Candidate)
FPT	Federally Threatened (Proposed)	CFP	California Fully Protected
FC	Federal Candidate	CSC	California Species of Concern
		CWL	California Watch List
		CCE	California Endangered (Candidate)
		CR	California Rare

**CNPS LISTING**

1A	Plants Presumed Extinct in California	2	Plants Rare, Threatened, or Endangered in
1B	Plants Rare, Threatened, or Endangered in California and elsewhere		California, but more common elsewhere



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Figure 4. Critical Habitat Map

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# 3 Impacts and Mitigation

## 3.1 Significance Criteria

### 3.1.1 CEQA

General plans, area plans, and specific projects are subject to the provisions of CEQA. The purpose of CEQA is to assess the impacts of proposed projects on the environment prior to project implementation. Impacts to biological resources are just one type of environmental impact assessed under CEQA and vary from project to project in terms of scope and magnitude. Projects requiring removal of vegetation may result in the mortality or displacement of animals associated with this vegetation. Animals adapted to humans, roads, buildings, and pets may replace those species formerly occurring on a site. Plants and animals that are state and/or federally listed as threatened or endangered may be destroyed or displaced. Sensitive habitats such as wetlands and riparian woodlands may be altered or destroyed. Such impacts may be considered either “significant” or “less than significant” under CEQA. According to the CEQA Guidelines, “significant effect on the environment” means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic interest. Specific project impacts to biological resources may be considered “significant” if they would:

- 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;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- 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;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Furthermore, CEQA Guidelines Section 15065(a) states that a project may trigger the requirement to make a “mandatory finding of significance” if the project has the potential to:

“Substantially 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 an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory.”

## **3.2 Relevant Goals, Policies, and Laws**

### **3.2.1 City of Chowchilla 2040 General Plan**

The Open Space and Conservation Element of the City of Chowchilla 2040 General Plan contains the following goals and policies regarding biological resources, and which have potential relevance to the Project's CEQA review:

- Policy OS 13.6: The City of Chowchilla shall support the management of riparian scrub and aquatic environments of Ash Slough, Berenda Slough, and the Chowchilla River for passive recreation, groundwater recharge, and wildlife habitat. The riparian and aquatic environments of Ash and Berenda Sloughs, and the Chowchilla River shall be restored and expanded, where feasible and appropriate.
- Implementation Measure OS 10.2.B: Work with Chowchilla Water District to reroute irrigation water to Ash Slough and Berenda Slough to promote groundwater recharge.

### **3.2.2 2030 Merced County General Plan**

The Natural Resources Element of the 2030 Merced County General Plan contains the following goals and policies regarding biological resources, and which have potential relevance to the Project's CEQA review:

- Goal NR-1: Preserve and protect, through coordination with the public and private sectors, the biological resources of the County.
- Policy NR-1.4: Minimize the removal of vegetative resources which stabilize slopes, reduce surface water runoff, erosion, and sedimentation.
- Policy NR-1.10: Cooperate with local, State, and federal water agencies in their efforts to protect significant aquatic and waterfowl habitats against excessive water withdrawals or other activities that would endanger or interrupt normal migratory patterns or aquatic habitats.

### **3.2.3 Madera County General Plan**

The Madera County General Plan contains the following goals and policies regarding biological resources, and which have potential relevance to the Project's CEQA review:

- Goal 5.C: To protect and enhance the natural qualities of Madera County's streams, creeks, and groundwater.
- Goal 5.D: To protect wetland communities and related riparian areas throughout Madera County as valuable resources.
- Goal 5.E: To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels.
- Policy 5.E.5: The County shall support the maintenance of suitable habitats for all indigenous species of wildlife through maintenance of habitat diversity.
- Policy 5.E.8: The County shall ensure close monitoring of pesticide use in areas adjacent to habitats of special status plants and animals.
- Policy 5.F.3: The County shall support the preservation of outstanding areas of natural vegetation, including but not limited to, oak woodlands, riparian areas, and vernal pools.

### **3.2.4 Threatened and Endangered Species**

Permits may be required from the USFWS and/or CDFW if activities associated with a Project have the potential to result in the “take” of a species listed as threatened or endangered under the federal and/or state Endangered Species Acts. “Take” is defined by the state of California as “to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill” (California Fish and Game Code, Section 86). “Take” is more broadly defined by the federal Endangered Species Act to include “harm” (16 USC, Section 1532(19), 50 CFR, Section 17.3). The CDFW and the USFWS are responding agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

### **3.2.5 Designated Critical Habitat**

When species are listed as threatened or endangered, the USFWS often designates areas of “Critical Habitat” as defined by section 3(5)(A) of the federal Endangered Species Act (ESA). Critical Habitat is a term defined in the ESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical Habitat is a tool that supports the continued conservation of imperiled species by guiding cooperation with the federal government. Designations only affect federal agency actions or federally funded or permitted activities. Critical Habitat does not prevent activities that occur within the designated area. Only activities that involve a federal permit, license, or funding and are likely to destroy or adversely modify Critical Habitat will be affected.

### **3.2.6 Migratory Birds**

The Federal Migratory Bird Treaty Act (MBTA: 16 USC 703-712) prohibits killing, possessing, or trading in any bird species covered in one of four international conventions to which the United States is a party, except in accordance with regulations prescribed by the Secretary of the Interior. The name of the act is misleading, as it actually covers almost all bird’s native to the United States, even those that are non-migratory. The MBTA encompasses whole birds, parts of birds, and bird nests and eggs. Additionally, California Fish and Game Code makes it unlawful to take or possess any non-game bird covered by the MBTA (Section 3513), as well as any other native non-game bird (Section 3800).

### **3.2.7 Birds of Prey**

Birds of prey are protected in California under provisions of Fish and Game Code (Section 3503.5), which states that it is unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks and eagles) or Strigiformes (owls), as well as their nests and eggs. The bald eagle and golden eagle are afforded additional protection under the federal Bald and Golden Eagle Protection Act (16 USC 668), which makes it unlawful to kill birds or their eggs.

