

Loma Rica Reservoir Cleaning Project

Initial Study / Mitigated Negative Declaration

**Prepared by:
Nevada Irrigation District**

April 5, 2013

Table of Contents

1.0	Mitigated Negative Declaration Information Sheet.....	1-1
2.0	Introduction	2-1
2.1	Introduction and Regulatory Guidance	2-1
2.2	Lead Agency	2-1
2.3	Determination of Significance.....	2-1
2.4	Terminology Used in this Document.....	2-2
2.5	Additional Information and Commenting on this Initial Study / Mitigated Negative Declaration	2-2
3.0	Project Description	3-1
3.1	Project Location.....	3-1
3.2	Environmental and Land Use Setting.....	3-1
3.3	Background	3-1
3.4	Project Purpose and Objectives	3-2
3.5	Project Components.....	3-2
3.6	Project Construction	3-3
4.0	Initial Study Checklist	4-1
4.1	Aesthetics.....	4-1
4.2	Agricultural Resources and Forestry Resources	4-3
4.3	Air Quality.....	4-5
4.4	Biological Resources	4-11
4.5	Cultural Resources	4-30
4.6	Geology and Soils	4-35
4.7	Greenhouse Gas Emissions.....	4-39
4.8	Hazards and Hazardous Materials	4-42
4.9	Hydrology and Water Quality.....	4-46
4.10	Land Use Planning	4-50
4.11	Mineral Resources	4-51
4.12	Noise	4-52
4.13	Population and Housing	4-56
4.14	Public Services	4-58
4.15	Recreation	4-60
4.16	Transportation/Traffic	4-61
4.17	Utilities and Service Systems	4-64
4.18	Mandatory Findings of Significance	4-67
5.0	CEQA Determination.....	5-1
6.0	Report Preparation and References	6-1
6.1	Report Preparation	6-1
	6.1.1 Lead Agency: Nevada Irrigation District	6-1
	6.1.2 Document Prepared By:	6-1
6.2	Persons and Agencies Consulted	6-1
6.3	References	6-1

List of Tables

Table 4-1 — NSAQMD Thresholds of Significance	4-8
---	-----

List of Figures

Figure 1 — Site and Vicinity Map.....	3-4
---------------------------------------	-----

Figure 2 — Parcel and Land Use Map..... 3-5
Figure 3 — CNDDDB 5-mile Radius Figure 4-13

List of Appendices

- Appendix A — CNDDDB Data, Plant List, Special Status Wildlife Table
- Appendix B — Biological Study Report
- Appendix C — CRLF Site Assessment Report
- Appendix D — Archaeological Inventory Survey
- Appendix E— Mitigation Monitoring Plan

Executive Summary

The Loma Rica Reservoir is located directly east of the City of Grass Valley, Nevada County, California, at an elevation of 3,154 feet above mean sea level (msl). The reservoir is located on property owned by the Nevada Irrigation District (NID) and it is approximately 1,500 feet east of the Nevada County operated airport and public use runway. The reservoir is part of the NID water-supply system and it stores raw water delivered through the Cascade Canal and the Banner Cascade Pipeline. The reservoir had a maximum capacity of 96.9 acre-feet (31.6 million gallons) when it was first constructed in the early 1960's. Since then silt and sediment deposited in the reservoir with the incoming water sources have significantly decreased its capacity. This decrease adversely effects capacity of the District's drinking and irrigation water systems.

Water from the Loma Rica Reservoir supplies the Loma Rica Water Treatment Plant and the Chicago Park Canal, an NID supply route for raw-water customers. The reservoir is not directly connected with any local creeks nor does it discharge to any natural water bodies or streams.

The Loma Rica Reservoir Cleaning Project proposes to dredge the Loma Rica Reservoir, which would involve removing accumulate sediments and materials. This would restore the reservoir's original capacity of just under 100 acre-feet. An estimated 40,000–70,000 cubic yards of sediment would be removed over a period of four to six months. The project may also entail including the installation of a chain-link fence around the perimeter of the reservoir in order to minimize the access of the NID's facility to the public.

The removal of the sediment will be accomplished by first draining the reservoir. The sediment would then be excavated using front-end loaders, excavators, drag-lines, suction dredges, dump trucks and/or other suitable equipment. The excavated sediment would be placed on adjacent previously disturbed land in order to drain the sediment of remaining water and to allow for drying. The sediment would then be transported off site to be recycled as fill material, if determined to be suitable for that purpose.

The Reservoir cleaning will occur between September 15 to March 15. This time frame will minimize environmental impacts and take advantage of lower water demands for the District such that the reservoir inactivity will not significantly affect the Districts operation.

The identified potentially significant impacts of the project will be less than significant with the incorporation of mitigation measures into the project. Potentially significant project impacts and associated mitigation measures include the following:

- Air Quality (Mitigation Measures AQ-1 & AQ-2)
- Biological Resources (Mitigation Measures BIO-1 to BIO-6)
- Cultural Resources (Mitigation Measure CR-1)
- Geology and Soils (Mitigation Measures GEO-1 to GEO-4)
- Hazards and Hazardous Materials (Mitigation Measure HAZ-1)
- Hydrology and Water Quality (Mitigation Measures GEO-1 to GEO-4) and
- Noise (Mitigation Measure NOISE-1)

1.0 MITIGATED NEGATIVE DECLARATION INFORMATION SHEET

PROJECT TITLE: Loma Rica Reservoir Cleaning Project

PROJECT LOCATION: Nevada County

DATE: April 5, 2013

PROJECT APPLICANT: Nevada Irrigation District

LEAD AGENCY: Nevada Irrigation District

CONTACT PERSON: Adrian Schneider

PROJECT DESCRIPTION:

Loma Rica Reservoir is located directly east of the City of Grass Valley, Nevada County, California, at an elevation of 3,154 feet above mean sea level (msl). It is part of the Nevada Irrigation District (NID) water-supply system and stores raw water delivered through the Lower Cascade Canal and the Banner Cascade Pipeline. No other surface water flows into this reservoir other than minor rain sheet flows from nearby land surface runoff. - A small amount of flows divert through an overflow spillway that drains to a small, shallow, created drainage below the reservoir which supplies a few raw-water customers just south of the project area. Water from the reservoir supplies the Loma Rica Water Treatment Plant and the Chicago Park Canal, an NID supply route for raw-water customers. The reservoir is not directly connected with any local creeks. Figures 1 and 2 show project location and vicinity, habitat types, topography, and an aerial photograph of the reservoir and surrounding habitats.

NID proposes to dredge the Loma Rica Reservoir, which would involve removing sediments that have accumulated since its construction in 1964. The reservoir has a total design storage capacity of approximately 97 acre-feet. The purpose of the project is to remove accumulated sediments and to regain lost storage capacity; the project would not add any additional capacity. An estimated 40,000–70,000 cubic yards of sediment would be removed over a period of three to four months. The project may also entail the installation of a chain-link fence on the perimeter of the reservoir to minimize public access to NID's facility.

The removal of the sediment would be accomplished by first draining the reservoir. The sediment then excavated using front-end loaders, excavators, dump trucks, drag lines, and other suitable equipment. The excavated sediment would be placed on adjacent previously disturbed land in order to drain the sediment of remaining water and to allow for drying. The sediment would then be transported off site to be recycled as fill material, as appropriate.

Reservoir cleaning will conducted between September 15 and March 15.

See Section 3.0 for additional Project Description details.

DECLARATION

The Nevada Irrigation District has determined that the above project will have no significant effect on the environment and is therefore exempt from the requirement of an Environmental Impact Report (EIR). The determination is based on the attached Initial Study and the following findings:

The project will not degrade environmental quality, substantially reduce habitat, cause a wildlife population to drop below self-sustaining levels, reduce the number or restrict the range of special-status species, or eliminate important examples of California history or prehistory.

The project does not have the potential to achieve short-term, to the disadvantage of long-term, environmental goals.

The project will not have impacts that are individually limited, but cumulatively considerable.

The project will not have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

No substantial evidence exists that the project will have a negative or adverse effect on the environment.

The project incorporates all applicable mitigation measures identified in the attached Initial Study.

This mitigated negative declaration reflects the independent judgment of the lead agency.

Written comments shall be submitted no later than 30 days from the posting date. The NID Board of Directors determination on this Mitigated Negative Declaration is final.

Submit written comments to:

Adrian Schneider, P.E.
Senior Associate Engineer
Nevada Irrigation District
1036 W. Main Street
Grass Valley, CA 95945-5424

Or by e-mail to: schneider@nidwater.com

2.0 INTRODUCTION

2.1 INTRODUCTION AND REGULATORY GUIDANCE

This document is an Initial Study that supports a Mitigated Negative Declaration (MND) determination by the Nevada Irrigation District (NID) for the Loma Rica Reservoir Cleaning project. This MND has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq., and the State CEQA Guidelines, 14 California Code of Regulations (CCR) Section 15000 et seq.

An Initial Study is conducted by a Lead Agency to determine if a project may have a significant effect on the environment (State CEQA Guidelines Section 15063). An EIR must be prepared if an Initial Study indicates that the proposed project under review may have a significant impact on the environment. A Negative Declaration may be prepared instead, if the Lead Agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and therefore does not require the preparation of an EIR. According to State CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

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

If revisions are adopted in the project plans or proposals in accordance with State CEQA Guidelines Section 15070(b)(1), a Mitigated Negative Declaration (MND) is prepared.

2.2 LEAD AGENCY

The Lead Agency is the public agency that has the principal responsibility for carrying out or approving a proposed project. According to State CEQA Guidelines Section 15051, if a project will be carried out by a public agency, then that agency shall be the Lead Agency, even if the project would be located within the jurisdiction of another public agency. Since the Nevada Irrigation District will oversee and implement the project, NID is the Lead Agency for the project for the purposes of CEQA.

2.3 DETERMINATION OF SIGNIFICANCE

Determining the significance of an activity is based on the natural and man-made conditions/use of the property at the time the Initial Study is written. Any proposed change in that condition is weighed along with scientific and factual data, consultation with other agencies, and uses already permitted through the zoning on the property.

A significant effect on the environment is generally defined as a substantial or potentially substantial adverse change in the physical environment {State CEQA Guidelines Section 15358}. Environment as used in this definition includes the land, air, water, minerals, flora, fauna, ambient noise, and objects which are historical or aesthetic in nature. The following initial study is used as a tool to document the potential of whether or not a proposed activity would need to be considered significant

{State CEQA Guidelines Section 15065}. Effects are also recognized as to whether they would occur either directly or indirectly as a result of the project.

2.4 TERMINOLOGY USED IN THIS DOCUMENT

This Environmental Checklist utilizes the following terminology to describe the various levels of significance associated with project related impacts:

Potentially Significant Impact: An impact that may have a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project" (State CEQA Guidelines Section 15382).

Less Than Significant With Mitigation Incorporated: An impact that could be mitigated to a level of less than significant with the addition of mitigation measures.

Less Than Significant Impact: An impact which is less than significant and does not require the implementation of mitigation measures; and

No Impact: Utilized for checklist items where the project will not have any impact and does not require the implementation of mitigation measures.

2.5 ADDITIONAL INFORMATION AND COMMENTING ON THIS INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

For additional information regarding this project, to review studies or reports referenced in this report or to comment on this document, please contact or send correspondence to:

Adrian Schneider, P.E.
Senior Associate Engineer
Nevada Irrigation District
1036 W. Main Street
Grass Valley, CA 95945-5424

Or by e-mail to: schneider@nidwater.com

3.0 PROJECT DESCRIPTION

The following is a description of the proposed project location, components and characteristics. Graphics and figures that pertain to the Project Description are located at the end of this section (Section 3.0) and immediately before Section 4.0 – Initial Study Checklist.

3.1 PROJECT LOCATION

The proposed project is located east of the City of Grass Valley in an unincorporated portion of western Nevada County in Section 29, Township 16 North, Range 9 East. The project location is just east of the Nevada County Airport. The project area comprises the reservoir itself plus ancillary areas directly north and northwest of the reservoir; these areas include District and County properties that would be used for staging of the project. (See **Figure 1 — Site and Vicinity Map**).

3.2 ENVIRONMENTAL AND LAND USE SETTING

Environmental Setting

The topography of the immediate project site vicinity consists of rolling hills. The project site elevation is approximately 3,154 feet above mean sea level (MSL). The project site supports montane hardwood conifer and montane riparian biological communities. The area surrounding the Loma Rica Reservoir includes Pacific ponderosa pine, Douglas-fir, incense cedar, California black oak, and canyon live oak.

General Plan Land Use Designation

The Nevada County General Plan designated land use for the project site is “Public-Site Combining Performance (P-SP)”.

Zoning Designation

The zoning designation for the project site is P-SP. Per the Nevada County Zoning Regulation, the Public land use (P) is intended to provide for areas occupied by Federal, State and local government agencies. The SP designation is combined to the base zoning district (Public – P) and meant to refine and require not less restrictive regulations than those contained in the base zone district (Public). The SP District typically states the more restrictive types of uses (i.e., public sewer and utility requirements, etc). In the project’s case, this zoning pertains to the use of the reservoir, and the ancillary use of the District’s water treatment plant to the west of the project area.

Surrounding Land Uses

Surrounding land uses are designated as Residential-Agricultural. The area is characterized primarily by rural low density residential development.

3.3 BACKGROUND

Loma Rica Reservoir is located east of the City of Grass Valley in an unincorporated portion of western Nevada County at an elevation of 3,154 feet above mean sea level (Figure 1). The reservoir is part of the NID water-supply system and stores raw water delivered through the Cascade Canal/Pipe System. Water from the reservoir feeds the Loma Rica Water Treatment Plant and the Chicago Park Canal system. The NID parcel (APN 06-401-02) comprises the reservoir itself plus ancillary facilities directly west of the reservoir, including two water-storage tanks, three settling ponds, surface roads, incoming and outgoing canals, and a small building. The reservoir lies approximately 3,000 feet south of Idaho Maryland Road and the Nevada County Air Park is about 1,500 feet to the east (Figure 2). The reservoir occurs within a mixed forest setting with single family homes interspersed primarily to the south and west along Loma Rica Road/Lee Lane. Also present in the reservoir is a fresh emergent marsh at the eastern end of the reservoir and, to a much lesser extent, in the northwest corner of the reservoir. Included are valley and foothill riparian, and denuded

disturbed areas adjacent to the reservoir. The reservoir is fed solely by NID's Cascade Canal; no other surface water flows into the reservoir (rain water/sheet flow excluded). A small amount of water flows out through an overflow spillway that connects to a small shallow drainage below the reservoir. This small drainage serves to supply a few raw water customers just south of the project site. Water from the reservoir flows through a pipe to the Loma Rica Water Treatment Plant and it flows into the Chicago Park Canal, an NID supply route for raw water customers. Loma Rica Reservoir is therefore not directly connected to other creeks in the area.

3.4 PROJECT PURPOSE AND OBJECTIVES

The project purpose is to remove accumulated sediment from the reservoir in order to regain lost storage capacity. The project would allow more operational flexibility to the District's system.

3.5 PROJECT COMPONENTS

The proposed project would remove accumulated sediment from the reservoir to bring it to close to its original capacity as possible. This Initial Study evaluates the impacts that may arise from implementation of the proposed project. The proposed project is shown in **Figure 2 — Site and Vicinity Map and Parcel and Land Use Map**, respectively.

Proposed project-components include:

- Draining the reservoir prior to sediment removal. This would be conducted during low-flow and off season demands (wintertime). The incoming water provided by the District's canal would be diverted around the reservoir using existing District piping and hydraulic structures. The reservoir would then be disconnected from incoming and outgoing water flows.
- Removing accumulated sediment from the reservoir using excavators, front end loaders, articulated haul trucks, dozers and water trucks (if necessary). Entry and exit routes for the reservoir would be minimized and strategically located to avoid impacts to shoreline vegetation. The estimated quantity of sediment removal is 50,000-75,000 cubic yards.
- Placing sediment on adjacent, disturbed District-owned property for dewatering and to allow sufficient drying of the sediment in order to transport. The dewatered liquids would be drained back to the reservoir.
- Remove and dispose the extracted and dewatered sediment, possibly to be used for fill material on the adjacent (airport) property in areas that have been previously disturbed.

Construction Equipment

Typical construction equipment utilized for similar NID projects include:

- Generators
- Rubber tired backhoe
- Water truck
- Dozers
- Pickup trucks
- Excavator
- Front-end Loader
- Delivery truck and trailer
- Delivery dump truck
- Small skid loader

- Fuel/oil service trucks
- Air compressor

Project Timeframe and Staging Areas

The project would be expected to begin in fall/winter of 2013. Staging areas would be determined by the project contractor prior to construction.