### **3.2.8 Nesting Birds**

In California, protection is afforded to the nests and eggs of all birds. California Fish and Game Code (Section 3503) states that it is “unlawful to take, possess, or needlessly destroy the nest or eggs of any bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Breeding-season

disturbance that causes nest abandonment and/or loss of reproductive effort is considered a form of “take” by the CDFW.

### 3.2.9 Wetlands and other “Jurisdictional Waters”

Natural drainage channels and adjacent wetlands may be considered “waters of the United States” or “jurisdictional waters” subject to the jurisdiction of the U.S. Army Corps of Engineers (USACE). The extent of jurisdiction has been defined in the Code of Federal Regulations but has also been subject to interpretation of the federal courts. Jurisdictional waters generally include:

- All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified in paragraphs (a)(1)-(4) (i.e. the bulleted items above).

As determined by the United States Supreme Court in its 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)* decision, channels and wetlands isolated from other jurisdictional waters cannot be considered jurisdictional on the basis of their use, hypothetical or observed, by migratory birds. Similarly, in its 2006 consolidated *Carabell/Rapanos* decision, the U.S. Supreme Court ruled that a significant nexus between a wetland and other navigable waters must exist for the wetland itself to be considered a navigable and therefore jurisdictional water. Furthermore, the Supreme Court clarified that the Environmental Protection Agency (EPA) and the USACE will not assert jurisdiction over ditches excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE regulates the filling or grading of Waters of the U.S. under the authority of Section 404 of the Clean Water Act. The extent of jurisdiction within drainage channels is defined by “ordinary high water marks” on opposing channel banks. All activities that involve the discharge of dredge or fill material into Waters of the U.S. are subject to the permit requirements of the USACE. Such permits are typically issued on the condition that the applicant agrees to provide mitigation that result in no net loss of wetland functions or values. No permit can be issued until the Regional Water Quality Control Board (RWQCB) issues a Section 401 Water Quality Certification (or waiver of such certification) verifying that the proposed activity will meet state water quality standards.

Under the Porter-Cologne Water Quality Control Act of 1969, the State Water Resources Control Board has regulatory authority to protect the water quality of all surface water and groundwater in the State of California (“Waters of the State”). Nine RWQCBs oversee water quality at the local and regional level. The RWQCB for a given region regulates discharges of fill or pollutants into Waters of the State through the issuance of various permits and orders. Discharges into Waters of the State that are also Waters of the U.S. require a Section 401 Water Quality Certification from the RWQCB as a prerequisite to obtaining certain federal permits, such as a Section 404 Clean Water Act permit. Discharges into all Waters of the State, even those that are not also Waters of the U.S., require Waste Discharge Requirements (WDRs), or waivers of WDRs, from the RWQCB. The RWQCB also administers the Construction Storm Water Program and the federal National Pollution Discharge Elimination System (NPDES) program. Projects that disturb one or more acres of soil must obtain a Construction General Permit under the Construction Storm Water Program. A prerequisite for this permit is the development of a Storm Water Pollution Prevention Plan (SWPPP) by a certified Qualified SWPPP Developer. Projects that discharge wastewater, storm water, or other pollutants into a Water of the U.S. may require a NPDES permit.

CDFW has jurisdiction over the bed and bank of natural drainages and lakes according to provisions of Section 1601 and 1602 of the California Fish and Game Code. Activities that may substantially modify such waters through the diversion or obstruction of their natural flow, change or use of any material from their bed or bank, or the deposition of debris require a Notification of Lake or Streambed Alteration. If CDFW determines that the activity may adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will be prepared. Such an agreement typically stipulates that certain measures will be implemented to protect the habitat values of the lake or drainage in question.

### 3.3 Impacts Discussion and Recommended Mitigation Measures

As discussed in **Section 1**, the Project includes the application of aquatic herbicides to canals within the District's Project Application Area in order to prevent and treat the overgrowth of algae. The District already conducts water quality testing at predetermined intervals and retains a qualified biologist to conduct biological post-construction surveys of potential spill sites in order to ensure there are no significant adverse effects to wildlife, pursuant to the APAP, NPDES Permit, and Water Quality Order. The District will be required to comply with all of the existing stipulations in applicable permits and regulatory documents. The following sections discuss potential Project-related impacts to sensitive biological resources and identifies if additional mitigation measures are warranted.

#### 3.3.1 Project-Related Impacts to Special Status Plant Species

28 special status plants have been documented in the vicinity, including beaked clarkia (*Clarkia rostrate*), Boggs Lake hedge-hyssop (*Gratiola heterosepala*), California alkali grass (*Puccinellia simplex*), Colusa grass (*Neostaphia colusana*), Delta button-celery (*Eryngium racemosum*), Dwarf downingia (*Downingia pusilla*), forked hare-leaf (*Lagophylla dichotoma*), Greene's tuctoria (*Tuctoria greenei*), hairy Orcutt grass (*Orcuttia pilosa*), heartscale (*Atriplex cordulata* var. *cordulata*), Hoover's calycadenia (*Calycadenia hooveri*), Hoover's cryptantha (*Cryptantha hooveri*), lesser saltscale (*Atriplex minuscula*), Lost Hills crownscale (*Atriplex coronata* var. *vallicola*), Madera leptosiphon (*Leptosiphon serrulatus*), Munz's tidy-tips (*Layia munzii*), palmate-bracted bird's-beak (*Chloropyron palmatum*), pincushion navaretia (*Navaretia myersii* ssp. *myersii*), Pleasant Valley mariposa-lily (*Calochortus clavatus* var. *avius*), recurved larkspur (*Delphinium recurvatum*), San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*), Sanford's arrowhead (*Sagittaria sanfordii*), Shining navaretia (*Navaretia nigelliformis* ssp. *radians*), spiny-sealed button-celery (*Eryngium spinosepalum*), subtle orache (*Atriplex subtilis*), succulent owl's-clover (*Castilleja campestris* var. *succulenta*), vernal pool smallscale (*Atriplex persistens*), and watershield (*Brasenia schreberi*). As explained in **Table 2**, all of the aforementioned plant species are absent from or unlikely to occur within the Project area due to past and ongoing disturbance and/or the absence of suitable habitat. In the unlikely event a special status plant was present within the Project area, it would remain highly unlikely for the Project to result in a significant impact to an individual plant or population. Copper and acrolein applications will occur within open water of canals and high concentrations would not reach areas with potential to support vascular plants. Furthermore, the EPA has determined that copper sulfate does not pose a risk to freshwater vascular plants (EPA, 2008), and acrolein is typically applied at nearly half the concentration believed to have a potential adverse effect on the most sensitive terrestrial vascular plant (Gomes, Meek, & Eggleton, 2002). Therefore, implementation of the Project should have no effect on individual plants or regional populations of these special status plant species. Additional mitigation measures are not warranted.

#### 3.3.2 Project-Related Impacts to Special Status Animal Species Absent From, or Unlikely to Occur on, the Project Site

Of the 29 regionally occurring special status species documented in the CNDDDB, 18 are considered absent from or unlikely to occur within the Project area either due to past or ongoing disturbance, absence of suitable habitat, or because the species is presumed extirpated from the region. As explained in **Table 1**, the following 8 species were deemed absent from the Project area: Conservancy fairy shrimp (*Branchinecta conservatio*), Fresno kangaroo rat (*Dipodomys nitratoides exilis*), giant garter snake (*Thamnophis gigas*), steelhead-

Central Valley DPS (*Oncorhynchus mykiss irideus* pop.11), valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), western yellow-billed cuckoo (*Coccyzus americanus occidentalis*); and the following 10 species were declared unlikely to occur within the Project area: American badger (*Taxidea taxus*), bank swallow (*Riparia riparia*), blunt-nosed leopard lizard (*Gambelia sila*), California tiger salamander (*Ambystoma californiense*), coast horned lizard (*Phrynosoma blainvillii*), Nelson's antelope squirrel (*Ammospermophilus nelsoni*), northern California legless lizard (*Anniella pulchra*), San Joaquin kit fox (*Vulpes macrotis mutica*), western spadefoot (*Spea hammondi*), and yellow-headed blackbird (*Xanthocephalus xanthocephalus*). Since it is highly unlikely that these species would occur onsite, implementation of the Project should have no impact on these 18 special status species. Additional mitigation measures are not warranted.

### 3.3.3 Project-Related Impacts to Special Status Animal Species with Potential to Occur Onsite

The following 11 special status animal species have been documented in the vicinity and have been determined to have potential to occur within the Project area: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), mountain plover (*Charadrius montanus*), northern harrier (*Circus hudsonis*), Swainson's hawk (*Buteo swainsoni*), tricolored blackbird (*Agelaius tricolor*), western mastiff bat (*Eumops perotis californicus*), western pond turtle (*Emys marmorata*), and western red bat (*Lasiurus blossevillii*). Potential Project-related impacts to each of these species will be discussed below.

#### Potential Impacts to Special Status Avian Species, Nesting Raptors, and Migratory Birds

As mentioned above, eight special status bird species have been documented in the vicinity and have been determined to have potential to occur within the Project area: bald eagle (*Haliaeetus leucocephalus*), burrowing owl (*Athene cunicularia*), ferruginous hawk (*Buteo regalis*), merlin (*Falco columbarius*), mountain plover (*Charadrius montanus*), northern harrier (*Circus hudsonis*), Swainson's hawk (*Buteo swainsoni*), and tricolored blackbird (*Agelaius tricolor*). Burrowing owl (*Athene cunicularia*) and ferruginous hawk (*Buteo regalis*) are both associated with upland habitats and their prey base includes terrestrial invertebrates and rodents; therefore, these two species would not be expected to have exposure to copper- or acrolein-treated water, either directly or through a food source. Merlin (*Falco columbarius*), Swainson's hawk (*Buteo swainsoni*), northern harrier (*Circus hudsonis*), and tricolored blackbird (*Agelaius tricolor*) are associated with riparian habitats but would not be expected to swim, wade, or forage within the treated canals or potential spill sites. The Merlin (*Falco columbarius*) and mountain plover (*Charadrius montanus*) are winter migrants to this region and would not be expected to be present during the typical application period in Spring and Summer. The bald eagle (*Haliaeetus leucocephalus*) could potentially nest or forage along the Chowchilla River. However, there is little to no risk of exposure to elevated levels of copper and/or acrolein within this waterbody. According to the District's adopted Aquatic Pesticide Application Plan and the Water Quality Order issued as part of the NPDES permit, copper and acrolein will be applied within District canals as far upstream from potential spill sites as possible. Both copper and acrolein have short half-lives and are highly reactive which prevents transportation over long distances and persistence in the environment (Siemering & Hayworth, 2005). Therefore, waters within potential spill sites, including the Chowchilla River, and aquatic species which could serve as prey for the special status bald eagle, are not likely to be significantly affected by Project activities.

Potential Project-related disturbance is limited to the temporary mobilization and staging of equipment and materials required for the application of aquatic herbicides within the District's canals. Suitable nesting habitat is scarce within the frequently disturbed application sites, and habitats would be considered suboptimal for foraging and nesting. However, some disturbance tolerant avian species could nest in the Project vicinity. For instance, cliff swallows could nest on in-channel structures, raptors could nest in large trees in the vicinity, and killdeer could nest on the bare ground or dirt roads onsite. During the biological survey, old mud nests were observed on structures and an active barn owl nest was observed within an ornamental palm tree near the Main Canal heading. There will be no potential for disturbance to nesting birds at potential spill sites which contain habitat of much greater value to nesting birds.

All of the potential application sites are along existing compacted dirt access roads or paved roads which are used frequently for vehicles associated with canal maintenance and agricultural production. Project activities related to the application of aquatic herbicides will not involve the use of heavy equipment or loud machinery. Avian species inhabiting these areas are likely adapted to urban and agricultural environments and relatively tolerant of disturbance. It should be noted that the District already has an ongoing practice of aquatic herbicide application and channel maintenance at all of the potential application sites. Implementation of the Project will not result in a significant increase in disturbance or a change in the type of disturbance typically experienced onsite, and therefore, should have no impact on nesting birds in the vicinity. Additional mitigation measures to protect special status avian species, nesting birds, and migratory birds are not warranted.