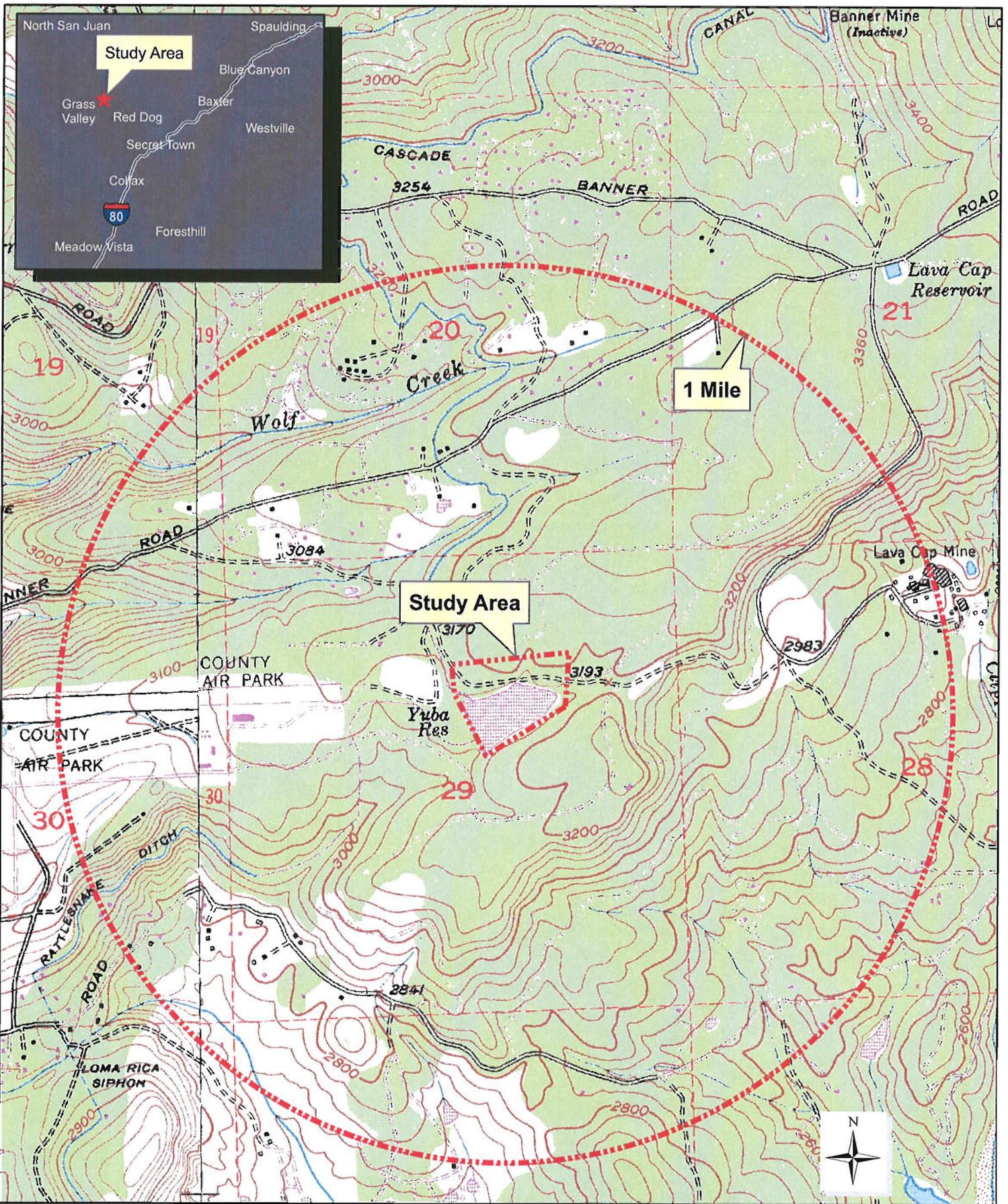
3.6 POTENTIAL PROJECT IMPACTS

The proposed project may have the following impacts. These potential impacts are more fully described in Section 4 – Initial Study Checklist.

- Habitat Impacts – removal of wetlands will remove habitat for frogs, birds, other aquatic species
- Aquatic Species Impacts – completely dewatering the reservoir will eliminate fish in the reservoir and impact other species (turtles and frogs, if present)
- Noise Impacts – noise associated with sediment removal operations may disturb the adjacent property owners
- Visual Impacts - the reservoir view shed will be changed during the dewatering period
- Traffic Impacts – hauling of the sediment may impact local traffic circulation
- Disposal/Use Issues – heavy metals, pesticides and other contaminants may be present in the sediment and may affect the disposal and/or use of the removed sediment.

These potential impacts can either be eliminated, minimized, and/or mitigated to levels of non-significance. Section 4 addressed these potential impacts.

Figure 1 — Site and Vicinity Map



S:\arcview\Loma Rica Reservoir\StudyArea.mxd

LOMA RICA RESERVOIR - SITE AND VICINITY MAP

Figure 1



Date: 3/18/2013

Drawn By: D. HUNT

NEVADA IRRIGATION DISTRICT

NEVADA COUNTY - PLACER COUNTY
GRASS VALLEY, CALIFORNIA



Figure 2 — Parcel & Land Use Map



S:\arcview\Loma Rica Reservoir\Parcel-LandUse.mxd



NEVADA IRRIGATION DISTRICT
 NEVADA COUNTY - PLACER COUNTY
 GRASS VALLEY, CALIFORNIA

Drawn By: D. HUNT Date: 3/18/2013

LOMA RICA RESERVOIR - PARCEL & LAND USE

Figure 2

4.0 INITIAL STUDY CHECKLIST

4.1 AESTHETICS

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

Environmental Setting

The proposed project would temporarily lower the water in the reservoir either partially or totally, followed by removal of accumulated sediment within the reservoir.

The topography of the immediate project site vicinity consists of gently rolling hills and a flat section that includes an airport runway and surroundings. Although conifers (cone-bearing trees) are often the dominant species, broad-leaved hardwoods are present as well. The area surrounding the Loma Rica Reservoir includes Pacific ponderosa pine, Douglas-fir, incense cedar, California black oak, and canyon live oak. The understory on the south side of the reservoir has been cleared for the most part, probably to reduce the fire hazard. Manzanita shrubs and small madrone trees are scattered in the understory, and mountain misery forms a low carpet of greenery in places. Bracken fern is common, especially on the forest perimeter. The forest on the north side is denser and supports more California black oaks. Manzanita, hoary coffeeberry, and mahala mat are common understory shrubs. In places shrubs are the dominant species and trees are only widely scattered.

Regulatory Setting

The State of California Department of Transportation administers State scenic route designations within Nevada County. Nevada County has also designated scenic corridors along certain routes within the County.

Impact Analysis

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

Less Than Significant Impact. Nevada County has designated several roadways within the County as scenic corridors. However, there are no designated scenic vistas on or near the proposed project site, nor would the site be visible from the nearest scenic corridor, State Highway 49. The impact would be less than significant.

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

No Impact. The project site is not located within a state scenic highway nor is the site visible from a state scenic highway.

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

Less Than Significant Impact. The lowered reservoir water level and the sediment removal activities would be partially visible from two residences on private properties south of the reservoir. The private properties are separated from the reservoir's edge by approximately 70 feet of District owned land that includes various pines and firs. The two private residences are approximately 250-300 feet from the reservoir's edge. The visual impact of the lowered water level and sediment removal activities would be temporary because the reservoir would be refilled immediately after sediment removal. Although the existing visual character and quality of the site would undergo some degree of change due to the lowering of the reservoir level and temporary draining of the sediments on adjacent lands, the general vicinity topography would not be altered. The project would not be expected to substantially degrade the existing visual quality. Therefore impacts would be less than significant.

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

Less Than Significant Impact. Sediment removal activities would temporarily introduce equipment and vehicles to the project site. To the extent that activities would occur in the evening hours (up to 7:00 pm) after sunset, impacts from construction lighting may occur. However, these construction related visual impacts would be short-term and temporary. Therefore, impacts are considered to be less than significant.

Mitigation Measures

No mitigation is warranted.

4.2 AGRICULTURAL RESOURCES AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p><i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by California Air Resources Board.</i></p> <p><i>Would the project:</i></p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to 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, or non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

As described in the Project Description section of this Initial Study, the General Plan designated land use for the project site is "Public-Site Combining Performance (P-SP)".

The zoning designation for the project site is P-SP. Per the Nevada County Zoning Regulation, the Public land use (P) is intended to provide for areas occupied by Federal, State and local government agencies. The SP designation is combined to the base zoning district (Public – P) and meant to refine and require not less restrictive regulations that those contained in the base zone district (Public). The

SP District typically states the more restrictive types of uses (i.e., public sewer and utility requirements, etc). In the project's case, this zoning pertains to the use of the reservoir, and the ancillary use of the District's water treatment plant to the west of the project area. Last, the site currently supports no agricultural activities.

Regulatory Setting

The State Farmland Mapping and Monitoring Program (FMMP) produces maps and data used for analyzing impacts to California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status with the best quality land identified as Prime Farmland. The program also identifies land that qualifies as Farmland of State Importance, Unique Farmland, and Farmland of Local Importance. The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance.

The California Forest Practice Act was enacted in 1973 to ensure that logging is done in a manner that will preserve and protect our fish, wildlife, forests and streams. The Act and Rules are codified in the Public Resources Code.

Impact Analysis

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?*

No Impact. The project site is not located in an area designated as Prime, Unique, or Farmland of Statewide Importance. Therefore, there would be no conversion of designated Prime, Unique, or Farmland of Statewide importance to non-agricultural use.

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

No Impact. The proposed project would not conflict with existing zoning or conflict with a Williamson Act contract. There would be no impact from the proposed project.

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

No Impact. No trees or forest land will be disturbed by the project activities. There would be no impact from the proposed project.

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

No Impact. The project side is located within public land use designated parcels. Therefore, there would be no conversion of forest land to non-forest use.

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

No Impact. There would be no other changes expected that would result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, there would be no impacts from development of the project.

4.3 AIR QUALITY

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

Environmental Setting

The project lies within the western portion of Nevada County which is located in the Mountain Counties Air Basin (MCAB). Pollutant transport from the Sacramento and San Francisco Bay areas, particularly ozone, impacts the Nevada County portion of the MCAB.

Topography in the air basin region varies significantly. The project site ground elevation varies from 3,145 feet MSL at the lowest portion of the reservoir bottom to 3,170 MSL at the north end of the proposed project where the sediment dewatering is planned.

The climate in western Nevada County is characterized by cool, wet winter weather from November through March, and warm, dry weather from May through September. Warm days and cool nights are typical of summer and early fall. Strong surface-based inversions are common in the late fall and winter. The inversions inhibit the dispersal of pollutants and trap pollutants near ground level.

Air Pollutants

Ozone and particulate matter are pollutants of particular concern and importance within the region. These are the pollutants for which the region still periodically exceeds state and/or national standards. These pollutants are individually described below.

- Ozone (O₃) — Ozone occurs at both ground level and in the upper atmosphere. Ozone can be either helpful or harmful depending upon its location in the atmosphere. The layer closest to the Earth's surface is the troposphere. Here, ground-level or "bad" ozone is present as an air pollutant that is harmful to breathe and also damages crops and other vegetation. Ground-level ozone is one of the main components of urban smog. The troposphere

generally extends to an upward depth of approximately six miles, where it meets the stratosphere. The stratosphere or "good" ozone layer extends upward to a depth ranging from approximately six to 30 miles, and protects life on Earth from the sun's harmful ultraviolet (UV) rays (USEPA 2008).

Ground-level ozone is not created directly from sources and emitted directly into the air, but is formed instead by photochemical reactions between oxides of nitrogen (NO_x) and reactive organic gases (ROG) in the presence of sunlight. NO_x and ROG are known as ozone precursors. Ozone levels are the highest from late spring through autumn when sunlight intensity is high and the hours of sunlight are longest. The major sources of NO_x and ROG are emissions from motor vehicle exhaust, gasoline vapors, coatings and solvents, industrial facilities and electric utilities. In California, motor vehicles create the majority of reactive organic gas and nitrogen oxide emissions.

Ozone is a public health concern due to the fact that it acts as a respiratory irritant and increases susceptibility to respiratory infections and diseases. Exposure to levels of ozone above current ambient air quality standards can lead to human health effects such as lung inflammation and tissue damage and impaired lung functioning. Ozone exposure is also associated with symptoms such as coughing, chest tightness, shortness of breath, and the worsening of asthma symptoms.

- Particulate Matter PM₁₀ — PM₁₀ consists of particulate matter that is 10 microns or less in diameter. A micron is one-millionth of a meter. Airborne dust contains PM₁₀ and can include a wide range of solid or liquid particles, including smoke, dust, and aerosols. The health effects of PM₁₀ exposure depends upon the specific composition of the particulate matter. Effects may include aggravated asthma, chronic bronchitis, and decreased lung function. A sub-set of PM₁₀ is PM_{2.5} which includes particles less than 2.5 microns in diameter.

Respirable particulate matter, especially PM_{2.5}, is unhealthy to breathe and has been associated with premature mortality and other serious health effects. PM₁₀ poses a health concern because these particulates can be inhaled into and accumulate in the respiratory system. PM_{2.5} is believed to pose the greatest health risks. Because of their small size (approximately three percent of the average width of a human hair), fine particles can lodge deeply into the lungs. Extensive research reviewed by the California Air Resources Board (CARB) indicates that exposure to outdoor PM₁₀ and PM_{2.5} levels exceeding current ambient air quality standards is associated with increased risk of hospitalization for lung and heart-related respiratory illness, including emergency room visits for asthma.

Other pollutants of concern relative to the area include toxic air contaminants, primarily diesel exhaust.

- Toxic Air Contaminants (TACs) — Toxic TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer). TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the CARB, diesel exhaust is a complex mixture of gases, vapors and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB, and are listed as carcinogens either under the

state's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program. The U.S. EPA has adopted low sulfur diesel fuel standards that will reduce diesel particulate matter substantially. These went into effect in late 2006.

Regulatory Setting

Federal Regulations

The federal Clean Air Act (CAA) governs air quality in the United States. The United States Environmental Protection Agency (USEPA) administers the CAA. The USEPA has established ambient air quality standards (AAQS) for common pollutants. The ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the EPA regulates them by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels. The set of limits based on human health is called primary standards. Another set of limits intended to prevent environmental and property damage is called secondary standards.

As required by the federal Clean Air Act, standards have been established for the following criteria pollutants: carbon monoxide (CO), nitrogen oxides (NO_x), ozone (O₃), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), sulfur oxides, and lead.

The USEPA classified western Nevada County, as a non-attainment area for the eight-hour federal ozone standard. For all other federal criteria pollutants, Nevada County is designated as attainment or unclassified.

State Regulations

Air quality in California is governed by the California Clean Air Act (CCAA). The CCAA is administered by CARB at the state level and by air quality management districts at the regional and local levels. Pursuant to the CCAA, the State of California has also established ambient air quality standards. California standards are generally considered more stringent than the corresponding federal standards, and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. CARB classifies Nevada County, including the project area, as a non-attainment area for state ozone, as well as non-attainment for PM₁₀. For all other state criteria pollutants, Nevada County is designated as attainment or unclassified.

Regional Regulations

The NSAQMD was formed in 1986 by the merging of the Air Pollution Control Districts of Nevada, Plumas and Sierra Counties. The District is primarily responsible for assuring that the national and State Ambient Air Quality Standards are attained and maintained. The NSAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollution sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, conducting public education campaigns, as well as many other activities. The NSAQMD has jurisdiction over Nevada, Sierra and Plumas Counties.

In addition to the federal NAAQS and the state CAAQS, regional standards also apply to the project area. The NSAQMD has established tiered thresholds for ROG, NO_x, and PM₁₀ to determine whether or not a project's emissions will result in a significant impact to air quality. These thresholds are identified in **Table 4-1**. A project with emissions meeting Level A thresholds will require the most basic mitigations; projects with projected emissions in the Level B range will require more extensive mitigations; and those projects which exceed Level C thresholds will require the most extensive

mitigations. If emissions exceed Level C (136 lbs/day), then there is a significant impact; below Level C would be potentially significant without mitigation.

Table 4-1 — NSAQMD Thresholds of Significance

Threshold Level	ROG	NOx	PM ₁₀
Level A	< 25 lbs/day	< 25 lbs/day	< 80 lbs/day
Level B	25-137 lbs/day	25-137 lbs/day	80-137 lbs/day
Level C	> 137 lbs/day	> 137 lbs/day	> 137 lbs/day
Level A: Implement standard control measures recommended by NSAQMD for all levels of Significance Level B: Implement Level A measures and additional measures as recommended by the NSAQMD. Level C: Implement all reasonable and applicable measures as recommended by the NSAQMD.			

Impact Analysis

The impact analysis below focuses on impacts from project activities. Operation of the project after sediment removal would not be expected to create emissions of pollutants or significantly impact air quality.

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

No Impact. The project would not result in emissions beyond those accounted for in the regional emissions inventory. The project would only increase the existing reservoir capacity. The project would not conflict or obstruct implementation of any applicable air quality plan. Therefore, there would be no impact.

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

Less Than Significant With Mitigation Incorporated. Short-term air quality impacts are the result of the use of construction equipment, transport of materials (i.e. equipment, supplies, and sediment material) from the site, and construction employee commute trips. Short-term air quality emissions typically consist of ROG, NO_x, and fugitive dust. ROG and NO_x are largely generated from the operation of gas and diesel powered equipment. Fugitive dust and particulate matter is largely generated from earth moving activities and wind erosion.

Due to the relatively small size of the project impact (approximately 11 acres), NSAQMD would not require quantitative modeling of project emissions. However, short term construction related emissions from project ground disturbance and construction equipment would result in ROG, NO_x, and PM₁₀ emissions, and under certain conditions (e.g. amount of ground disturbance, number of equipment operating simultaneously), could exceed applicable air quality standards. Short term construction related impacts to air quality could be significant without mitigation. **Mitigation Measure AQ – 1** includes control measures from the NSAQMD District Rule 226 for dust control as well as measures identified by the District as appropriate for Level B emissions as specified in the District’s significance thresholds. Implementation of **Mitigation Measure AQ – 1** would reduce impacts to less than significant.

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

Less Than Significant With Mitigation Incorporated. As previously stated, the operation of the project after sediment removal would not be expected to create emissions of criteria air pollutants. As discussed in b) above, short term emissions from sediment removal activities for the project would be reduced to a less than significant level with mitigation. Implementation of **Mitigation Measure AQ –**

1 would reduce project specific emissions and therefore the project would not result in a cumulatively considerable net increase of particulate matter, ozone, and ozone precursors.