### **Potential Impacts to Special Status Bats and Roosting Bats**

The special status western mastiff bat (*Eumops perotis californicus*) and western red bat (*Lasiurus blossevillii*) could forage over potential application sites and potential spill sites. Neither of these species would be expected to roost within in-channel structures near application sites, but the western red bat could potentially roost within riparian trees along the natural stream systems. Other small, common bat species such as the little brown bat (*Myotis lucifugus*), Yuma myotis (*Myotis yumanensis*), or Mexican free-tailed bat (*Tadarida brasiliensis*) could potentially use existing in-channel structures as day or night roosts or for maternity roosts. However, these structures are located within a region frequently disturbed by channel maintenance activities and traffic related to agricultural production. Furthermore, Project activities such as the application of aquatic herbicides will be unchanged from baseline conditions and therefore unlikely to result in a significant disturbance to roosting bats. Bat species with potential to occur within Project areas may forage on flying arthropods and drink from water sources in the Project area. Bats tend to prey on terrestrial invertebrates and therefore would not be expected to ingest increased concentrations of copper or acrolein through a food source. If a bat were to drink from one of the application sites it would do so from the canal's surface, which would only experience high concentrations of acrolein or copper immediately following application. The chemicals would be applied during the day when bats are inactive thereby decreasing the potential for a special status bat to experience exposure to high concentrations of copper or acrolein. For all of these reasons, potential Project-related impacts to special status bat species and roosting bats would be unlikely and considered less than significant. Additional mitigation measures are not warranted.

### **Potential Impacts to Western Pond Turtle**

Potential application sites include District canals, which are subject to vegetation maintenance activities on a regular basis and therefore lacking an overgrowth of riparian vegetation and basking sites suitable for the western pond turtle. However, this species could occur downstream of potential spill sites into natural stream systems. As mentioned above, both copper and acrolein have short half-lives and are highly reactive which prevents transportation over long distances and persistence in the environment (Siemering & Hayworth, 2005). According to the District's adopted Aquatic Pesticide Application Plan and the Water Quality Order issued as part of the NPDES permit, copper and acrolein will be applied within District canals as far upstream from potential spill sites as possible thereby reducing the potential for toxicity in downstream natural stream systems which may support western pond turtles. Furthermore, multiple studies, including an extensive three-year worst-case-scenario monitoring analysis (Siemering & Hayworth, 2005) have shown little indication of short-term and no long-term toxicity of aquatic herbicide applications, including copper and acrolein, on fishes. It is reasonable to assume that toxicity would be even less likely to occur in a semi-aquatic species, such as the western pond turtle, since it would have less overall exposure to potentially affected waters. In addition, western pond turtles are accustomed to high levels of contaminants, evidenced by the fact that they are often found occupying wastewater treatment ponds and lumber mill effluent ponds. (USFWS, 2009). The USFWS 2009 publication *Conservation Assessment of the Western Pond Turtle in Oregon* lists a variety of threats with potential to affect conservation of the western pond turtle. While aquatic herbicide and pesticide use is discussed as potentially indirectly affecting turtles by reducing invertebrate prey or altering availability of cover or basking sites, toxicity is not listed as a threat to this species. For all of these reasons, potential

Project-related impacts to western pond turtles would be unlikely and considered less than significant. Additional mitigation measures are not warranted.

### **3.3.4 Project-Related Impacts to Wildlife Movement Corridors**

As discussed in **Section 2.5**, the Project site does contain features that could serve as a wildlife movement corridor. However, Project activities, which include the application of a diluted form of copper sulfate and acrolein, are not likely to impede the use of canal banks or riparian corridors for dispersal, mating, or migratory movements. Mitigation measures are not warranted.

### **3.3.5 Project-Related Impacts to Critical Habitat**

Designated critical habitat is absent from the Project area. Therefore, there will be no impact to critical habitat, and mitigation is not warranted.

### **3.3.6 Local Policies or Habitat Conservation Plans**

The Project appears to be consistent with the goals and policies of the City of Chowchilla 2040 General Plan, Madera County General Plan, and the 2030 Merced County General Plan. There are no known habitat conservation plans within the Project area. Mitigation is not warranted.

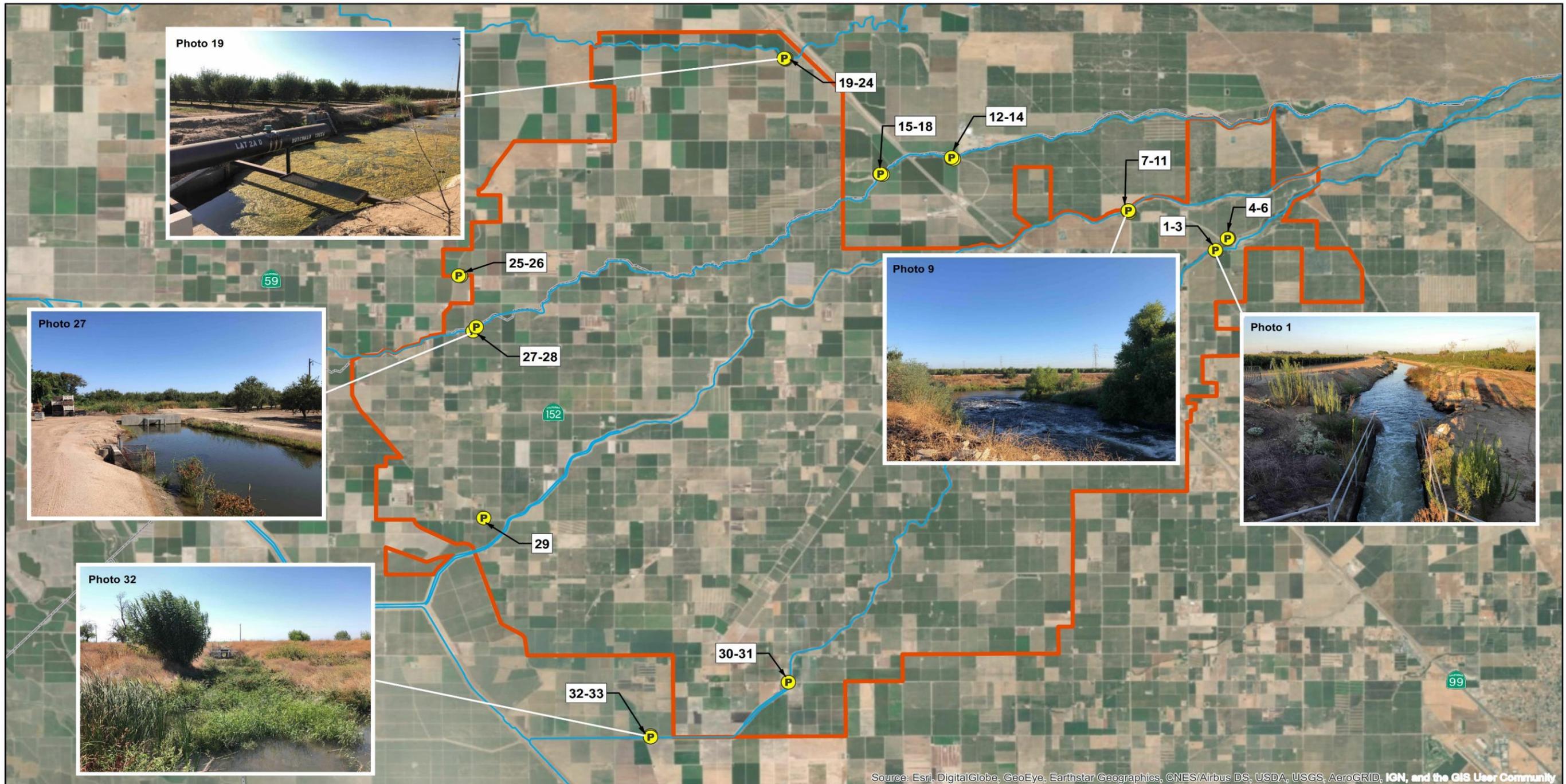
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**Appendix A. Representative Photographs of Project Areas**

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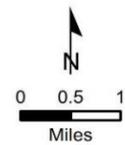
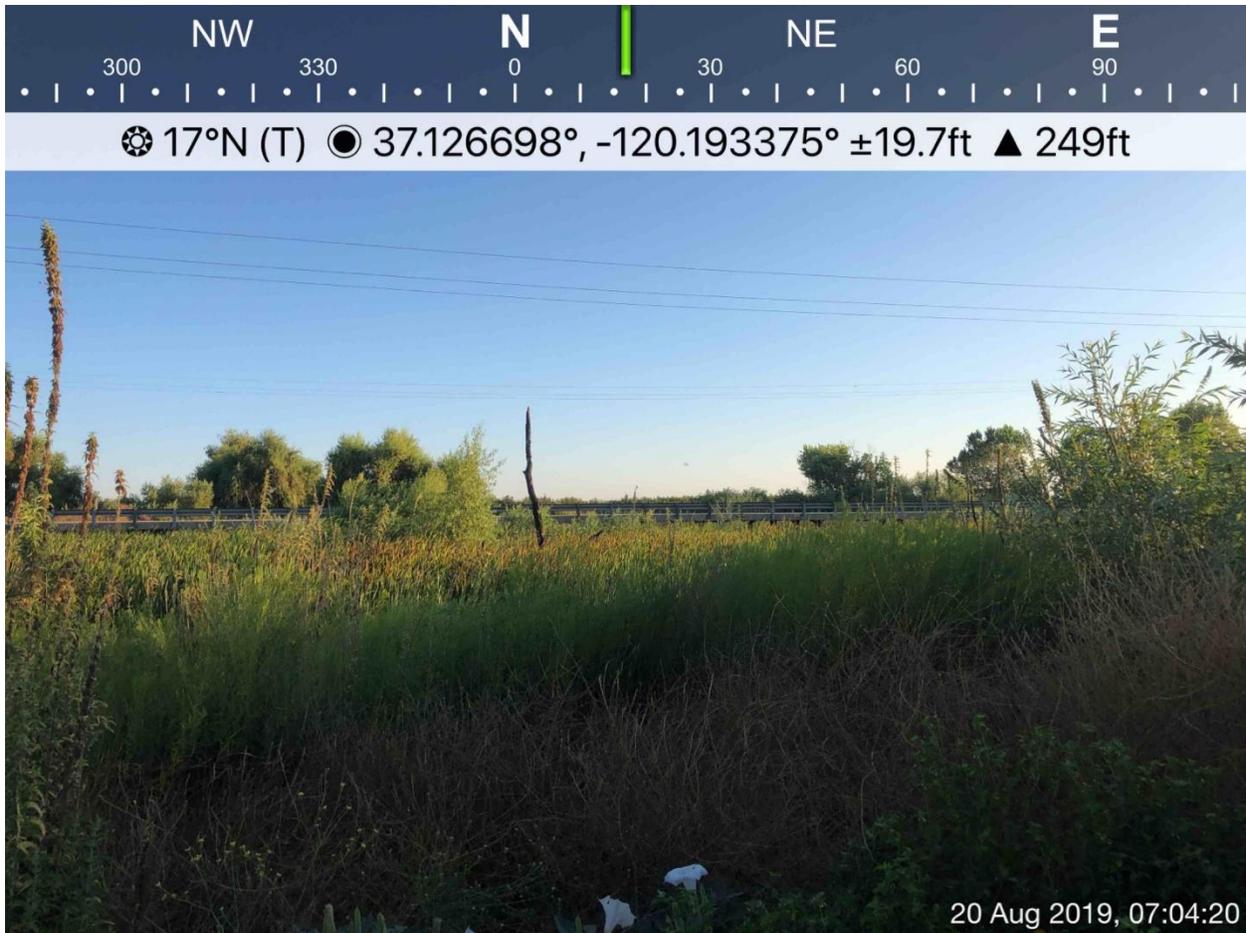


 Photo  
 Chowchilla Water District

**Photo Map**  
 Chowchilla Water District



Photograph 1: Potential application site at Califa canal head.



Photograph 2: Berenda Slough north of Califa canal.