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

Less Than Significant Impact. Project impacts would be consistent throughout the removal period. Sediment removal activities would occur as close as 250 feet from residences but typically between 250 and 500 feet. Prevailing winds would blow pollutants to the east and would only impact one residence; beyond this the pollutants would be dispersed towards unpopulated forest lands. Therefore, the impact is less than significant.

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

Less Than Significant Impact. Operation of the project after sediment removal would not create odors. Construction of the project could potentially create odors, primarily diesel odors. Additionally, odors may arise from rotting organic vegetation or reservoir saturated materials dredged during the project. However, these odors would be temporary and sporadic and would not be expected to affect substantial numbers of people. Therefore, the impact is less than significant.

Mitigation Measures

Mitigation Measure AQ – 1: The following NSAQMD control measures shall be implemented to control pollutant emissions during construction of the project:

- Adequate dust control measures shall be implemented in a timely and effective manner during all phases of the project.
- All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.
- All onsite vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
- All material transported offsite shall be either sufficiently watered or securely covered to prevent public nuisance, and there must be a minimum of six inches of freeboard in the bed of the transport vehicle.
- The active/open travel lanes of paved streets on or adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary to remove excessive or visibly raised accumulations of silt and/or mud which may have resulted from activities at the project site.
- Sediment transportation shall be suspended if fugitive dust exceeds NSAQMD Rule 226 Dust Control limitations. This consists of visible dust of such opacity as to obscure an observer's view to a degree equal to or greater than opacity of 20%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.
- If necessary, temporary traffic control shall be provided during all phases of the project to improve traffic flow as deemed appropriate by the Nevada County Department of Public Works and/or Caltrans.

- Project activities should be scheduled to direct traffic flow to off-peak hours as much as practicable.

Mitigation Measure AQ – 2: The following measures shall be implemented to control diesel exhaust emissions:

- The prime contractor shall ensure that diesel equipment is tuned and maintained per manufacturers' specifications.
- Diesel equipment standing idle for more than five minutes shall be turned off unless staged away from residences. This would include trucks waiting to deliver or receive materials (sediment).

4.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

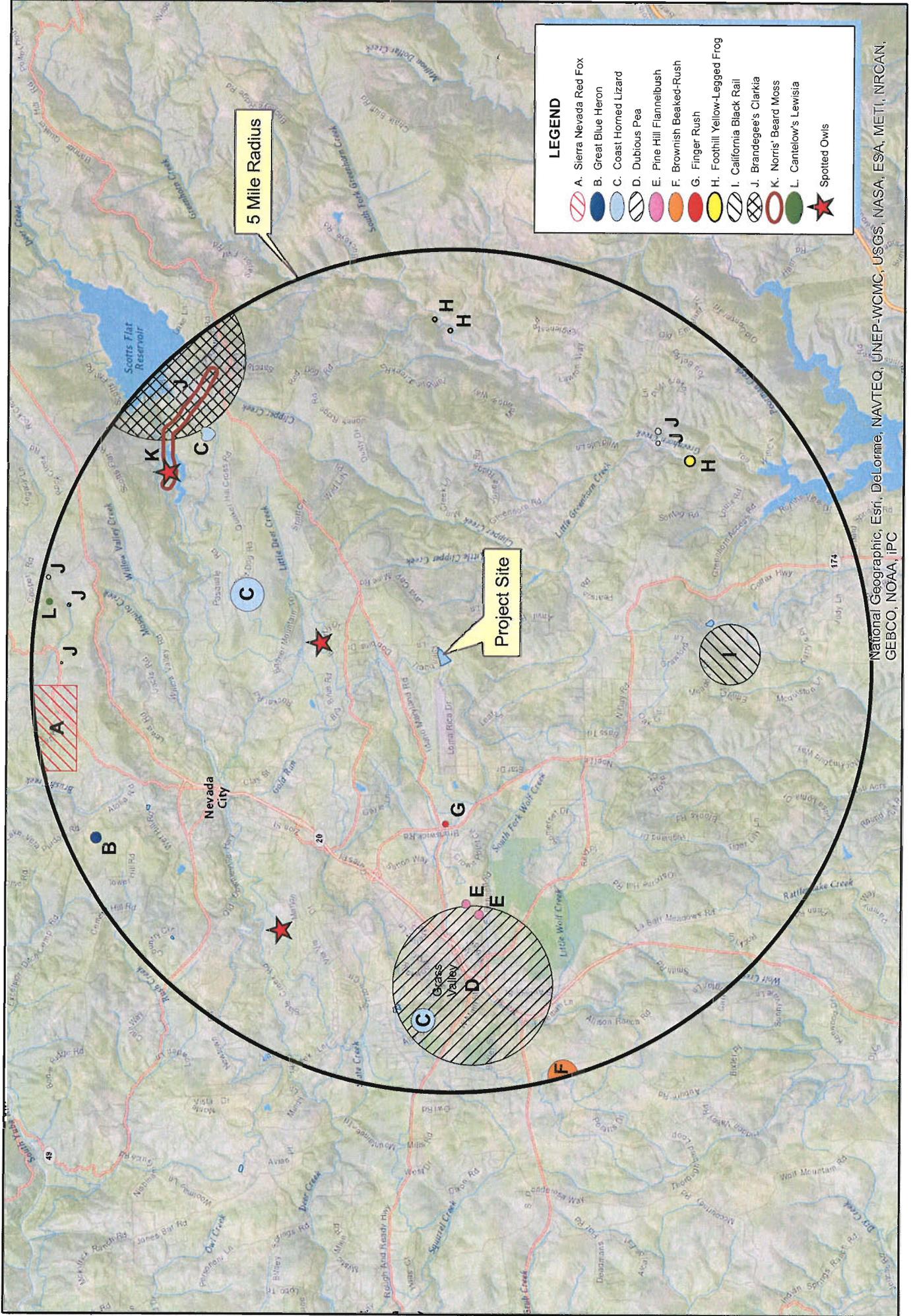
Methodology

In order to compile a list of potentially occurring species and sensitive habitats, local resource databases were reviewed prior to conducting a field habitat assessment. Preparation of the project's biological resources reports (Appendix B & C) started with a search of the California Natural Diversity Database (CNDDDB 2012) for records of special-status species occurring in a nine-quad area centered on the Grass Valley USGS 7.5' quadrangle (quad). Records were obtained for the Grass Valley, Nevada City, Chicago Park, and North Bloomfield quads. Additionally, environmental documents for three other local projects were reviewed (WRA 2004, Jones & Stokes 2006, Visger 2009, RBF Consulting 2010, ESA 2011). A site assessment for California red-legged frogs (*Rana draytonii*) was conducted, which included a driving survey of suitable habitats within one mile of the project site. Site visits to Loma Rica Reservoir were conducted on September 6, 2011, and January 25, 2012; visits to

creeks, ponds, and habitats within one mile were conducted on January 30 and 31, and February 3 and 7, 2012. Reconnaissance surveys were conducted by wildlife biologist Anne Wallace and botanist/wetland ecologist Barry Anderson.

Special-status species considered for this project are based on queries of the California Natural Diversity Database (CNDDDB) and the online versions of the U.S. Fish and Wildlife Service (USFWS) and California Native Plant Society (CNPS) for species occurrence lists for the 7.5- minute USGS Chicago Park, Grass Valley, Nevada City, and North Bloomfield, CA topographic quadrangle maps. **Appendix A** presents the results of these queries and includes the common name and scientific name for each species, regulatory status (federal, state, local, CNPS), habitat requirements, and potential for occurrence within the site. **Figure 3** depicts the locations of special-status species recorded in the CNDDDB within five miles of the site.

Figure 3 — CNDDB



LEGEND

- A. Sierra Nevada Red Fox
- B. Great Blue Heron
- C. Coast Horned Lizard
- D. Dubious Pea
- E. Pine Hill Flannelbush
- F. Brownish Beaked-Rush
- G. Finger Rush
- H. Foothill Yellow-Legged Frog
- I. California Black Rail
- J. Brandegee's Clarkia
- K. Norris' Beard Moss
- L. Cantelow's Lewisia
- Spotted Owls

National Geographic, Esri, Delorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC

NEVADA IRRIGATION DISTRICT
 NEVADA COUNTY -- PLACER COUNTY
 GRASS VALLEY, CALIFORNIA

CNNDB

Drawn By: D. HUNT Date: 2/6/2013 Scale: 1" = 1-1/2 miles @ 8-1/2x11 **FIGURE: 3**



The CNDDDB is a natural heritage database program maintained by the California Department of Fish and Game (CDFG) Habitat Conservation Division that provides natural history and location information on rare, threatened, endangered, and other special-status species to the public, other agencies, and conservation organizations (CDFG 2012). The CNDDDB is often used as a tool by natural resource specialists and project planners to identify special-status plant and wildlife species that have been reported as occurring in specific geographic areas and habitat types since this database tracks occurrences and records of rare and sensitive species. The CNDDDB was reviewed in order to determine the potential for special-status species to occur in the project vicinity. Based upon review of the USGS Chicago Park, Grass Valley, North Bloomfield, and Nevada City, CA topographic quadrangle maps, 12 special-status species were identified as a potentially occurring in the project vicinity including 7 plants species and 5 wildlife species as well as nesting birds and raptors protected by the Migratory Bird Treaty Act (**Appendix A**).

The following set of criteria has been used to determine each species' potential for occurrence onsite:

- **Present:** Species known to occur onsite, based on CNDDDB records, and/or were observed onsite during the field survey(s).
- **High:** Species known to occur on or near the site (based on CNDDDB records within 5 miles, and/or based on professional expertise specific to the site or species) and there is suitable habitat onsite.
- **Low:** Species known to occur in the vicinity of the site, and there is marginal habitat on the site and/or species is not known to occur in the vicinity of the site; however, there is suitable habitat onsite.
- **No:** Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site and/or species was surveyed for during the appropriate season with negative results.

After compiling a list of potentially occurring special-status species and sensitive habitats, a reconnaissance-level habitat assessment was performed on September 6, 2011 and January 25, 2012 to document habitat types and plant and wildlife communities occurring within the project site. During the site assessment, observed plant and wildlife species were recorded and biological communities were categorized and assessed for the potential to support special-status species. Representative ground-level photographs were taken. Biotic communities were classified according to the California Department of Fish and Game's Wildlife Habitat Relationships System (CWHRs) which is a wildlife habitat classification system for California's regularly occurring birds, mammals, reptiles, and amphibians (Mayer and Laudenslayer 1988).

Biological Communities

Nevada County supports a wide diversity of plant and wildlife species and ranges in elevations from 300 in the western portion of the County to over 9,100 feet elevation in the eastern portion of the County. Generally, Nevada County can be described as gently rolling oak woodland slopes in the east transitioning to more dominant coniferous pine and fir forests at higher elevations and more xeric landscape on the eastern slope. Nevada County supports a variety of habitats that are important for movement corridors, and resident, breeding, and foraging habitat areas (Nevada County General Plan 1995). A more in-depth discussion of wildlife movement corridors and those that occur in Nevada County and the project vicinity are included under 'Sensitive Habitats.'

4.1.1 Montane Mixed Coniferous Forest

Montane mixed coniferous forest has a variety of other names, notably lower montane coniferous

forest. Although conifers (cone-bearing trees) are often the dominant species, broad-leaved hardwoods are present as well. The forest surrounding the Loma Rica Reservoir includes Pacific ponderosa pine, Douglas-fir, incense cedar, California black oak, and canyon live oak. The understory on the south side of the reservoir has been cleared for the most part, probably to reduce the fire hazard. Manzanita shrubs and small madrone trees are scattered in the understory, and mountain misery forms a low carpet of greenery in places. Bracken fern is common, especially on the forest perimeter. The forest on the north side is denser and supports more California black oaks. Manzanita, hoary coffeeberry, and mahala mat are common understory shrubs. In places shrubs are the dominant species and trees are only widely scattered.

4.1.2 Valley and Foothill Riparian

Riparian habitat is not well developed along the reservoir, and it does not form a continuous canopy. Rather, it consists of scattered trees and shrubs along the shoreline. In many places, the montane mixed coniferous forest extends to the reservoir edge. Common riparian species include white alder, arroyo willow, and Fremont cottonwood. On the eastern end of the reservoir, and along the northern side, Himalayan blackberry and bracken fern form the understory.

4.1.3 Freshwater Emergent Marsh

Freshwater emergent marsh occurs in the shallow, eastern end of the reservoir and, to a much lesser extent, in the northwest corner of the reservoir. Cattails (*Typha* spp) are the dominant species, forming a dense stand at the eastern end of the reservoir; however, soft rush is common in the shallowest portions at the edge of the cattails.

4.1.4 Open Water

Open water habitat makes up most of the reservoir. No emergent or rooted floating vegetation was observed during the field survey.

4.1.4 Disturbed

Disturbed habitats occur along the reservoir dam and spillway and around buildings and other infrastructure. Plants in these areas consist of species adapted to disturbance. Some may have been planted as part of erosion control measures. Common species include Queen Anne's lace, yellow starthistle, short-podded mustard, red-stem filaree, klamathweed, summer cottonweed, English plantain, and non-native grass species.

4.2 Special-status Plants

An unidentified species of *Clarkia* was found along the southwest shoreline of the reservoir, but this area may be outside the work area. Brandegee's clarkia (*Clarkia biloba* subsp. *brandegeae*), a CNPS List 1B species, is known to occur in the area, and the plant found may be a subspecies of *Clarkia biloba*. Flowers are needed to confirm the identification, and surveys in May or June would be needed if this area may be disturbed by project activities.

4.3 General Wildlife

Loma Rica Reservoir occurs within a mixed-forest setting in the Sierra Nevada foothills at 3,154 feet msl. Also present are fresh emergent wetland, valley and foothill riparian, open water, and denuded disturbed areas. The reservoir is fed solely by NID's Cascade Canal/Pipe System; no other surface water flows into the reservoir. A small amount of water flows out through an overflow spillway that connects to a small shallow drainage below the reservoir. This water supplies a few raw water customers south of the project area. Water from the reservoir flows primarily through a canal to a treatment plant and to other NID canals. Loma Rica Reservoir is therefore not directly connected to other creeks in the area. Wildlife species seen or heard during site visits were typical of animals using these habitats and include bushtit (*Psaltriparus minimus*), spotted towhee (*Pipilo maculatus*), ruby-crowned kinglet (*Regulus calendula*), bufflehead (*Bucephala albeola*), American coot (*Fulica*

americana), Canada goose (*Anser canadensis*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemalis*), brown creeper (*Certhia americana*), western gray squirrel (*Sciurus griseus*), and Sierra newt (*Taricha sierrae*). Visger (2009) reports having seen several 10- to 14-inch bass (*Micropterus* spp), several sunfish (*Lepomis* spp), and numerous Sierra newts, as well as trout (unknown species), raccoons (*Procyon lotor*), mergansers (*Mergus* spp), bullfrogs (*Lithobates catesbeiana*), and Sierran treefrogs (*Pseudacris sierra*). Other wildlife likely to use the reservoir and its surroundings are black-tailed deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), gopher snake (*Pituophis catenifer*), and western fence lizard (*Sceloporus occidentalis*).

4.4 Nesting Birds

Birds that are not otherwise protected as special-status species (see section 4.5 below) are protected by the state during the nesting season by California Fish and Game Code sections 3503 and 3503.5 (nesting birds), 3511 (California fully protected birds), and 3513 (birds protected by federal law). They may also be protected by the federal Migratory Bird Treaty Act (MBTA). Project activities taking place between March 15 and September 15 could adversely affect nesting birds. Since the reservoir cleaning project will take place outside the nesting season (in fall and winter), nesting birds will not be adversely affected and no preconstruction survey for nesting birds will be required.

4.5 Special-status Wildlife

In this report, special-status animals are defined as those that fall into one or more of the following categories:

- Species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act – FESA (50 CFR 17.11);
- Species that are candidates for listing as threatened or endangered under FESA (50 CFR 17, February 28, 1996);
- Species that are listed or proposed for listing as threatened or endangered under the California Endangered Species Act – CESA (California Administrative Code, Title 14, Section 670.5);
- Wildlife identified by California Department of Fish and Wildlife (CDFW) as species of special concern, i.e., species that are not formally protected by CESA or FESA but whose populations are known to be declining;
- Wildlife designated as fully protected by CDFG (California Administrative Code, Title 14, Section 670.5);

Impact is defined as any action that would individually or cumulatively 1) disturb, harass, or otherwise "take" either individuals or habitat of a formally protected species, 2) disturb, reduce, or destroy enough individuals or habitat to affect any special-status animal at a local population level, 3) disturb or destroy adults, nests, eggs, or nestlings of birds protected by the MBTA, 4) disturb or destroy adults, nests, eggs, or nestlings of any bird protected by Fish and Game Code, or 5) disturb or destroy roosting or maternal bat colonies.

Table 2 in Appendix A presents a list of special-status species that could occur in or near Loma Rica Reservoir and an assessment of the potential for project-related impact. This species list was compiled from the CNDDDB search mentioned above and from a US Fish and Wildlife Service species list for the Chicago Park, Grass Valley, North Bloomfield, and Nevada City quads (USFWS 2012). Table 2 shows that the project is not likely to have an adverse effect upon most special-status species because conservation measures will minimize or avoid project impacts, because the project area does not provide suitable habitat, or both. Scientific names and status designations are provided in the table and are not repeated in text below.

Two wildlife species could potentially be adversely affected by this project: California red-legged frog and California black rail. Both are listed formally under either CESA or FESA. The paragraphs below provide additional detail on both; refer to Table 2 for information on all other species.