Photograph 3: Overgrowth of Arundo in Berenda Slough.



Photograph 4: Potential application site at Main Canal heading.



Photograph 5: Evidence of an active barn owl nest in an ornamental palm tree near Main Canal heading. Whitewash, prey remnants, and pellets were observed at the base of the tree.



Photograph 6: Location of the palm containing the owl nest in relation to the canal.



Photograph 7: Concrete-lined main canal upstream of the spill site into Ash Slough.



☼ 257°W (T) ☉ 37.136906°, -120.220398° ±13.1ft ▲ 247ft



Photograph 8: Inactive raptor nest near the Main Canal spill site into Ash Slough.



Photograph 9: Overview of Main Canal spill site into Ash Slough.



Photograph 10: Overview of Ash Slough (facing upstream) at the Main Canal spill site.



Photograph 11: Overview of Ash Slough downstream of the Main Canal spill site.

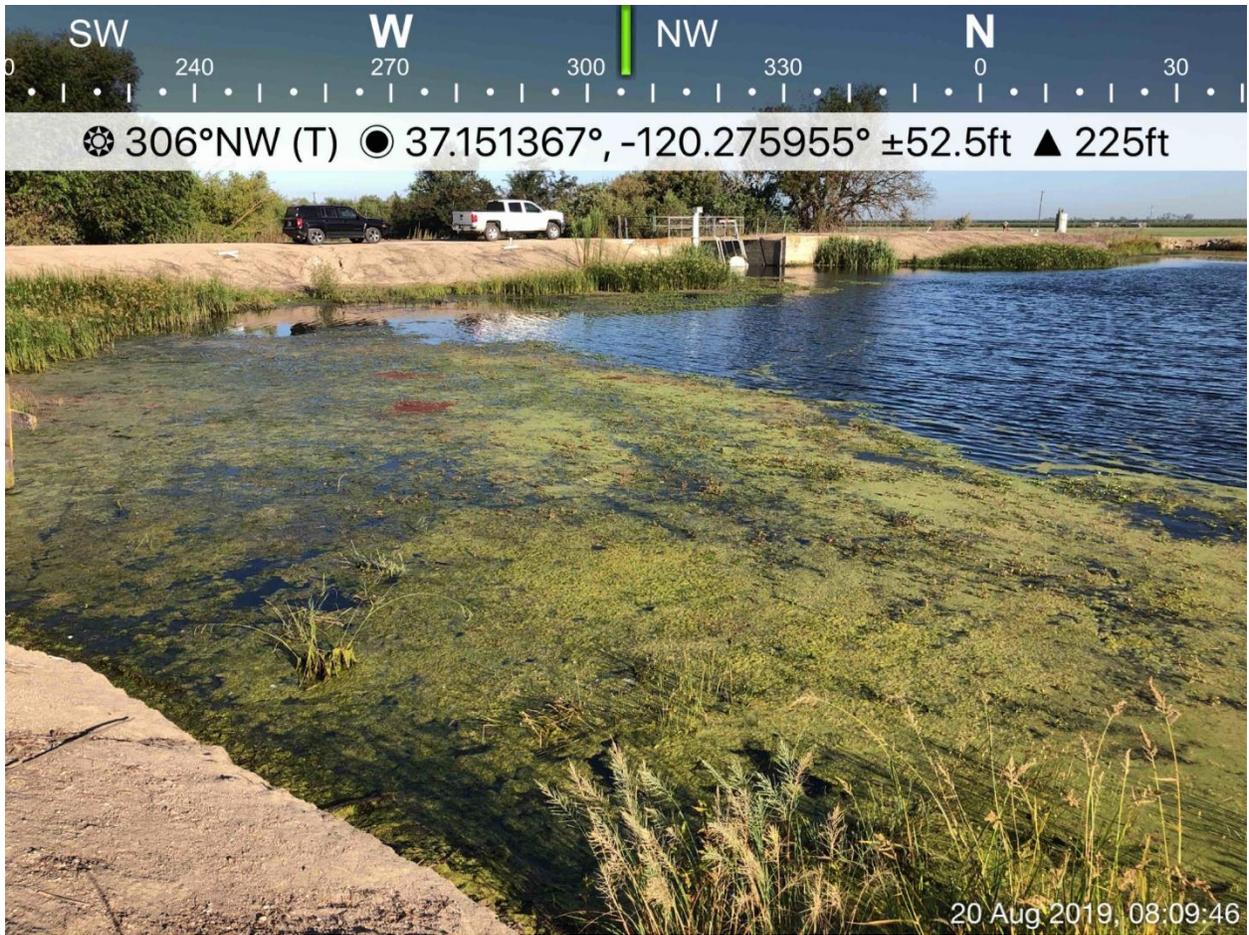


☀ 78°E (T) ● 37.151524°, -120.276588° ±78.7ft ▲ 222ft



20 Aug 2019, 08:07:12

Photograph 12: Pond along Chowchilla River, experiencing an overgrowth of pondweed and algae.



Photograph 13: Pond along Chowchilla River with an algal mat.



Photograph 14: Chowchilla River, directly downstream of a control structure.



☼ 40°NE (T) ● 37.147327°, -120.298462° ±39.4ft ▲ 201ft



Photograph 15: Chowchilla River upstream of LaBranza Main Canal.



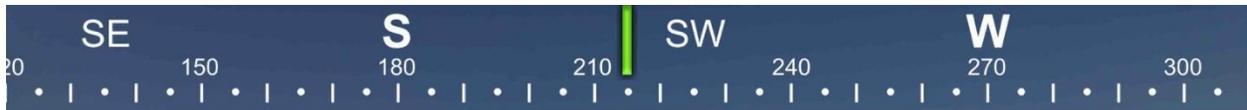
☼ 193°S (T) ☉ 37.147221°, -120.298485° ±19.7ft ▲ 211ft



Photograph 16: Emergent vegetation within a branch of Chowchilla River running parallel to LaBranza Main Canal.



Photograph 17: Potential application site in LaBranza Main Canal.