4.5.1 California Red-legged Frog

Natural History. California red-legged frogs typically breed along the margins of permanent and near-permanent ponds, lakes, and streams where water is still or slow, shoreline and emergent vegetative cover are dense and extensive, and water depth is at least two feet near the shoreline (Jennings and Hayes 1994, Barry 1999). Occupied breeding sites often have floating rooted vegetation and “grunge” (i.e., algae, particulates, or some form of turbidity – Barry 2005). Cook (1997) reported that important microhabitat features for all seasons included vegetative cover at water surface and water depth and states that red-legged frogs typically avoid open water. The habitats described above would be considered optimal; however, CRLFs also occur in suboptimal habitats throughout their range (USFWS 2002, Barry pers. comm.).

While nonnative predators such as bullfrogs (*Lithobates catesbiana*), sunfish (Family Centrarchidae), and other fishes may reduce habitat suitability, their presence does not preclude CRLF occurrence. CRLFs often occur at sites with bullfrogs and warmwater fishes such as bass and mosquitofish (*Gambusia affinis*) (Cook 1997, Barry pers. comm.). The presence of green sunfish (*Lepomis cyanellus*) may be more problematic but CRLFs do occur in ponds with this fish species (Barry pers. comm.).

Potential Presence at Loma Rica Reservoir. In 2009, protocol CRLF surveys were conducted at the northwest corner of Loma Rica Reservoir and at two other nearby locations (Visger 2009). No CRLF egg masses, tadpoles, subadults, or adults were detected at any location. This survey did not, however, include the wetland at the east end of Loma Rica Reservoir. CRLFs were also not detected during September 2011, January 2012, and March and April 2013 site visits.

Loma Rica Reservoir provides potentially suitable but suboptimal breeding habitat for California redlegged frogs. CRLFs are not typically reservoir frogs, but they are known to occur in some reservoirs. Loma Rica Reservoir lacks habitat features found at many occupied CRLF ponds, namely shoreline cover, egg-mass-attachment sites in the form of overhanging shoreline vegetation, and aquatic cover in the form of submersed and floating aquatic vegetation. They tend to avoid open water (Cook 1997) and Loma Rica Reservoir is primarily open water. Another feature of occupied habitats is water depth of at least two feet near the shoreline for egg-mass development. Except where it abuts the lake directly, the wetland at the east end is extremely shallow. Water depth where cattails meet open water is unknown and may or may not be suitably deep for egg masses. Some of the upland within 300 feet of the reservoir is composed of relatively undisturbed montane mixed coniferous forest (see 5.1.1 above), but developed home sites surround adjacent upland habitats beyond that.

The availability and abundance of suitable prey at the reservoir are not known, but Sierran treefrogs occur there (Visger 2009) and are suitable prey. Nonnative bullfrogs and nonnative fishes are reported to occur there by both Jones & Stokes 2006 and Visger 2009.

A number of potentially suitable ponds and creeks occur within one mile; however, the surroundings for several miles in most directions are developed with residences, surface streets, and urban and domestic predators (Figure 3). The single known CRLF population in Nevada County, Sailor Flat, occurs 6.5 miles north of Loma Rica Reservoir but several miles of continuous residential development lie between Sailor Flat and Loma Rica Reservoir.

The absence of ideal breeding conditions would not necessarily preclude CRLF use of Loma Rica Reservoir; however, breeding is considered unlikely for several reasons. US Fish and Wildlife Service (2002) states that while California red-legged frogs are known to occur and breed in habitats that would appear unsuitable, populations are most likely to persist where multiple breeding areas are

embedded within a matrix of habitats for dispersal, and where relative pond permanence, pond structure, shoreline and aquatic vegetative cover, relative abundance of nonnative predators, and a suitable prey base are conducive to long-term survival. That description superficially describes habitat conditions in the vicinity of Loma Rica Reservoir; however, Bulger (1999) states that as landscapes become increasingly developed with buildings, abnormally high predator densities (e.g., dogs and cats), roads/traffic, and related infrastructure, the connectivity between aquatic sites decreases and dispersal between aquatic habitats becomes more perilous. Low recruitment of dispersing individuals, he suggests, is likely to play an “insidious and primary role” in the extirpation of frog populations from suitable aquatic sites in developing landscapes. From that standpoint, colonization of new sites would be as perilous and perhaps increasingly less likely as development increases. Given the suboptimal breeding conditions and the intensity of residential development within one mile, the likelihood of redlegged frog occurrence at Loma Rica Reservoir is believed to be low.

For CRLFs to be occurring in Loma Rica Reservoir now, they would presumably have been persisting there over time because of how unlikely it is that they could be successfully dispersing through the surrounding developments now. Since the reservoir and its surroundings do not provide conditions likely to be supporting a persisting population, the likelihood of CRLF occurrence at Loma Rica Reservoir is believed to be low. This is based on suboptimal breeding conditions (a relatively small cattail edge in an otherwise very shallow wetland), suboptimal cover (extensive open water with no cover in the form of submersed and floating aquatics), and the intensity of surrounding developments. There are only six or eight known CRLF occurrences in the Sierra foothills. While one of those known occurrences is only 6.5 miles away at Sailor Flat, several continuous miles of residences, highways, surface streets, and domestic and urban predators lie between Sailor Flat and Loma Rica Reservoir.

Use by nonbreeding CRLFs would be possible if there were occupied breeding habitats within one or two miles and safe and continuous dispersal habitat between them; however, since these two conditions are unlikely, use of Loma Rica Reservoir by CRLFs in any season is considered unlikely. Combined with the low likelihood of occurrence, the conservation measures described below should reduce any potential impacts to less-than-significant levels.

Critical Habitat and Core Recovery Areas. The nearest critical-habitat boundary is roughly 4.25 miles to the north. There are no core recovery areas in Nevada County.

4.5.2 California Black Rail

Natural History. The California black rail is a secretive marsh bird inhabiting salt, brackish, and freshwater marshes from the coast to the foothills. It appears to be a year-round resident in the Sierra foothills (Richmond et al. 2008). In the Sierra it is found in a patchy network of densely vegetated wetlands that are typically small, gently sloped sites at elevations ranging from 100–2,600 feet msl and ranging in size from 0.17 to 34 acres (Black Rail Project 2009, Richmond et al. 2008, Richmond et al. 2010). Occupied marshes occur on wet slopes, around streams, in depressions, and on the fringes of ponds and lakes. Black rails occur less often in fringe marshes and more often in marshes with flowing or standing water and saturated mud, which indicate a site that maintains water throughout the summer and fall; rails are less likely to be found in wetlands that dry up by summer’s end (Richmond et al. 2010).

In the Sierra, black rails exhibit a clear preference for larger, permanently flooded sites (Black Rail Project 2009). Water depths generally less than one inch are preferred. Black rail wetlands in the Sierra support a range of emergent plant species including cattails, rushes (*Juncus* spp) bulrush (*Schoenoplectus* spp), and other herbaceous plants; however, neither species composition nor plant type or height was as important as the provision of dense cover and wet-to-muddy substrates with small, shallow pools less than one inch deep (Richmond et al. 2008).

Potential Presence at Loma Rica Reservoir. The wetland at the east end of Loma Rica Reservoir is potentially suitable black rail habitat because of its size (0.6 acre) and the density of cattail cover it supports. Black rails are rarely found above 865 feet msl (Richmond et al. 2008), perhaps because of

the cold winters at higher elevations, and there are no known occurrences in the foothills above 2,550 feet msl. At 3,154 feet elevation, Loma Rica Reservoir is unlikely to support black rails; however, their presence there cannot be ruled out (J Tecklin pers. comm.) Black rails were not seen or heard during either site visit.

Sensitive Habitats

Wildlife movement corridors consist of a mix of plant cover types including tree canopy, shrub, and herbaceous cover and typically occur in association with riparian corridors and/or stream courses. Wildlife movement corridors provide two primary purposes, one to allow migrating wildlife (primarily deer) to move seasonally between winter and summer habitat areas, and another to allow resident wildlife to move within their home ranges in order to meet food, cover, and reproductive requirements.

The western portion of Nevada County supports resident and migratory deer populations. Deer populations throughout the County have been characterized by both the California Department of Fish and Game and the Tahoe National Forest as unstable and declining. The east side of the County supports portions of the Truckee-Loyalton migratory deer herd, while the western portion of the county supports the migratory Nevada City deer herd, as well as resident populations of the Motherlode deer herd. Winter ranges of the Nevada City and Motherlode herds often overlap (Nevada County General Plan 1995).

Other sensitive habitats that occur in the project site and vicinity include riparian habitats, seasonal wetlands, and ponds. Wetlands and riparian areas in combination with each other serve as important habitats and critical components in animal movement and migration and provide habitat for several plant and wildlife species

Regulatory Setting

Federal Regulations

Federal Endangered Species Act - The United States Congress passed the Federal Endangered Species Act (FESA) in 1973 to protect those species that are endangered or threatened with extinction. The FESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

The FESA prohibits the “take” of endangered or threatened wildlife species. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting wildlife species or any attempt to engage in such conduct (FESA Section 3 [(3)(19)]). Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns (50 CFR §17.3). Harassment is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns (50 CFR §17.3). Actions that result in take can result in civil or criminal penalties.

The FESA and Clean Water Act (CWA) Section 404 guidelines prohibit the issuance of wetland permits for projects that jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. The U.S. Army Corps of Engineers (Corps) must consult with the U.S. Fish and Wildlife Service (USFWS) and/or the National Oceanic and Atmospheric Administration (NOAA Fisheries) when threatened or endangered species under their jurisdiction may be affected by a project. In the context of the project, FESA would be triggered if development resulted in take of a threatened or endangered species or if issuance of a Section 404 permit or other federal agency action could result in take of an endangered species or adversely modify critical habitat of such a species.

State Regulations

California Endangered Species Act - The State of California enacted the California Endangered Species Act (CESA) in 1984. CESA is similar to the FESA but pertains to state-listed endangered and threatened species. CESA requires state agencies to consult with the California Department of Fish and Game (CDFG) when preparing CEQA documents to ensure that lead agency actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available (Fish and Game Code §2080). The CESA directs agencies to consult with CDFG on projects or actions that could affect listed species, directs CDFG to determine whether jeopardy would occur, and allows CDFG to identify “reasonable and prudent alternatives” to the project consistent with conserving the species. CESA allows CDFG to authorize exceptions to the state’s prohibition against take of a listed species if the “take” of a listed species is incidental to carrying out an otherwise lawful project that has been approved under CEQA (Fish & Game Code § 2081).

CDFG Species of Concern - In addition to formal listing under FESA and CESA, species receive additional consideration by CDFG and lead agencies during the CEQA process. Species that may be considered for review are included on a list of “Species of Special Concern”, developed by these resource agencies. It tracks species in California whose numbers, reproductive success, or habitat may be in decline.

California Native Plant Society - The California Native Plant Society (CNPS) maintains a list of plant species native to California that have low population numbers, limited distribution, or are otherwise threatened with extinction. This information is published in the *Inventory of Rare and Endangered Plants of California* (CNPS 2001). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The following identifies the definitions of the CNPS listings:

- List 1A: Plants presumed Extinct in California
- List 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- List 2: Plants Rare, Threatened, or Endangered in California, but more numerous elsewhere
- List 3: Plants about which we need more information – A Review List
- List 4: Plants of limited distribution – A Watch List

Migratory Bird Treaty Act and California Fish and Game Codes - The Migratory Bird Treaty Act (MBTA), first enacted in 1916, prohibits any person, unless permitted by regulations, to:

“pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird.” (16 U.S.C. 703). Thus, it is illegal under MBTA to directly kill, or destroy a nest of, nearly any bird species, not just endangered species. Activities that result in removal or destruction of an active nest (a nest with eggs or young being attended by one or more adults) would violate the MBTA. Removal of unoccupied nests, or bird mortality resulting indirectly from disturbance activities, is not considered a violation of the MBTA.

Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation

adopted pursuant thereto.” Disturbance activities that result in abandonment of an active bird-of-prey nest in areas adjacent to the disturbance may also be considered a violation of the Fish and Game Code.

Clean Water Act - The Corps regulates discharge of dredged or fill material into waters of the United States under Section 404 of the CWA. “Discharges of fill material” is defined as the addition of fill material into waters of the United States, including, but not limited to the following: placement of fill that is necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 C.F.R. §328.2(f)]. In addition, Section 401 of the CWA (33 U.S.C. 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Waters of the United States include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, and wet meadows. Boundaries between jurisdictional waters and uplands are determined in a variety of ways depending on which type of waters is present. Methods for delineating wetlands and non-tidal waters are described below.

- Wetlands are defined as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” [33 C.F.R. §328.3(b)]. Presently, to be a wetland, a site must exhibit three wetland criteria: hydrophytic vegetation, hydric soils, and wetland hydrology existing under the “normal circumstances” for the site.
- The lateral extent of non-tidal waters is determined by delineating the ordinary high water mark (OHWM) [33 C.F.R. §328.4(c)(1)]. The OHWM is defined by the Corps as “the line on the shore established by the fluctuations of water and indicated by physical character of the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” [33 C.F.R. §328.3(e)].

California Fish and Game Code Section 1600 - CDFW is a trustee agency that has jurisdiction under Section 1600 et seq. of the California Fish and Game Code. Under Section 1602, any public or private entity must notify CDFW if a proposed project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds except when the department has been notified pursuant to Section 1600.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

Local Regulations

Nevada County General Plan - The Nevada County General Plan Open Space Element identifies specific goals, objectives, and policies pertaining to the protection of natural resources and open space (Nevada County General Plan 1995). The General Plan states that areas to be preserved for natural resource preservation should include lands that provide habitat for plants, fish, and wildlife species as well as preserving water quality of major waterways. In addition, protecting corridors located along major stream courses within the Planning Area as a means of protecting and preserving these environmentally sensitive areas from the encroachment of development is encouraged.

Chapter 13, Wildlife and Vegetation, of the Nevada County General Plan identifies the following goals, objectives, and policies for the protection of sensitive resources in the Planning Area:

Goal 13.1 Identify and manage significant areas to achieve sustainable habitat.

Objective 13.1 Discourage intrusion and encroachment by incompatible land uses in significant and sensitive habitats.

Policy 13.1 Where significant environmental features, as defined in Policy 1.17, are identified during review of projects, the County shall require all portions of the project site that contain or influence said areas to be retained as non-disturbance open space through clustered development on suitable portions of the project site, or other means where mandatory clustering cannot be achieved.

The intent and emphasis of such open space designation and non-disturbance is to promote continued viability of contiguous or inter-dependent habitats by avoiding fragmentation of existing habitat areas and preserving movement corridors between related habitats. Vegetation management for the benefit of habitat preservation or restoration shall be considered consistent with the intent of this policy.

Policy 13.2 As part of the Comprehensive Site Development Standards, include standards to minimize removal of existing vegetation and require installation and long-term maintenance of landscaping in setbacks and buffer areas. These standards shall be applicable to all discretionary projects and to all ministerial projects other than a single-family residence located on an individual lot. Tree removal may be allowed where necessary to comply with public right-of-way development or dedication, or development of required site access and public utilities. Individual trees or groups of trees shall be protected during construction to prevent damage to the trees and their root systems. Vegetation in proximity to structures shall conform to applicable fire protection standards.

Policy 13.2A Project review standards shall include a requirement to conduct a site-specific biological inventory to determine the presence of special-status species or habitat for such species that may be affected by a proposed project. The results of the biological inventory shall be used as the basis for establishing land use siting and design tools required to achieve the objective of no net loss of habitat function or value for special-status species.

Where a Habitat Management Plan is deemed appropriate, the Plan shall be prepared to comply with the requirements of the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA). The plan shall provide the background data, impact analysis, and mitigation programs necessary to obtain a FESA Section 10(a) and CESA Section 2081 permit authorizing incidental take of federal and state listed threatened and endangered species that occur in areas proposed for future development. Prior to implementation of an adopted Habitat Management Plan, project applicants proposing the development of a project that would impact a federal or state listed species, or a species that is proposed for listing, shall be individually responsible for obtaining federal and state incidental take permits on a project-by-project basis.

Policy 13.2B Development projects which have the potential to remove natural riparian or wetland habitat of 1 acre or more shall not be permitted unless:

(a) No suitable alternative site or design exists for the land use;

- (b) *There is no degradation of the habitat or reduction in the numbers of any rare, threatened, or endangered plant or animal species as a result of the project;*
- (c) *Habitat of superior quantity and superior or comparable quality will be created or restored to compensate for the loss; and*
- (d) *The project conforms with regulations and guidelines of the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, California Department of Fish and Game, and other relevant agencies.*

Policy 13.4 Encourage long-term sustainability and maintenance of landscaped areas.

Policy 13.4A No net loss of habitat functions or values shall be caused by development where rare and endangered species and wetlands of over 1 acre, in aggregate, are identified during the review of proposed projects. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparable quality, in accordance with guidelines of the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Policy 13.4B Habitat that is required to be protected, restored, or created as mitigation for a project's impacts shall be monitored and maintained in accord with a County-approved Habitat Management Plan.

Policy 13.4C The land use designations and associated acreages identified on the proposed General Plan land use maps for Special Development Areas should be modified as necessary at the Specific Plan stage to protect sensitive natural communities and other important biotic resources.

Policy 13.4D The County shall prepare and implement a Habitat Management Plan for rare and endangered species and wetlands habitat while allowing the preparation of individual project habitat management plans as an alternative, including an offsite ecological reserve.

Policy 13.4E The County shall investigate establishing interagency agreements with adjoining counties where new developments could impact significant natural resource areas shared by adjoining counties. The agreements shall require notification of development projects within one mile of the County's borders and provide for review and comment by affected counties.

Policy 13.4F To minimize the loss of wildlife habitat and fragmentation, clustering shall be required on parcels of 20 acres in size or larger within the North San Juan and Penn Valley areas, when such parcels are located in areas where the existing parcelization pattern in the immediate vicinity is currently 20 acres or more.

Policy 13.4G To minimize the loss or disturbance of deer habitat, clustering shall be required on parcels of 40 acres in size or larger in critical migratory deer winter ranges in Rural Regions within the western portion of the County, when such parcels are located in areas where the existing parcelization in the immediate vicinity is currently 40 acres or more.

Policy 13.4H Non-development buffers shall be maintained adjacent to perennial stream corridors through the use of clustering, the designation of a Planned Development, or the implementation of other siting and design tools. Buffers shall be sufficient in size to

protect the stream corridor for movement, as well as provide some adjacent upland habitat for foraging.

Objective 13.2 Minimize impacts to corridors to ensure movement of wildlife.

See: Policy 13.1

Objective 13.3 Provide for the integrity and continuity of wildlife environments.

See: Policy 13.1; Policy 13.2

Objective 13.4 Support the acquisition, development, maintenance, and restoration, where feasible, of habitat lands for wildlife enhancement.

Policy 13.5 Participate in all bio-regional planning councils, initiated by Federal or State agencies, which involve lands within the jurisdiction of Nevada County. County representatives on such councils shall be appointed by the Board of Supervisors. The purpose of participation shall be to ensure the policies of the General Plan are complemented by and incorporated into any bio-regional plan encompassing all or part of Nevada County.

See: Policy 13.1

Objective 13.5 Support, where feasible, the continued diversity and sustain ability of the habitat resource through restoration and protection.

Policy 13.6 Monitor, through the input of other agencies, the sensitive wildlife and habitat resources of Nevada County to ensure the continued validity and effectiveness of General Plan policies intended to protect, preserve and enhance these resources. Results of monitoring shall be incorporated into the General Plan Update process.

Objective 13.6 Discourage significant adverse environmental impacts of land development, agricultural, forest, and mining activities on important and sensitive habitats.

See: Policy 13.1

Objective 13.7 Identify and preserve heritage and landmark trees and groves where appropriate.

Policy 13.8 As part of the Comprehensive Site Development Standards, include measures applicable to all discretionary and ministerial projects to minimize disturbance of heritage and landmark trees and groves. These measures shall include, but are not limited to, requirements for on-site vegetation inventories and mandatory clustering of development in areas likely to support such vegetation or habitat.

Policy 13.9 Development in the vicinity of significant oak groves of all oak species shall be designed and sited to maximize the long-term preservation of the trees and the integrity of their natural setting. The County shall adopt a regulation to protect native heritage oak trees and significant oak groves. All native oak tree species with a trunk diameter of 36" or greater shall be protected.

See: Policy 13.2

Objective 13.8 Minimize removal or disturbance of low elevation oak habitat.

Impact Analysis

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

Special-Status Plant Species

Seven plant species as identified in the CNDDDB database in **Appendix A** have been determined to have a low potential to occur within the site including Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*), brownish beaked rush (*Rhynchospora capitellata*), finger rush (*Juncus digitatus*) Cantelow's lewisia (*Lewisia cantelovii*), Norris' beard moss (*Didymodon norrisii*), Dubious pea (*Lathyrussulphureus* var. *argillaceus*), and Pine hill flannelbush (*Fremontodendron decumbens*). Generally, these plant species occur in cismontane pine woodlands, lower montane coniferous forest, and often times either in mesic areas that remain seasonally wet and/or on gabbroic (volcanic) soils). Various CNDDDB records occur for these species within five miles of the site (**Figure)** and with potential soils types and marginal habitat types in the appropriate elevation range of the project site, these special-status plant species have a low potential to occur within the site.

During site visit on January 25, 2012 an unidentified species of Clarkia was found along the southwest shoreline of the reservoir, but this area may be outside the work area. Brandegee's clarkia (*Clarkia biloba* subsp. *brandegeae*), a CNPS List 1B species, is known to occur in the area, and the plant found may be a subspecies of *Clarkia biloba*. Flowers are needed to confirm the identification, and surveys in May or June would be needed if this area is disturbed by project activities.

Although not a sensitive plant species, Scotch Broom (*Cytisus scoparius*) exists in the project area. This plant is a highly invasive non-native plant species that is also a high fire danger. The activities of this project may affect Scotch Broom and there may be potential of spreading the seed to other areas. Therefore, **Mitigation Measure BIO-6** will be used to address this potential impact for the project.

Special-Status Wildlife Species

Five wildlife species including nesting and foraging raptors and migratory birds were determined to have a potential to occur in the project site (**CNNDB database**). These include Great Blue Heron (*Ardea herodias*), Sierra Nevada red fox (*Vulpes vulpes necator*), Coast horned lizard (*Phrynosoma blainvillii*), California horned lizard (*Phrynosoma coronatum frontale*), Foothill yellow-legged frog (*Rana Boylii*), California black rail (*Laterallus jamaicensis coturniculus*), and spotted owl.

Foothill yellow-legged frog (*Rana boylii*) was determined to have a low potential to occur within the reservoir. Foothill yellow-legged frog oftentimes occurs within more defined creeks and streams with swifter-flowing water than California red-legged frog. There are three occurrences for foothill yellow-legged frog listed in the CNNDB database within a five-mile radius of the project area. . The locations are within the Greenhorn Creek approximately four miles east and southeast of site.

California red-legged frog (*Rana draytonii*) prefers slower water flows in established creeks and streams with intermixed deep-water pools and emergent vegetation. There are no listed red-legged frog sittings within a five-mile radius from the project area in the CNNDB database.

Western pond turtle (*Emys marmorata*) inhabits a wide variety of habitats but is typically found in slow moving to still water bodies. There are no CNDDDB records for this species within five miles of the site.

The California Black Rail (*Laterallus jamaicensis coturniculus*) exhibit a clear preference for larger, permanently flooded sites (Black Rail Project 2009). Water depths generally less than one inch are

preferred. Black rail wetlands in the Sierra support a range of emergent plant species including cattails, rushes (*Juncus spp*) bulrush (*Schoenoplectus spp*), and other herbaceous plants; however, neither species composition nor plant type or height was as important as the provision of dense cover and wet-to-muddy substrates with small, shallow pools less than one inch deep (Richmond et al. 2008). The wetland at the east end of Loma Rica Reservoir is potentially suitable black rail habitat because of its size (0.6 acre) and the density of cattail cover it supports. Black rails are rarely found above 865 feet msl (Richmond et al. 2008), perhaps because of the cold winters at higher elevations, and there are no known occurrences in the foothills above 2,550 feet msl. At 3,154 feet elevation, Loma Rica Reservoir is unlikely to support black rails; however, their presence there cannot be ruled out (J Tecklin pers. comm.) Black rails were not seen or heard during either site visit (September 2011 and January 2012; Helix Environmental Planning, Folsom, CA).

Less Than Significant With Mitigation Incorporated. The proposed project has the potential to impact special-status wildlife species as result of cleaning the reservoir. Potential project-related impacts to special-status amphibian species would be a potentially significant impact and mitigation would be required. **Mitigation Measures BIO – 1 through BIO – 5** would reduce impacts to special-status wildlife to below the level of significance.

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

Less Than Significant Impact. The following section discusses communities identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS that could be potentially impacted by the proposed project. Riparian habitat occurs in varying densities along Loma Rica Reservoir however, the Reservoir is not subject to Section 1602 of the California Fish and Game Codes or the County's General Plan, which defers to the CDFG Code. Since no regulated riparian habitat occurs within the project site, impacts to regulated riparian habitat as a result of project implementation are considered less than significant and no mitigation measures are necessary.

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

Less Than Significant Impact. The following section discusses federally protected wetlands and Waters of the U.S. as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pools, coastal, etc.) that could be potentially impacted by the proposed project. An area of cat-tails are located within the project, on the northeast part of the reservoir. The cat-tails are within an area the originally constructed reservoir bottom, and therefore were not present when the reservoir was first put into service. The cat-tails have established themselves due to lack of maintenance. The project will remove the cat-tails and bring the reservoir back to its original status and operation. Therefore, the removal of cat-tails, as not associated with a natural body of water (lake), would not be a significant impact. The cat-tail area is not considered a wetlands area. The reservoir is not likely to be jurisdictional under Section 404 of CWA as waters of the U.S.

Based upon field reconnaissance of the reservoir, it is not likely to be jurisdictional under Section 404 of CWA. This reservoir is maintained as infrastructure for the purpose of storing and providing irrigation water for NID customers. The Reservoir is man-made and does not represent a natural lake. Additionally, water that fills the Reservoir is imported from a man-made canal. For the above-mentioned reasons, the Reservoir is a raw water storage facility for the purpose of conveying irrigation water to NID customers and as a source of raw water to the Loma Rica Water Treatment Plant, therefore, is not likely jurisdictional under Section 404 of CWA. Therefore, impacts are considered less than significant and no mitigation measures are necessary.

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

Less Than Significant Impact. The following section discusses movement corridors of native and migratory fish and wildlife species, as well as native wildlife nursery sites that could be potentially impacted by the proposed project.

The Nevada County Land Use Code and zoning regulations outline site development standards for major deer habitat (Section L-II 4.3.7). These codes indicate and require the clustering of development on parcels of 20 acres or more within the San Juan and Penn Valley as rural areas identified specifically for mitigating impacts on major deer migration corridors and critical winter and summer range deer habitat. The project site is not located within these areas and will not effect any migratory pathways. Activities related to the reservoir will not change any migratory pathways; any herds would have to circumnavigate the reservoir if it is full, or partially or completely drawn down for cleaning. The reservoir is filled from water conveyed by a upper country canal and pipeline, and directs water to the Loma Rica Treatment Plant and the Chicago Park Canal. The canals that serve and drain water to and from the reservoir are not streams and therefore not considered migratory pathways for fish. The Nevada County Land Use codes do not identify irrigation canals or utility improvements as a potential development impact source on major deer herds (Nevada County Land Use Code Adopted October 2007).

Implementation of the proposed project would not result in impediment of wildlife movement and would not interfere with the movement of resident of migratory wildlife species. Therefore, the proposed project will not interfere substantially with the movement of native resident or migratory wildlife species and will not impede the use of native nursery sites. Therefore this impact will be less than significant and no mitigation measures are necessary.

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

Less Than Significant With Mitigation Incorporated. A few trees and other vegetation on the reservoir banks may need to be removed for this project in order to gain access for a drag-line method for sediment removal. No heritage oaks exist in this area, and therefore will not be an impact. Prior to tree and vegetation removal, a flowering plant study will determine if any special-status plants will be impacted by this action (Mitigation Measure BIO-1). Therefore, this activity will be less than significant with mitigation incorporated.

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

No Impact. There are no adopted or proposed Habitat Conservation Plans, Natural Community Conservation Plans or other approved local, regional, or state habitat conservation plans for the project area. Therefore, no impact would occur as a result of project construction and no mitigation measures are necessary.

Mitigation Measures

Mitigation Measure BIO – 1: A rare plant survey will be conducted by a qualified biologist in May or June to determine plant species that may be affected by the project. If rare plants are identified in the project area, the District will either:

- 1) Adjust construction activity away from sensitive plants to the degree feasible in keeping with Project objectives.
- 2) Relocate plants to suitable habitat outside of the Project area, whether within applicant-owned land or off-site.

- 3) Following disturbance, restore or enhance affected habitat on-site or at another location; and/or

Mitigation Measure BIO – 2: A preconstruction black rail survey will be conducted by a qualified biologist 14 days before the project start date. A taped-call playback method at the eastern emergent marsh area will be used for black rails; if black rails are detected, California Fish and Game will be contacted for further guidance.

Mitigation Measure BIO – 3: Since the reservoir cleaning is expected to occur during fall to spring months, a pre-construction raptor survey within suitable nest trees shall be conducted if construction activities are scheduled to begin during the raptor nesting season (January 1 – September 31). A qualified biologist shall conduct the survey no more than 30 days prior to the onset of construction activities. If active nests are found on or within 500 feet of the site, CDFG shall be consulted and most likely CDFG will require that an appropriate buffer be established around the nest until the young have fledged or until the biologist has determined that the nest is no longer active. If the construction activities are scheduled to begin during the non-breeding season (October 1- December 31), a survey is not required, and no further mitigation measures are expected to be necessary. If tree removal is determined necessary, timing tree removal to occur during this time frame would also reduce the potential for raptors to nest within the construction limits of the site during the nesting season.

Mitigation Measure BIO – 4: The Loma Rica Reservoir represents potential habitat for foothill yellow-legged frog and California red-legged frog. While neither species was observed during a study conducted in 2009 (Visger, 2009) foothill yellow-legged frog and California red-legged frog could use the canal as migratory or dispersal habitat. Additionally, the study concluded that no breeding habitat for foothill yellow-legged frog occurs on the site and that the reservoir is not likely to provide breeding habitat for California red-legged frog. Since work within the reservoir is expected to begin during late winter or spring months (January – June), a pre-construction survey for these frog species shall be performed. The survey(s) only needs to be conducted in the frog's associated aquatic and bank habitats. The surveys shall be conducted no more than 15 days prior to the onset of construction. Surveys shall be conducted by a qualified biologist, in accordance with CDFG (for foothill yellow-legged frog) or USFWS (for California red-legged frog) guidelines.

If neither of these species are found on the project site during the focused pre-construction survey, no further mitigation would be required. However, if either of these species is found during pre-construction surveys, then construction would be postponed until a detailed mitigation plan is prepared. In preparation of the mitigation plan, the CDFG and/or USFWS (as applicable) shall be consulted to best determine suitable mitigation measures, which may include measures to minimize adverse effects of construction on these species and its associated habitat. The mitigation plan would include a monitoring plan for these species during the period of construction.

Mitigation Measure BIO – 5: Preconstruction clearance surveys shall be conducted to ensure the project area does not contain western pond turtle. Should any western pond turtles be seen, the California Department of Fish and Game should be contacted to inform of their presence and to provide guidance on any relocation measures required.

Mitigation Measure BIO – 6: Reduce the Introduction and Spread of Invasive/Noxious Weeds
The District shall determine if Scotch Broom or other invasive/noxious weeds will be encountered in the project and will adopt approved measures to avoid widespread dispersal of these species.

If deemed necessary by the Nevada County agricultural commissions and management agencies, the Contractor shall establish wash stations at locations designated and approved by the land management agencies and the District.

If deemed necessary by land management agencies, equipment will be cleaned at designated locations after leaving invasive/noxious weed infestation areas.

All equipment coming onto the project area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts.

The District shall remediate any areas where a post-construction survey, conducted by a qualified biologist, employed by the District, determines noxious weeds have been introduced. If new occurrences are detected, remedial measures such as hand removal of the noxious weed infestations will be implemented by the District or its contractor. No herbicides shall be used.

4.5 CULTURAL RESOURCES

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

Environmental Setting

The project site is located approximately four miles east of the City of Grass Valley in an unincorporated portion of western Nevada County at an elevation of 3,154 feet above mean sea level, in Section 29, Township 16 North, Range 9 East. A formal archaeological survey of the proposed project site was not done, however other studies of the nearby area have been conducted. The survey included a records search at the North Central Information Center of the California Historical Resources Information System at California State University Sacramento, contact with Native American representatives and the Native American Heritage Commission, and preparation of an archaeological inventory survey report identifying project effects. The results of the archaeological inventory survey forms the basis for the discussion below. Additional information is located in **Appendix D**.

Methodology

The Archaeological Inventory Survey included:

- A records search at the North Central Information Center of the California Historical Resources Information System at CSU-Sacramento, and review of state data bases;
- Consultation with the Native American Heritage Commission (NAHC) and the NAHC recommended Native American contacts; and
- Preparation of the survey report to identify project effects and any appropriate mitigation measures for prehistoric or historic sites recommended significant under CEQA that might be affected by the project.

Should the project require federal permitting under the Clean Water Act, the Archaeological Inventory Survey will be updated to include evaluation under Section 106 of the National Historic Preservation Act (NHPA).

Prehistory

Until relatively recent years, the study of Sierran archaeology lagged far behind the central valley and coastal areas in terms of developing regional chronologies and other basic aspects of systematic study of the prehistory of the area. The first effective synthesis of Sierran archeology was produced by Heizer and Elsasser (1953), and further refined by Elsasser (1960). Since that time, major archeological projects in the Sierra have proliferated, largely due to work on water projects and other cultural resources management-based research efforts. For the northern Sierra alone, archeological sequences, based on excavation of stratified sites and other data, are available for the Lake Tahoe vicinity (Elston 1979, 1972; Elston and Davis 1972; Elston et al 1977), the Lake Oroville locality (Jewell 1964; Olsen and Riddell 1963; Ritter 1968, 1970a), and for the proposed Auburn Reservoir area. The latter, being of most relevance to the current project area, will be discussed briefly. There have been several archeological reconnaissances conducted in the Auburn Reservoir area, but the great majority of prehistoric sites recorded (i.e., milling stations, surface lithic scatters, small, single-component sites) are relatively uninformative in terms of larger regional research goals. Sites that have been excavated include a chert quarry (Crew 1970) and five midden sites, all reported during Phases II and III of the Auburn Reservoir Project (Ritter, ed. 1970). The most informative of these is the Spring Garden Ravine site (CA-Pla-101), which contained three well-defined strata (Ritter 1970b). The lowest stratum (C) has been radiocarbon dated at about 1400 B.C., and contains an assemblage similar to the Martis Complex, as defined at high-elevation sites in the Sierra. The artifacts include large projectile points (mostly of basalt and slate), atlatl (dart-thrower) weights, numerous core tools, and several varieties of grinding implements. The collection would not look out of place had it been found in Martis Valley. The next stratum (B) is less easily defined, and appears to represent a transition between cultures represented by the upper and lower strata. Some of this transitional appearance may be attributable to simple physical mixing of deposits, but the basic stratigraphic integrity of the site is indicated by consistency of the two radiocarbon dates from stratum B (AD. 1039 ± 80 and 976 ± 90). The upper stratum contains small projectile points (arrowheads), hopper mortars, and other artifacts comparable to recent archeological collections elsewhere in the northern foothills. Stratum A is, therefore, probably a manifestation of the ancestral Nisenan, the Indian group inhabiting the area at the time of Euro-American contact.