☼ 215°SW (T) ● 37.147430°, -120.299057° ±19.7ft ▲ 212ft



Photograph 18: LaBranza Main Canal “drop.” This is the location where water from Chowchilla River flows into LaBranza Main Canal. Pondweed and algae are visible along the control gates in this photograph.



Photograph 19: LaBranza Lateral 2A.0 upstream of the spill site into Dutchman Creek. An overgrowth of algae in LaBranza Lateral 2A.0 canal, evidenced by thick mats on the water surface.



Photograph 20: Spill site from LaBranza Lateral 2A.0 into Dutchman Creek.



Photograph 21: Dutchman Creek downstream of the LaBranza Lateral 2A.0 spill site. Habitat appears suitable for western pond turtle; however, an abundance of American bullfrogs were present.



☼ 281°W (T) ☉ 37.178471°, -120.328835° ±315.0ft ▲ 168ft



Photograph 22: Dutchman Creek upstream of the LaBranza Lateral 2A.0 spill site.



Photograph 23: Suitable basking site for western pond turtle within Dutchman Creek. No western pond turtles were observed, and an abundance of American bullfrogs were present during the survey.



Photograph 24: Overgrowth of emergent vegetation within Dutchman Creek.



☉ 279°W (T) ● 37.120163°, -120.431801° ±39.4ft ▲ 147ft



20 Aug 2019, 09:49:46

Photograph 25: LaBranza Lateral 4 canal upstream of the potential spill site into El Nido Canal.



Photograph 26: Spill site from LaBranza Lateral 4 into El Nido Canal.



9°N (T) 37.105316°, -120.427795° ±13.1ft ▲ 149ft



Photograph 27: Justin Canal at the spill site into Chowchilla River.



☉ 211°SW (T) ● 37.106453°, -120.426788° ±39.4ft ▲ 149ft



Photograph 28: Overgrowth of algae and emergent vegetation in Chowchilla River, near the spill site from Justin Canal.



Photograph 29: Ash Slough, at potential spill site from Ashview canal.



☉ 75°E (T) ● 37.010853°, -120.328407° ±52.5ft ▲ 158ft



Photograph 30: Dairyland Pond at potential spill site into Berenda Slough. Inactive oriole nests and swallow nests were observed on this bridge.



☀ 137°SE (T) ● 37.010838°, -120.328445° ±26.2ft ▲ 158ft



Photograph 31: Overview of Dairyland Pond.



☉ 181°S (T) ● 36.996532°, -120.371941° ±19.7ft ▲ 138ft



Photograph 32: Berenda Canal spill ditch at potential spill site into Berenda Slough.



☼ 184°S (T) ● 36.996155°, -120.371941° ±19.7ft ▲ 138ft



20 Aug 2019, 11:46:03

Photograph 33: Berenda Slough.

## Appendix B. CNDDDB Query Results

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# Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



**Query Criteria:** Quad (El Nido (3712024) OR Plainsburg (3712023) OR Le Grand (3712022) OR Bliss Ranch (3712014) OR Chowchilla (3712013) OR Firebaugh NE (3612083) OR Berenda (3712012) OR Sandy Mush (3712025) OR Atwater (3712035) OR Owens Reservoir (3712032) OR Illinois Hill (3712031) OR Raynor Creek (3712021) OR Kismet (3712011) OR Bonita Ranch (3612082) OR Poso Farm (3612084) OR Oxalis (3612085) OR Santa Rita Bridge (3712015) OR Madera (3612081) OR Firebaugh (3612074) OR Mendota Dam (3612073) OR Gravelly Ford (3612072))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>American badger</b> <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
<b>bald eagle</b> <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S3	FP
<b>bank swallow</b> <i>Riparia riparia</i>	ABPAU08010	None	Threatened	G5	S2	
<b>beaked clarkia</b> <i>Clarkia rostrata</i>	PDONA050Y0	None	None	G2G3	S2S3	1B.3
<b>blunt-nosed leopard lizard</b> <i>Gambelia sila</i>	ARACF07010	Endangered	Endangered	G1	S1	FP
<b>Boggs Lake hedge-hyssop</b> <i>Gratiola heterosepala</i>	PDSCR0R060	None	Endangered	G2	S2	1B.2
<b>burrowing owl</b> <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
<b>California alkali grass</b> <i>Puccinellia simplex</i>	PMPOA53110	None	None	G3	S2	1B.2
<b>California linderiella</b> <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
<b>California tiger salamander</b> <i>Ambystoma californiense</i>	AAAAA01180	Threatened	Threatened	G2G3	S2S3	WL
<b>coast horned lizard</b> <i>Phrynosoma blainvillii</i>	ARACF12100	None	None	G3G4	S3S4	SSC
<b>Colusa grass</b> <i>Neostapfia colusana</i>	PMPOA4C010	Threatened	Endangered	G1	S1	1B.1
<b>Conservancy fairy shrimp</b> <i>Branchinecta conservatio</i>	ICBRA03010	Endangered	None	G2	S2	
<b>Crotch bumble bee</b> <i>Bombus crotchii</i>	IIHYM24480	None	None	G3G4	S1S2	
<b>Delta button-celery</b> <i>Eryngium racemosum</i>	PDAP10Z0S0	None	Endangered	G1	S1	1B.1
<b>dwarf downingia</b> <i>Downingia pusilla</i>	PDCAM060C0	None	None	GU	S2	2B.2
<b>ferruginous hawk</b> <i>Buteo regalis</i>	ABNKC19120	None	None	G4	S3S4	WL