The project area is located within territory occupied by the Nisenan Native Americans at the time of initial contact with European Americans. Nisenan are also referred to as "Southern Maidu" who occupied the drainages of the southern Feather River in the north, through the Bear, American, and Yuba rivers in the south. Villages were frequently located along streams, and were primarily inhabited in the winter as temporary camps. In higher elevation zones they were utilized during food gathering seasons (spring, summer and fall). Economic life of the Nisenan revolved around hunting, fishing and the collecting of plant foods. The Nisenan utilized their strong knowledge of local plants, animals, and raw materials. However, only fragmentary evidence of their culture remains, due both to the perishability of the materials and to the impacts to their sites from later land uses (mining, timber harvest, and ranching).

History

Lorna Rica Reservoir lies within one of the major early mining districts of the state, the Grass Valley Mining District. Placer mining began in this region soon after the discovery of gold at Sutter's Mill in 1848. In the same year gold was discovered on Wolf Creek near Grass Valley. Although the placer mines were soon exhausted, quartz lodes were discovered that would support a very active mining industry for the next century (Clark 1970:53-60).

The Gold Hill and Allison Ranch mines were the top producers in the early days, but others soon eclipsed them, particularly the Idaho-Maryland, Empire, North Star, Pennsylvania and W.Y.O.D. Nearly four thousand miners were employed in the Grass Valley District during the Depression era and early World War II. The mines were closed during the war, but most of the larger mines in the district, in contrast to most gold mines in California, reopened after the war. The Idaho-Maryland group did not stop gold mining until 1956 and the gold mining era finally ended the following year

when the Empire-Star group ceased production. Estimates of total production are not very accurate, but Clark (1975:54) claims that the lode mines of the Grass Valley District produced "at least" three hundred million dollars, with placer mines adding a few million more. The estimated production for the Coe Mine, the lode mine nearest the APE was \$500,000. This was at the far northern edge of the Grass Valley District, but the vein worked by this mine was just south of the project area.

Regulatory Setting

Federal Regulations

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies or state and local agency projects using federal funds to take into account the effect of the undertaking on historic properties.

State Regulations

Cultural resources can include historic and archaeological objects, structures, records, and sites which are associated with past human activities. A substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. (Section 15064.5 (b)(1), CEQA Guidelines).

Per the CEQA Guidelines, historical resources include the following:

- A resource listed in, or eligible for listing in, the California Register of Historical Resources (California Pub. Res. Code SS5024.1, Title 14 CCR, Section 4850 et seq.)
- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code
- Any object, building, structure, site, area, place, record, or manuscript, which:
 - is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - is associated with the lives of persons important in our past;
 - embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
 - has yielded, or may be likely to yield, information important in prehistory or history.

Per Public Resources Code Section 21083.2(g), an archaeological resource shall be considered unique if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Nevada County General Plan

The Nevada County General Plan identifies the following goal and objective related to Cultural Resources relevant to the Proposed Project:

Goal 19.1 Identify and protect and where economically feasible restore significant archaeological and historic resources.

Policy 19.1 Enact a Cultural Resources Ordinance to ensure effective preservation, protection and management of cultural resources.

However, to date, Nevada County has not enacted a Cultural Resources ordinance.

Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

Less Than Significant Impact. A detailed evaluation of the Loma Rica Reservoir is contained in Appendix D. The site is not recommended as significant or potentially significant per CEQA criteria. Therefore, impacts would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant With Mitigation Incorporated. The NAHC record search of the sacred lands file did not indicate the presence of Native American cultural resources in the immediate project area. No Native American contacts responded with any information regarding archaeological sites or traditional use areas for the project site area. No evidence of prehistoric use or activity was observed within the project site during the field survey. However, although unlikely, archaeological resources could be discovered during ground disturbing construction activities. If such resources were to be discovered, the impact to archaeological resources could be significant without mitigation. Therefore, implementation of **Mitigation Measure CR – 1** would reduce impacts to a less than significant level.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

No Impact. A unique paleontological resource or site would be a known site of fossil bearing rock strata. The project would require removal of sediment within an existing reservoir. No new disturbance of the geologic substrata would occur. Previous disturbance of the reservoir would likely preclude any existence of unique paleontological resources or unique geological features. Therefore, there would be no impact.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant With Mitigation Incorporated. There are no known formal cemeteries or known interments outside of formal cemeteries within the project site. Though unlikely, should human remains be discovered during ground disturbing construction activities, such discovery could be significant without mitigation. Therefore, implementation of **Mitigation Measure CR – 1** would reduce impacts to a less than significant level.

Mitigation Measures

Mitigation Measure CR – 1: An inspection by a qualified archaeologist of the unpaved portions of the access road, and staging areas used for the project, shall be conducted prior to the start of project related activities. Any findings of cultural resources shall be properly documented. Once project activities begin, and in the event of discovery of cultural resources,

such as structural features or unusual amounts of bone or shell, artifacts, human remains, architectural artifacts, or historic archaeological artifacts, work shall be suspended and the NID project manager shall be contacted. NID shall retain a qualified cultural resource specialist to conduct necessary investigations to determine the significance of the find. NID shall then implement any mitigation required for the recordation and/or protection of the cultural resources. In the event of discovery of human remains, pursuant to Sections 5097.97 and 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, all work shall be halted and the County Coroner shall be notified immediately. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

4.6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

Geology

Nevada County is part of the Sierra Nevada Range, which extends approximately 400 miles long and 80 miles wide along the eastern portion of California in a north-south band. The western third of the County is characterized by rolling foothills transitioning from the low lying Sacramento Valley to mountains. The eastern two-thirds of the County is characterized by steep terrain and exposed Sierra Nevada granite (Nevada County 1996). The western foothill geologic subsection of Nevada County extends from the Yuba County border to just northeast of the area of Grass Valley/Nevada City and is generally characterized by metavolcanic and granitic formations (Nevada County 1996).

Seismicity

The Nevada County area has experienced 36 earthquakes since 1887. The most recent significant event occurred in 1966 and was located in the Boca/Truckee area of the County. Western Nevada County is characterized by prequaternary faults (older than two million years) and is within an area considered a low intensity earthquake severity zone (Nevada County 2008).

Soils

According to the soil map produced by the US Department of Agriculture, Bureau of Soils (Grass Valley Soil Map, 1918 -http://soils.usda.gov/survey/online_surveys/california/grassCA1921/Soil_map.pdf). The project location is predominantly within Aiken, stony clay loam (Ac) and bordering near Aiken, clay loam (Al).

From the Soil Survey of Grass Valley Area, California (USDA, 1921); "The surface soils of the Aiken series are red. The subsoils have the same or a somewhat lighter color, and are normally slightly more compact and heavier in texture than the surface material. The rock from which the soils of this series are derived in this area is found at depths varying from a few inches to many feet below the surface. The topography is sloping to hilly and steep, and surface drainage usually is excessive. The native vegetation varies with the altitude and the depth of the soil material. As the altitude increases, digger pine appears, then yellow pine, fir, cedar, and several species of oaks, and the underbrush is thicker. The soils of the Aiken series are residual in origin and are typically derived from igneous and metamorphosed igneous rocks of basic or quartz-free character. As occurring in this survey they are derived from andesite, diabase, porphyrite, serpentine, amphibolite, and schistose forms of some of these, and to less extent from several other kinds of rocks."

Regulatory Setting

State Regulations

Relevant State regulations are discussed in detail in **Section 4.9**, Hydrology and Water Quality.

Nevada County General Plan

The Nevada County General Plan identifies the following goal and objectives related to Geology and Soils and relevant to the Proposed Project:

Goal 12.1 Minimize adverse impacts of grading activities, loss of soils and soil productivity.

Objective 12.1 Minimize earth movement and disturbance.

Objective 12.3 Minimize vegetation removal.

Impact Analysis

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving:*

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?*

Less Than Significant Impact. Neither Nevada County nor Grass Valley are identified by the California Geological Survey as a city or county affected by Alquist-Priolo Earthquake Fault Zones (California Geological Survey 2007). The project site is located within an area considered a low intensity earthquake severity zone (Nevada County 2008) and the project does not propose the

construction of any structures for human habitation or for public gathering places. Therefore impacts are considered less than significant.

a.ii) Strong seismic ground shaking?

Less Than Significant Impact. Western Nevada County is characterized by prequaternary faults (older than two million years) and is within an area considered a low intensity earthquake severity zone (Nevada County 2008). Development of the Proposed Project would not result in the construction of structures for human habitation or public gathering places. Impacts are therefore considered less than significant.

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

Less Than Significant Impact. Geologic characteristics underlying the project area include dense metavolcanic and granitic formations. Liquefaction can generally be described as a loss of soil strength related to seismic ground shaking and is most commonly associated with soil deposits characterized by water-saturated, well sorted, fine grain sands and silts. The project area is generally characterized by soils overlying dense bedrock. As a result, hazard potentials related to seismic ground failure, including liquefaction are considered low (Nevada County 2008). Therefore, impacts are considered less than significant.

a.iv) Landslides?

Less Than Significant Impact. Geology in the project area is generally characterized by metavolcanic and granitic formations. Although lands surrounding the project site are characterized by steep slopes, the project site is located along relative level terrain within the immediate vicinity. Project area soils are generally underlain by metavolcanic and granitic formations, and are considered “low risk” for landslides (Nevada County 1995). No structures for residential purposes or public gathering places are proposed. Due to the characteristics of the underlying geology, and the fact that no structures for habitation or public gatherings are proposed for construction, impacts related to landslide risk are considered less than significant.

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

Less Than Significant Impact. Regulatory provisions addressing erosion and soils loss as relevant to water quality include, but are not limited to, the National Pollutant Discharge Elimination System (NPDES) program for management of construction and municipal storm water runoff, as part of the federal Clean Water Act and the State Porter-Cologne Water Quality Control Act. The Program is implemented at the State and local level through issuance of permits and preparation of site-specific Storm Water Pollution Prevention Plans (SWPPP). Although the primary purpose of these regulations and standards is the protection of surface water resources from the effects of land development (such as turbidity resulting from erosion and sediment loss), measures included in these regulations and standards also reduce the potential for erosion and soil loss. State regulations pertaining to the management of erosion and sedimentation are described in detail in **Section 4.9**, Hydrology and Water Quality.

Site disturbance related to removing accumulated sediment from the reservoir would include some disturbance of the access roads, and those of the reservoir access points for vehicles and equipment. This may result in increased erosion and sediment loss within the project area. The General Permit states that routine maintenance to maintain hydraulic capacity and to regain the original purpose of the facility (reservoir volume) are not required to be permitted. This includes projects less than an acre in size (disturbance). The project area that may require permitting through the requirements of the RWQCB (Construction General Permit) would include anything related to areas not including the reservoir itself. Should the project required to be permitted, a Notice of Intent is to be filed with the RWQCB. NOI Applicants are required to develop a SWPPP specifying individual BMPs as well as scheduling for regular monitoring and maintenance of BMPs for effectiveness. However, until such time as NID has prepared a site-specific SWPPP, impacts relate to erosion and soil loss would be considered potentially significant. Compliance with **Mitigation Measures GEO – 1 through GEO – 4**

would require NID to file an NOI with the Central Valley Regional Water Quality Control Board and prepare a site-specific SWPPP and identify post-construction BMPs defining timing and methods for BMP implementation, monitoring and maintenance in sufficient detail to ensure that federal, State and locally adopted standards for erosion and sediment control, and water quality are met throughout project construction, as well as following completion of construction activities and throughout implementation of the proposed improvements, reducing potential impacts to less than significant levels.

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?*

Less Than Significant Impact. Western Nevada County is characterized by prequaternary faults (older than two million years) and is within an area considered a low intensity earthquake severity zone (Nevada County 2008). The project area is generally characterized by soils overlying dense bedrock. As a result, hazard potentials related to seismic ground failure, including liquefaction are considered low (Nevada County 2008)

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

No Impact. The proposed project would not involve the construction of structures, for human habitation or for public gathering places. Therefore development of the Proposed Project would not create substantial risks to life or property related to expansive soils. No impact would result from development of the project.

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

No Impact. Development of the Proposed Project would not involve the use of septic tanks or alternative wastewater disposal systems. Therefore no impact would result from project development.

Mitigation Measures

Mitigation Measure GEO – 1: Prior to commencement of ground disturbing activities, NID shall file an NOI to obtain coverage under the NPDES Construction General Permit with the Central Valley Regional Water Quality Control Board. Pursuant to the terms of the General Permit, NID shall prepare a Storm Water Pollution Prevention Plan (SWPPP) identifying site-specific BMPs to effectively control erosion and sediment loss. Should the project impacts related to areas not associated with the reservoir be less than one acre, and NOI and coverage under the NPDES will not be required.

Mitigation Measure GEO – 2: During the project, BMPs for erosion and sediment control identified by the project SWPPP shall be implemented by the project contractor.

Mitigation Measure GEO – 3: Post-project restoration of all disturbed areas shall include soil and bank stabilization through seeding and/or revegetation utilizing native plant species.

Mitigation Measure GEO – 4: Sediment that is temporarily stockpiled for dewatering shall be protected from erosion by maintaining effective controls and BMPs designed to effectively control erosion and sediment loss.

4.7 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
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"/>

Environmental Setting

Greenhouse gases, including carbon dioxide, methane, and nitrous oxide, serve to regulate the earth's surface temperature, keeping the earth's average temperature close to 60 degrees Fahrenheit. Greenhouse gases occur both naturally and as a result of manmade activities (anthropogenic sources).

Climate change refers to any significant change in measures of climate (such as temperature, precipitation or wind) lasting for an extended period (decades or longer). Over the past 200 years, anthropogenic sources, including the burning of fossil fuels (such as coal and oil) and deforestation have caused the concentrations of heat-trapping "greenhouse gases" to increase significantly in our atmosphere (U.S. EPA 2007a).

In the U.S., our energy-related activities account for three-quarters of our human-generated greenhouse gas emissions, mostly in the form of carbon dioxide emissions from burning fossil fuels. More than half the energy-related emissions come from large stationary sources such as power plants, while about a third comes from transportation. Industrial processes (such as the production of cement, steel, and aluminum), agriculture, forestry, other land use, and waste management are also important sources of greenhouse gas emissions in the United States (U.S. EPA 2007b).

If greenhouse gases continue to increase, climate models predict that the average temperature at the Earth's surface could increase from 2.5 to 10.4°F above 1990 levels by the end of this century. Scientists are certain that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate (U.S. EPA 2007b).

Rising average temperatures are already affecting the environment. In California during the last fifty years winter and spring temperatures have been warmer, spring snow levels in lower and mid-elevation mountains have dropped, and snowpack has been melting one to four weeks earlier. Climate change projections through 2100 indicate an increase in the number of severe heat days, an increase in poor air quality days, and a declining Sierra snowpack. Such changes could adversely affect health, water supplies, hydropower, agriculture, and recreation in California (California Climate Change Center 2006).

Regulatory Setting

The State of California has enacted legislative measures to implement policies and regulatory actions to quantify and reduce GHGs. The most prominent of these is AB 32, Nunez (2006) - The California Global Warming Solutions Act of 2006. AB32 declares that global warming is a serious threat to the

public health, economic well-being, natural resources, and environment of California. AB 32 makes CARB responsible for monitoring and reducing GHG emissions, and requires CARB to:

1. Establish a statewide GHG emissions cap for 2020, based on 1990 emissions.
2. Adopt a plan by January 1, 2009 showing how emissions reductions will be achieved from significant GHG sources via regulations, market mechanisms, and other actions.
3. Adopt a list of discrete early action measures by July 1, 2007 that can be implemented before January 1, 2010 and beyond.

The Early Action List required by the California Global Warming Solutions Act of 2006 contains nine discrete early action items:

- 1) Low Carbon Fuel Standard;
- 2) Reduction of HFC emissions from non-professional servicing of motor vehicle air conditioning systems; and
- 3) Landfill methane capture.
- 4) SF6 Reductions in the Non-Electric Sector;
- 5) Reduction of High GWP GHGs in Consumer Products
- 6) SmartWay Truck Efficiency;
- 7) Tire Inflation Program;
- 8) Reduction of PFCs from the Semiconductor Industry; and
- 9) Green Ports (shipping industry).

These actions are primarily transportation related, with commercial actions included also. They are intended to target the most significant sources of GHGs.

Impact Analysis

Operation of the reservoir after project completion (continued water storage) would not generate greenhouse gas emissions, therefore, this discussion focuses on the potential temporary construction period impacts.

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

Less Than Significant Impact. The short term emissions from the project would involve a limited amount of equipment and would not be expected to generate significant greenhouse gas emissions-.

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

Less Than Significant Impact. As described above, project emissions would be short-term and operation of the reservoir after completion of the project would not be expected to generate greenhouse emissions. The project would not conflict with plans, policies, or regulations adopted for the purpose of reducing the emissions of greenhouse gases.

Mitigation Measures

No mitigation is warranted.