Selected Elements by Common Name  
California Department of Fish and Wildlife  
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>forked hare-leaf</b> <i>Lagophylla dichotoma</i>	PDAST5J070	None	None	G2	S2	1B.1
<b>Fresno kangaroo rat</b> <i>Dipodomys nitratooides exilis</i>	AMAFD03151	Endangered	Endangered	G3TH	SH	
<b>giant gartersnake</b> <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2	S2	
<b>Greene's tuctoria</b> <i>Tuctoria greenei</i>	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
<b>hairy Orcutt grass</b> <i>Orcuttia pilosa</i>	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
<b>heartscale</b> <i>Atriplex cordulata var. cordulata</i>	PDCHE040B0	None	None	G3T2	S2	1B.2
<b>hoary bat</b> <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
<b>Hoover's calycadenia</b> <i>Calycadenia hooveri</i>	PDAST1P040	None	None	G2	S2	1B.3
<b>Hoover's cryptantha</b> <i>Cryptantha hooveri</i>	PDBOR0A190	None	None	GH	SH	1A
<b>lesser saltscale</b> <i>Atriplex minuscula</i>	PDCHE042M0	None	None	G2	S2	1B.1
<b>Lost Hills crownscale</b> <i>Atriplex coronata var. vallicola</i>	PDCHE04250	None	None	G4T2	S2	1B.2
<b>Madera leptosiphon</b> <i>Leptosiphon serrulatus</i>	PDPLM09130	None	None	G3	S3	1B.2
<b>Merced kangaroo rat</b> <i>Dipodomys heermanni dixonii</i>	AMAFD03062	None	None	G3G4T2T3	S2S3	
<b>Merced phacelia</b> <i>Phacelia ciliata var. opaca</i>	PDHYD0C0S2	None	None	G5TH	SH	3.2
<b>merlin</b> <i>Falco columbarius</i>	ABNKD06030	None	None	G5	S3S4	WL
<b>midvalley fairy shrimp</b> <i>Branchinecta mesovallensis</i>	ICBRA03150	None	None	G2	S2S3	
<b>moestan blister beetle</b> <i>Lytta moesta</i>	IICOL4C020	None	None	G2	S2	
<b>molestan blister beetle</b> <i>Lytta molesta</i>	IICOL4C030	None	None	G2	S2	
<b>mountain plover</b> <i>Charadrius montanus</i>	ABNNB03100	None	None	G3	S2S3	SSC
<b>Munz's tidy-tips</b> <i>Layia munzii</i>	PDAST5N0B0	None	None	G2	S2	1B.2
<b>Nelson's antelope squirrel</b> <i>Ammospermophilus nelsoni</i>	AMAFB04040	None	Threatened	G2	S2S3	



**Selected Elements by Common Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>northern California legless lizard</b> <i>Anniella pulchra</i>	ARACC01020	None	None	G3	S3	SSC
<b>Northern Claypan Vernal Pool</b> <i>Northern Claypan Vernal Pool</i>	CTT44120CA	None	None	G1	S1.1	
<b>Northern Hardpan Vernal Pool</b> <i>Northern Hardpan Vernal Pool</i>	CTT44110CA	None	None	G3	S3.1	
<b>northern harrier</b> <i>Circus hudsonius</i>	ABNKC11011	None	None	G5	S3	SSC
<b>palmate-bracted bird's-beak</b> <i>Chloropyron palmatum</i>	PDSCR0J0J0	Endangered	Endangered	G1	S1	1B.1
<b>pincushion navarretia</b> <i>Navarretia myersii ssp. myersii</i>	PDPLM0C0X1	None	None	G2T2	S2	1B.1
<b>Pleasant Valley mariposa-lily</b> <i>Calochortus clavatus var. avius</i>	PMLIL0D095	None	None	G4T2	S2	1B.2
<b>recurved larkspur</b> <i>Delphinium recurvatum</i>	PDRAN0B1J0	None	None	G2?	S2?	1B.2
<b>San Joaquin kit fox</b> <i>Vulpes macrotis mutica</i>	AMAJA03041	Endangered	Threatened	G4T2	S2	
<b>San Joaquin Pocket Mouse</b> <i>Perognathus inornatus</i>	AMAFD01060	None	None	G2G3	S2S3	
<b>San Joaquin Valley Orcutt grass</b> <i>Orcuttia inaequalis</i>	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1
<b>Sanford's arrowhead</b> <i>Sagittaria sanfordii</i>	PMALI040Q0	None	None	G3	S3	1B.2
<b>shining navarretia</b> <i>Navarretia nigelliformis ssp. radians</i>	PDPLM0C0J2	None	None	G4T2	S2	1B.2
<b>spiny-sepaled button-celery</b> <i>Eryngium spinosepalum</i>	PDAPI0Z0Y0	None	None	G2	S2	1B.2
<b>steelhead - Central Valley DPS</b> <i>Oncorhynchus mykiss irideus pop. 11</i>	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b>subtle orache</b> <i>Atriplex subtilis</i>	PDCHE042T0	None	None	G1	S1	1B.2
<b>succulent owl's-clover</b> <i>Castilleja campestris var. succulenta</i>	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
<b>Swainson's hawk</b> <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
<b>tricolored blackbird</b> <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
<b>valley elderberry longhorn beetle</b> <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S2	
<b>Valley Sacaton Grassland</b> <i>Valley Sacaton Grassland</i>	CTT42120CA	None	None	G1	S1.1	



**Selected Elements by Common Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



<b>Species</b>	<b>Element Code</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Global Rank</b>	<b>State Rank</b>	<b>Rare Plant Rank/CDFW SSC or FP</b>
<b>Valley Sink Scrub</b> <i>Valley Sink Scrub</i>	CTT36210CA	None	None	G1	S1.1	
<b>vernal pool fairy shrimp</b> <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
<b>vernal pool smallscale</b> <i>Atriplex persistens</i>	PDCHE042P0	None	None	G2	S2	1B.2
<b>vernal pool tadpole shrimp</b> <i>Lepidurus packardii</i>	ICBRA10010	Endangered	None	G4	S3S4	
<b>watershield</b> <i>Brasenia schreberi</i>	PDCAB01010	None	None	G5	S3	2B.3
<b>western mastiff bat</b> <i>Eumops perotis californicus</i>	AMACD02011	None	None	G5T4	S3S4	SSC
<b>western pond turtle</b> <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
<b>western red bat</b> <i>Lasiurus blossevillii</i>	AMACC05060	None	None	G5	S3	SSC
<b>western spadefoot</b> <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC
<b>western yellow-billed cuckoo</b> <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b>yellow-headed blackbird</b> <i>Xanthocephalus xanthocephalus</i>	ABPBXB3010	None	None	G5	S3	SSC
<b>Yuma myotis</b> <i>Myotis yumanensis</i>	AMACC01020	None	None	G5	S4	

**Record Count: 71**