4.8 HAZARDS AND HAZARDOUS MATERIALS

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

Environmental Setting

The proposed project would entail removing accumulated sediments from the Loma Rica Reservoir. The project is located approximately 4 miles east of the city of Grass Valley. The land uses are predominately rural residential. The county airport (Nevada County Air Park) is about 1,500 feet to the west. The reservoir occurs within a mixed forest setting with single family homes interspersed primarily to the south and west along Loma Rica Road/Lee Lane. Also present in the reservoir is a

emergent marsh east end of the reservoir, and to a lesser extent, at the southwest corner. Additionally, valley and foothill riparian and denuded disturbed areas are adjacent to the reservoir.

Regulatory Setting

Hazardous materials are regulated by federal, state, and local laws and ordinances.

Federal Regulations

Federal agencies that regulate hazardous materials include:

- Environmental Protection Agency (EPA) – EPA administers the Resource Conservation and Recovery Act (RCRA), which regulates the generation, transportation, treatment, storage and disposal of hazardous waste.
- Occupational Safety and Health Administration (OSHA) – OSHA is responsible for ensuring worker safety, including operations that may use, handle or dispose of hazardous materials.

State Regulations

State agencies with responsibility to regulate hazardous materials include:

- California Environmental Protection Agency (Cal-EPA) – Cal-EPA and the Office of Emergency Services (OES) establish regulations governing the use of hazardous materials. Within Cal-EPA, the Department of Toxic Substances Control (DTSC) has primary regulatory responsibility. Enforcement of regulations has been delegated to local jurisdictions, which enter into agreements with DTSC.
- California State Water Resources Control Board and Regional Water Quality Control Board (RWQCB) – These agencies regulate surface water and groundwater quality according to the Porter-Cologne Water Quality Act, the Toxic Pits Cleanup Act, the Underground Tank Law and Clean Water Act.

In January 1996, Cal/EPA adopted regulations implementing a “Unified Hazardous Waste and Hazardous Materials Management Regulatory Program” (Unified Program). The six program elements of the Unified Program are: (1) hazardous waste generators and hazardous waste onsite treatment; (2) underground storage tanks; (3) above-ground storage tanks; (4) hazardous material release response plans and inventories; (5) risk management and prevention program; and (6) Uniform Fire Code hazardous materials management plans and inventories. The program is implemented at the local level by a local agency – a Certified Unified Program Agency (CUPA) which is responsible for consolidating the administration of the six program elements within its jurisdiction.

Local Implementation of Regulations

The Nevada County Department of Environmental Health is the designated CUPA for Nevada County.

Impact Analysis

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

Less Than Significant Impact. After project completion the reservoir would continue to be operated as currently so; for the storage and conveyance of stored water. Operation of the reservoir after the project completion would not be expected to involve the routine transport, use or disposal of hazardous materials.

The heavy metals, mercury and arsenic, are often associated with mines and mine tailings related to past gold mining activities in Nevada County. Sediment often carries these hazardous waste metals through streams which are then deposited in lakes and reservoirs. Because the Loma Rica Reservoir receives water from man-made canals- and upper country water sources, it is anticipated that these heavy metals will not be at levels indicating past mining activities. It is anticipated that heavy metal concentrations associated with sediment that will be removed during this project will approximately the same as background soil levels typically found in *non-mining* associated soils in Nevada County. Prior to removal of sediment, samples will be collected and analyzed in a California State certified testing laboratory for arsenic and mercury. The laboratory results for the sediment samples will dictate the disposal options for the removed sediment. It is anticipated that disposal of sediment will not be hindered by heavy metal concentrations.

The project must comply with all federal, state, and local requirements for temporary storage of flammable and combustible materials at construction sites as well as comply with all federal, state, and local requirements for reporting releases of hazardous materials. The project's compliance with these requirements would reduce the risk of release of hazardous substances to a less than significant level.

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

Less Than Significant Impact. The project completion would consist of a cleaned (deepened) reservoir with restored capacity. Operation of the reservoir after project completion would consist of storage and conveyance of water, and would not create conditions involving the foreseeable release of hazardous materials.

The project must comply with all federal, state, and local requirements for temporary storage of flammable and combustible materials at construction sites as well as comply with all federal, state, and local requirements for reporting releases of hazardous materials. The project's compliance with these requirements would reduce the risk of release of hazardous substances to a less than significant level.

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

No Impact. The project site is not located within ¼ mile of an existing or proposed school.

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

No Impact. A search of the California Department of Toxic Substances Envirostor database indicated that the project is not 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, it would not create a significant hazard to the public or to the environment. Therefore, there would be no impact.

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

Less Than Significant Impact. The project site is near an airport land use plan area and public use airport. There are no safety impacts related to people residing or working in the vicinity of airports. It is not anticipated that equipment used will interfere with flight operations associated with the public airport. The airport manager will be contacted prior to project implementation to coordinate the project activities with airport operations. All equipment used in the project should at minimum follow the local airport regulations and the Federal Aviation Administration (FAA) regulations regarding flight corridors and operation within and near airports.

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

No Impact. Not applicable as the project site is not located within the vicinity of a private airport.

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

Less Than Significant Impact. The completed project would not result in any physical features that would impair implementation of, or physically interfere with, emergency evacuations. During construction, implementation of the standard traffic control measures required by the County encroachment permit would reduce impacts to a less than significant level.

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

Less than Significant with Mitigation Incorporated. The proposed project site is located in a rural residential area with open space to the north that would be used for dewatering of sediment. Construction vehicles have the potential to cause wildfires if next to flammable brush and trees which would have potential impact. Implementation of **Mitigation Measures HAZ – 1** would reduce the potential impact to a less than significant level.

Mitigation Measures

Mitigation Measure HAZ – 1: Contractors shall ensure that vehicles and all equipment (heavy equipment and hand-held equipment) that typically include a spark arrester are equipped with a spark arrester in good working condition during the duration of the project.

4.9 HYDROLOGY AND WATER QUALITY

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

Environmental Setting

The proposed project would entail removing accumulated sediments from the Loma Rica Reservoir.

The project site is located approximately 4 miles east of the city of Grass Valley. The land uses are predominately rural residential. The county airport (Nevada County Air Park) is about 1,500 feet to the west. The reservoir occurs within a mixed forest setting with single family homes interspersed primarily to the south and west along Loma Rica Road/Lee Lane. Also present in and near the reservoir are fresh emergent wetland at the west end of the reservoir and valley and foothill riparian, open water, and denuded disturbed areas adjacent to the reservoir.

Regulatory Setting

Federal and State Regulation

The Federal Emergency Management Agency oversees the delineation of flood zones and provides disaster assistance. The agency manages the National Flood Insurance Program, which enables property owners in designated flood zones to purchase flood insurance. Flood zones are mapped on Flood Insurance Rate Maps that show the expected frequency and severity of flooding by area.

Federal Clean Water Act Section 402

The 1972 amendments to the Federal Water Pollution Control Act established the National Pollutant Discharge Elimination System (NPDES) permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the Clean Water Act (CWA) created a new section of the CWA devoted to stormwater permitting (Section 402[p]). On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five (5) or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 were expanded to address storm water discharges from construction sites that disturb land areas equal to or greater than one acre and less than five (5) acres (small construction activity). The State of California Regional State Water Resources Control Board administers and enforces the provisions of the NPDES program.

NPDES is the primary federal program that regulates point-source and non point-source discharges to waters of the United States. The SWRCB issues both general and individual permits. Construction activities are regulated under the NPDES General Permit for Construction Activities provided the total amount of ground disturbance during construction exceeds one acre. The appropriate RWQCB enforces the general permit. Coverage under a general permit requires the preparation of a stormwater pollution prevention plan (SWPPP). The SWPPP includes pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a best management practice (BMP) monitoring and maintenance schedule. Construction activities that are subject to this General Permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area.

Effective July 1, 2010 all dischargers are required to obtain coverage under the new Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. Construction activity subject to this permit includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, including construction associated with linear underground projects (LUP). Pursuant to the Permit, a discharger shall prepare a monitoring program prior to the start of construction and immediately implement the program at the start of construction for LUPs.

Impact Analysis

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

Less Than Significant. During the cleaning, the water level in the reservoir will be reduced significantly and will be kept from leaving the reservoir. The reservoir will be isolated from incoming and outgoing water; existing hydraulic structures will bypass the reservoir entirely. Water needs for the adjacent canal and water treatment system will be supplied by through a secondary pipe diverting water from a source upstream of the reservoir. Therefore, no stirred sediments will be released from the reservoir during the cleaning process. Water quality may be impacted during project implementation due to surface runoff into drainages due to the transport of the removed sediment to the dewatering areas. Such impacts would be less than significant provided implementation of a Stormwater Pollution Prevention Plan and related erosion control best management practices as stated under **Mitigation Measures GEO – 1 through GEO – 4**. Implementation of these measures would reduce impacts to water quality.

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

Less Than Significant Impact. The proposed project would significantly lower the water in the reservoir prior to cleaning. The head (pressure) of water in the reservoir would be reduced, however the ground under the reservoir would still be saturated. Effects on local groundwater supplies would be insignificant. Additionally, the cleaning of the reservoir would be done during winter months. Therefore, rainfall would naturally add seasonal groundwater recharge to the surrounding areas.

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

No impact. No drainage patterns will be altered during the project.

d) *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?*

No impact. The topography and existing drainage patterns of the site will not be changed by the project.

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

No impact. The project would entail removing sediment from the reservoir. Any draining or runoff during this activity would occur within the reservoirs confines.

f) *Otherwise substantially degrade water quality?*

Less than Significant. Please see answer to a) above.

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

No Impact. The proposed project would not involve the construction of housing. The project site is not located within a 100-year flood hazard area. Therefore, no impact would result from development of the project.

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

No Impact. The project site is not located within a 100-year flood hazard area and therefore, project development would not result in the placement of structures that would impede or redirect flood flows. Therefore, no impact would result from development of the project.

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

No Impact. The project does not propose new housing or structures that could expose people to a significant risk of loss, injury or death involving flooding, including flooding as a result of a failure of a levee or dam (or the reservoir).

j) Inundation by seiche, tsunami or mudflow?

No Impact. The project site is not located in an area subject to seiche, tsunami or mudflow. Therefore, no impact would result from development of the Proposed Project.

Mitigation Measures

Please see **Mitigation Measures GEO – 1** through **GEO – 4** in the Geology and Soils section (**Section 4.6**) of this Initial Study for mitigation that addresses the impacts listed under a), c), and f) above.

4.10 LAND USE PLANNING

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

Environmental Setting

As described in the Project Description section of this Initial Study, the General Plan designated land use for the project site is P-SP (Public-Site Performance).

The zoning designation for the project site is P-SP. The reservoir would be the only area worked on, and therefore no zoning changes would occur. The removed sediment would be placed just north of the reservoir for temporary dewatering, also within the P-SP zone.

Impact Analysis

a) *Physically divide an established community?*

No Impact. The project would not physically divide an established community. There would be no impact.

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

No Impact. The project would be in conformance with all applicable land use plans and would not conflict with any agency's plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. There would be no impact.

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

No Impact. The project site is not located within a designated Habitat Conservation Plan (HCP) area or within a designated Natural Community Conservation Plan (NCCP) area. There are no conflicts with any conservation plans and therefore no impact.

4.11 MINERAL RESOURCES

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

Environmental Setting

The mineralogy of Nevada County has played an important historical role in local regional, State and national economics. The County encourages mining in areas of compatible land uses (Nevada County 1996). Lands within the County containing known important mineral resource deposits outside of residential zoning districts are identified by the Nevada County Zoning Ordinance within the “ME” – Mineral Extraction Combining District.

Impact Analysis

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

No Impact. The project area is entirely located within the “P-SP” – Public-Site Performance zoning district and is therefore not located within an area of known important mineral resources.

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

No Impact. The project area is entirely located within the “P-SP” – Public-Site Performance zoning district and is therefore not located within an area of known important mineral resources.

Mitigation Measures

No mitigation is warranted.

4.12 NOISE

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

Environmental Setting

Noise is commonly defined as unwanted sound in the environment. This definition reflects a subjective reaction to the characteristics of the physical phenomenon of noise. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.” Although elevated noise levels can result in physiological damage and hearing loss, excessive noise in the environment more commonly impairs general human well being by contributing to psychological stress and irritation. Such health effects can result when noise interferes with everyday human activities such as sleep, talking, recreation, relaxation, and tasks requiring concentration. When noise is either disturbing or annoying, whether by its pitch or loudness, it may be considered objectionable.

The overall noise level associated with a given noise environment is called the “ambient” noise level. Ambient noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, trains, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Other contributing noise sources, often referred to as “background” sources, can include the sound of birds, people talking, occasional vehicles passing by, or televisions and radios.

Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Environmental sound levels are usually measured in A-weighted decibels, or dBA, which is a method of taking into account the sensitivity of the human ear to various frequencies in the sound spectrum. In general, a difference of three decibels is barely perceptible to the human ear, while a difference of 10 decibels is perceived as a doubling of loudness. A common statistical tool used to measure the ambient noise level is the average, or equivalent, sound level (Leq), which is the sound level corresponding to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given period (usually one hour).

Factors that affect the transmission of noise between the noise source and the receptor include:

- **Line of sight:** Barriers, such as topography, sound walls and other structures, between a noise source and recipient can provide varying degrees of noise attenuation, particularly when placed near the noise source.
- **Distance:** A reduction in noise level of roughly 6 dBA occurs with each doubling of distance from a noise source, depending on the hardness of intervening surfaces.

Due to the rural residential setting at the project site, existing noise levels would be expected to be moderate with periodic greater than moderate increases to noise levels with active aircraft operations at the adjacent airport. Existing noise sources within the project site area primarily consist of roadway traffic and typical residential outdoor activities.

Regulatory Setting

Federal Regulations

The federal Occupational Safety and Health Administration (OSHA) defines potentially harmful noise exposure (the level at which hearing loss may occur from long-term exposure) as exposure to greater than 90 dBA averaged over eight hours. For noise greater than 90 dBA, the allowable exposure time is correspondingly shorter.

State Regulations

The State of California sets interior residential standards for multifamily dwellings at 45 dBA Ldn (day-night equivalent noise level). This interior residential standard is meant primarily for sleep and speech protection.

Local Regulations

Nevada County addresses noise in the General Plan Noise Element. General Plans typically recognize that different types of land uses have different sensitivities toward their noise environment with residential areas considered to be the most sensitive type of land use to noise and industrial/commercial areas considered to be the least sensitive. Local noise elements and/or ordinances typically set forth standards related to land use compatibility and noise analyses required for development activities. Specific emphasis is given to noise sensitive land uses, typically defined as residential land uses, schools, health care facilities, libraries, and churches. The Nevada County General Plan Noise Element has established maximum permissible noise levels impacting residential land uses from transportation and non-transportation sources. The exterior noise limits for residential land uses is 55 dBA Leq (equivalent continuous noise level) from 7am to 7 pm, 50 dBA from 7 pm to 10 pm, and 45 dBA from 10 pm to 7 am. However, these standards do not apply to construction activities related to a project.

Impact Analysis

The impact analysis below focuses on impacts from project construction. Operation of the reservoir after construction will not create significant increases in noise levels at the project site (reservoir will resume normal operations).

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

Less Than Significant With Mitigation Incorporated. The activities of the project, although a temporary noise source, would be a potentially significant impact as noise levels could exceed the exterior noise limits identified in the General Plan. The limits are not applied to construction activities, and it would be expected that levels would not be greater than the limits due to the proximity of residences to the project. With the incorporation of **Mitigation Measure NOISE – 1**, noise impacts related to General Plan limits would be reduced to less than significant.

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

Less Than Significant Impact. There are no federal, state, or local regulations for ground borne vibration. Sediment removal activities would include using an excavator or clam-shell bucket, and a dump truck to transport the sediment. These activities would result in ground borne vibration but it would be expected that the vibrations would be less than significant due to their temporary nature and the distance to the nearest home structures. The project would not involve blasting as an excavation method. Impacts would be less than significant.

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

No Impact. The operation of the reservoir after the project would not create significant increases in noise levels at the project site.

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

No impact. After project completion, there would be no temporary noise source and a potentially significant impact due to the moderate ambient noise levels in the vicinity. Therefore, there would be no impact.

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

Less Than Significant. The project is located within an airport land use area and within two miles of a public airport. The temporary exposure of construction workers at the project site to an occasional fly-over of the project would not expose workers to noise levels above those expected to be generated by the project's construction equipment.

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

Less Than Significant. The project is not located in the vicinity of a private airstrip. Therefore there would be no impact.

Mitigation Measures

Noise – 1:

The following measures shall be implemented to reduce construction related noise impacts:

- The hours for the project shall be limited to 7 am to 7 pm Monday through Friday. Activities on weekends, holidays recognized by NID, and outside of the 7 am to 7 pm hours shall be avoided to the extent practicable. If the contractor needs to work on the weekend, the contractor will notify the landowners 48 hours in advance, but weekend work, if it occurs, will also be limited to 7 am to 7 pm.
- Construction equipment shall have sound control devices that meet or exceed original equipment specifications.

4.13 POPULATION AND HOUSING

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

Environmental Setting

According to the 2008 U.S. Census data, the population for Nevada County is estimated at approximately 97,000 people (U.S. Census Bureau 2009). The Nevada County General Plan is the long-term policy guide for the physical, economic and environmental future of the County. The General Plan is comprised of goals, objectives, policies, and implementation measures based on an assessment of current and anticipated future needs and available resources, and is intended to be used by County decision makers to review new development proposals in order to ensure that such development will contribute to achieving the vision for Nevada County as defined by the General Plan (Nevada County 1995). The current General Plan (Nevada County 1996) estimates, at General Plan buildout, the population of the County would be 175,760 persons (Nevada County 1995).

Impact Analysis

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

No Impact. Implementation of the proposed project would not result in the construction of new homes or businesses. The removal of sediment from the reservoir will change the storage volume back to original when first put in operation. Therefore, there would be no impacts.

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

No Impact. Implementation of the proposed project would not displace any existing housing and would therefore not result in the necessity for the construction of replacement housing at an alternate location(s). No impact would result from project development.

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

No Impact. Implementation of the proposed project would not result in the displacement of substantial numbers of people necessitating the construction of replacement housing in any other location(s). No impact would result from project development.

Mitigation Measures

No mitigation is warranted.

4.14 PUBLIC SERVICES

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

Environmental Setting

Fire Protection

The project site is located within the Nevada County Consolidated Fire Protection District (NCCFD)(Nevada County 2005). NCCFD provides fire protection services to the rural areas surrounding Nevada City and Grass Valley and is the largest fire protection district in the County (NCCFD 2009).

Police Protection

Police protection services in the vicinity of the project are provided by the Nevada County Sheriff's Office. The Sheriff's Office provides a number of operational and administrative services support services relevant to law enforcement throughout Nevada County. The Sheriff's facility located at 950 Maidu Avenue, Nevada City is the facility located closest to the project site (Nevada County 2009a).

Schools

The project site is located within the Nevada City Elementary School District and within the Nevada Joint Union High School District Number One (Nevada County 2004).

Parks

The project site is not located within any designated recreation district identified by the County (Nevada County 2004a). There are no recreational facilities located within the vicinity of the project site (Nevada County 2004b).

Impact Analysis

a) Fire protection?

No Impact. The Proposed Project would regain lost reservoir capacity. Fire protection is not tied to the reservoir as it is used for irrigation water purposes. The water treatment plant adjacent to the reservoir will be fed raw water from an alternate pipe during sediment removal, therefore, no impacts

related to fire protection services resulting from implementation of the proposed project are anticipated.

b) Police protection?

No Impact. Police protection is not related to the project, therefore, there would be no impact.

c) Schools?

No Impact. The project would not impact schools.

d) Parks?

No Impact. The Loma Rica Reservoir is strictly used for water storage and is fenced to prohibit public access. It is not considered nor intended to be a recreational body of water. The reservoir is also not part of a park, or related to one. Therefore, there is no impact related to the project.

e) Other public facilities?

No Impact. Project development would not include residential development, and would, therefore, not result in the need for or impacts to other public facilities. No impact would result from project development.

Mitigation Measures

No mitigation is warranted.

4.15 RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
a) 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) Include recreational facilities, or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Environmental Setting

The proposed project would remove accumulated sediment from the Loma Rica Reservoir. The project site is located just east of the Nevada County airport, approximately four miles east of Grass Valley.

Impact Analysis

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

No Impact. The project is the removal of accumulated sediment from the reservoir. There would be no impacts related to recreational facilities.

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

No Impact. See answer to a) above.

Mitigation Measures

No mitigation is warranted.

4.16 TRANSPORTATION/TRAFFIC

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

Environmental Setting

The proposed project would removed accumulated sediment from the Loma Rica Reservoir. The removal process would be limited to the confines of the reservoir and surrounding disturbed areas on the District's property. Sediment will be transported to the adjacent lands east of the airport operations area to be deposited for drainage of liquids prior to final disposal. The final disposal of the drained sediments will either be on the airport property (Nevada County Airpark) or to suitable location that will accept the sediment. Should the sediment be deposited on the airport property, local streets and highways will not be effected by this operation. Impacts to aircraft taxing to/from runways and airport vehicle operations will be coordinated with the airport manager to minimize these impacts. Should sediment be deposited off-site, minor impacts will be created due to additional truck traffic on public roads

As described in the Nevada County General plan, roads and streets in Nevada County include:

- Interstate Highways and Freeways – limited access highways carrying regional and interstate traffic (e.g. Interstate 80);
- Principal Arterials – Roadways carrying some regional traffic and connecting the major population centers within the County (e.g. State Route 49 and State Route 20);
- Minor Arterials – Roadways providing primary access from freeways and principal arterials to major origins and destinations (e.g. Brunswick Road);
- Collectors (Major and Minor) – Streets connecting arterials to local roads (e.g. Loma Rica Drive and East Bennett Street); and
- Locals – Streets providing primary access to individual properties (e.g. Nevada City Avenue and John Bauer Avenue).

Loma Rica Avenue, the major access road to the project area is classified as a “collector” street.

Regulatory Setting

Level of service (LOS) is a quantitative measure of traffic operating conditions using letter grades “A” through “F” to characterize operating conditions at intersections and along roadway segments. LOS A through F represents progressively worsening traffic conditions, with LOS A representing the best condition (minimal delay times) and LOS F representing the worst condition.

There will be no project related activities within County roadways and roadway right-of-ways within Nevada County. These would require an encroachment permit from the Department of Public Works. Encroachment permits contain conditions to ensure safe and orderly traffic control. Requirements include:

- Adequate provision shall be made for the protection of the traveling public. Barricades shall be fitted with lights at night. All traffic control, including devices and personnel requirements, shall be as required by the current State of California Manual of Traffic Controls for Construction and Maintenance Work Zones and as directed by the Grantor.
- Minimum Interference with Traffic: All work shall be planned and carried out so as to create the least possible inconvenience to the traveling public. Traffic shall be permitted to pass at all times unless otherwise specified. .

Impact Analysis

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

See answer to b) below.

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

Less Than Significant Impact.

Temporary Construction Impacts: The proposed project may incur using roadway or roadway right-of-way to and from the project area (Loma Rica Avenue to other connecting roadways and arterials). There would be a temporary increase of project traffic, including construction employees

and vehicles, to and from the project site. Project activities would be temporary and would not be expected to result in a substantial increase in traffic relative to the capacity of the street system. Therefore, the impact would be less than significant.

Operational Impacts: After the project is completed, the operation of the reservoir would not create an increase in traffic or conflict with established plans, policies, or standards related to motorized or non-motorized travel.

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

No Impact. The proposed project consists of removing sediment from the reservoir and does not involve aircraft operations. The Nevada County Air Park flight corridor shadows the project area, however, the project would not result in a change in air traffic patterns or impact flight operations. There would be no impacts due to the project.

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

No Impact. The proposed project would not change the geometry of reservoir's access points along the road nor would it introduce incompatible uses after construction. There would be no impact due to the project.

e) *Result in inadequate emergency access?*

No Impact. The proposed project would not change access points to the project area. During the project's implementation, the movement of construction equipment along Loma Rica Avenue would be minimal. Emergency access would not be hindered. There would be no impact.

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

No Impact. The project would not result in any conflicts with adopted policies, plans, or programs supporting alternative transportation methods such as public transit, bicycle, or pedestrian facilities.

Mitigation Measures

No mitigation is warranted.

4.17 UTILITIES AND SERVICE SYSTEMS

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

Environmental Setting

Wastewater

There are 12 established sanitation district zones within western Nevada County for which Nevada County Sanitation District Number One provides wastewater collection and treatment services. The project site is located outside of these zones (Nevada County 2006).

Water Supply

Consumptive water rights for NID include entitlements for storage and direct diversion, and include pre-1914 and post 1914 rights as well as contract rights. NID's water supply includes four fresh water supply sources: 1) natural runoff, 2) carryover storage, 3) contract water and 4) recycled water. The 2005 Raw Water Master Plan Update reviewed and analyzed the adequacy of water supply available to NID and found that ample supply exists within existing entitlements to serve the project population of Nevada County through 2027 (Kleinschmidt et al 2005).

The Loma Rica Reservoir receives water from District operated reservoirs at higher elevations. Nine reservoirs feed the Loma Rica Reservoir through the Upper Cascade Canal. The Loma Rica Reservoir feeds the Loma Rica Water Treatment Plant (4,820 drinking water customers) and the Chicago Park canal system (approximately 913 raw water customers).

Solid Waste

Assembly Bill 939 (AB 939) (Public Resources Code 41780) was enacted to increase landfill life and conserve other resources through increased source reduction and recycling. AB 939 requires cities and counties to prepare Solid Waste Management Plans to implement AB 939's goals, particularly to divert approximately 50 percent of solid waste from landfills. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements. These elements are designed to develop programs to achieve diversion goals, stimulate local recycling in manufacturing and stimulate the purchase of recycled products. Public Resources Code 41780 as amended April 22, 2009 (AB 479) requires 60 percent diversion from landfills by January 2015 through source reduction, recycling, and composting activities. In addition, AB 470 also mandates additional recycling requirements for commercial businesses.

Nevada County Sanitation Department currently operates three transfer stations within the County (Nevada County 2009). Solid waste from western Nevada County is contracted for long haul by private carrier to a landfill facility outside of the County (CIWMB 2009). Local solid waste and recycling collection services in Nevada County are provided by private carrier (Nevada County 2009).

Impact Analysis

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

No Impact. Implementation of the project would not result in land uses generating wastewater, and would therefore not result in exceedance of wastewater treatment requirements specified by the Central Valley Regional Water Quality Control Board. No impact would result from project implementation.

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

No Impact. Project development would result in improved raw water storage capacity. Implementation of the project would not involve the development of land uses generating wastewater and would therefore not require any wastewater treatment capacity/facilities. The 2005 Raw Water Master Plan Update review and analyzed the adequacy of water supply available to NID and found that ample supply exists within existing entitlements to serve the projected population within the District's Service Area through 2027 (Kleinschmidt et al 2005). Proposed cleaning of the reservoir would not require additional entitlements; existing NID entitlements are adequate to meet District demands. Therefore no impact would result from the project.

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

No Impact. The project would not require the construction or expansion of any storm water drainage facilities. Therefore no impact would result from project development.

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

No Impact. The 2005 Raw Water Master Plan Update reviewed and analyzed the adequacy of water supply available to NID and found that ample supply exists within existing entitlements to serve the projected population within the District's Service Area through 2027 (Kleinschmidt et al 2005). The

project would not require additional entitlements; existing NID entitlements are adequate to meet District demands. Therefore, no impact would result from the project.

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

No Impact. Implementation of the Project would not involve the development of land uses generating wastewater and would therefore not require any wastewater treatment capacity/facilities. No impact would result from project implementation.

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

Less Than Significant Impact. Project implementation would result in the removal of accumulated sediment. Although this wouldn't typically be classified as solid waste, the removed sediment from the reservoir will need to be deposited appropriately. The sediment is anticipated to be used as construction fill at the airport. Any other solid waste generated by project-related activities (vegetation, brush, organic material) would be required to be disposed of in compliance with State and local statutory requirements and regulations. The Nevada County Sanitation Department currently operates several permitted transfer stations within the County, including the McCourtney Road Transfer Station within the vicinity of the project site. The Sanitation Department contracts with a private carrier for long haul of solid waste outside of the County. Existing permitted facilities/resources are available within western Nevada County to accommodate construction-related solid waste generated by project construction; therefore impacts related to solid waste disposal needs are considered less than significant.

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

No Impact. Solid waste disposal services/facilities are currently available to accommodate project-related construction waste in compliance with federal, State and local statutes and regulations. Therefore no impact would result from project development.

Mitigation Measures

No mitigation is warranted.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Does the Project:				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact Analysis

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

The project has the potential to impact the environment but these impacts, in addition to being fully mitigated, are primarily related to the sediment removal and are therefore temporary. The long term operational impacts from the project would be unchanged from pre-project conditions. The impact is less than significant with the mitigation measures in Sections 4.3 (Air Quality), 4.4 (Biological Resources), 4.5 (Cultural Resources), 4.6 (Geology and Soils), 4.9 (Hydrology and Water Quality), and 4.12 (Noise).

- b) *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 project.*

The project has the potential to impact the environment but these impacts, in addition to being fully mitigated, are primarily related to construction and are therefore temporary. The long term operational impacts from the project are minimal and are therefore not cumulatively considerable when viewed in connection with the effects of past, current, or probable future projects. The impact from construction related activities is less than significant with the incorporation of mitigation measures discussed in a) above.

c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

The project does have the potential to significantly impact the environment through adverse effects on human beings due to impacts related to air quality and noise. The long term operational impacts from the project are minimal and would not be expected to be significant. Construction activities related to the project would have temporary impacts. However, implementation of mitigation measures in Sections 4.3 (Air Quality) and 4.12 (Noise) of this Initial Study will reduce the impacts in these areas to less than significant.

5.0 CEQA DETERMINATION

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

On the basis of this initial evaluation:

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



Signature

Adrian Schneider

Printed Name

APRIL 5, 2013

Date

Nevada Irrigation District

For

6.0 REPORT PREPARATION AND REFERENCES

6.1 REPORT PREPARATION

6.1.1 Lead Agency: Nevada Irrigation District

6.1.2 Document Prepared By:

Adrian Schneider, Senior Engineer – Nevada Irrigation District

6.2 PERSONS AND AGENCIES CONSULTED

Amy Kesler, CDA Technician, Nevada County Planning Department

Sam Longmire, Air Pollution Control Specialist, Northern Sierra Air Quality Management District

6.3 REFERENCES

Black Rail Project. 2009. California black rail report. Newsletter for Landowners 7(1). Found online at <http://nature.berkeley.edu/~beis/rail/html/newsletters.html>

California Department of Fish and Game (CDFG). 2009. California Natural Diversity Database (CNDDDB), Rarefind Version 3.1.1.

California Geological Survey 2007. California Department of Conservation, California Geologic Survey, Alquist-Priolo Affected Cities and Counties, California Geologic Survey website, (<http://www.consrv.ca.gov/CGS/rghm/ap/affected.htm>), accessed June 29, 2009.

CIWMB 2009. *California Integrated Waste Management Board website, Facility/Site Summary Details*. McCourtney Road Large Volume Transfer Station, Current Permit (<http://www.ciwmb.ca.gov/SWIS/29-AA-0010/Detail/>), accessed July 15, 2009.

California Native Plant Society (CNPS). 2001. *Inventory of Rare and Endangered Plants of California* (sixth edition). Sacramento, CA.

California Native Plant Society. 2003. *Inventory of Rare and Endangered Plants of California* (sixth edition). Sacramento, CA.

Jennings, M. R. and M. H. Hayes. 1994. *Amphibian and Reptile Species of Special Concern in California*. California Department of Fish and Game. Rancho Cordova, CA.

Kleinschmidt, West Yost & Associates, and RBI, Inc. September 2005. *Nevada Irrigation District Raw Water Master Plan Update*. Phase 1 Technical Analysis, Volume 1 Final Report.

Mayer, K.E. and W. F. Laudenslayer, Jr. (eds). 1988. *A Guide to Wildlife Habitats of California*. California Department of Fish and Game. Sacramento, CA. Available online at: http://www.dfg.ca.gov/biogeodata/cwhr/wildlife_habitats.asp.

Natural Resource Conservation Service (NRCS). 1975. Soil Survey of Nevada County Area, California. U.S. Department of Agriculture. Reissued 1993.

NCCFD 2009. Nevada County Consolidated Fire Protection District Website (<http://www.nccfire.com/>), accessed July 10, 2009.

- Nevada County General Plan. 1995. Prepared with the assistance of Harland Bartholomew & Associates, Inc. (Sacramento, CA).
- Nevada County 1995. Nevada County General Plan, Environmental Impact Report, Vol. I, Final Draft, March 1995.
- Nevada County 1996. Nevada County General Plan, prepared by Nevada County with the assistance of Harland Bartholomew Associates, Inc., Adopted 1996. Nevada County website: (<https://docs.co.nevada.ca.us/dsweb/Get/Document-506869/>), accessed June 29, 2009.
- Nevada County 2004. Nevada County Geographic Information Systems Division, GIS Public Documents, School Districts, All School Districts, edited June 4, 2004 (<https://docs.co.nevada.ca.us/dsweb/View/Collection-4932>), accessed July 10, 2009.
- Nevada County 2004a. Nevada County Geographic Information Systems Division, GIS Public Documents, Recreational District Maps, Recreation and Park Districts, edited December 2, 2004 (<https://docs.co.nevada.ca.us/dsweb/View/Collection-5307>), accessed July 13, 2009.
- Nevada County 2004b. Nevada County Geographic Information Systems Division, GIS Public Documents, Recreational District Maps, Nevada County Recreation Resources, edited December 2, 2004 (<https://docs.co.nevada.ca.us/dsweb/View/Collection-5307>), accessed July 13, 2009.
- Nevada County 2005. Nevada County Geographic Information Systems Division, GIS Public Documents, Fire District Maps, Fire District Map with all Roads edited June 6, 2005 (<https://docs.co.nevada.ca.us/dsweb/View/Collection-8497>), accessed July 10, 2009.
- Nevada County 2006. Nevada County Geographic Information Systems Division, GIS Public Documents, Sanitation District Maps, Nevada County Sanitation District 1, edited December 2, 2006 (<https://docs.co.nevada.ca.us/dsweb/View/Collection-29291>), accessed July 13, 2009.
- Nevada County 2008. Nevada County General Plan Safety Element, prepared by Nevada County, Adopted September 9, 2008. Nevada County website: (https://docs.co.nevada.ca.us/dsweb/Get/Document-536873/Microsoft%20Word%20-%20SafetyElement_FINAL-withTylerFormats092408.pdf), accessed June 29, 2009.
- Nevada County 2009a. Nevada County Sheriff's Office website (<http://new.mynevadacounty.com/sheriff/index.cfm>) accessed July 10, 2009.
- Nevada County 2009c. Nevada County Community Development Agency, Department of Sanitation website (<http://new.mynevadacounty.com/sanitation/>), accessed July 15, 2009.
- Personal Communication, Nevada County Planning Department. July 2009. Community Development Agency, Planning Department, Code Compliance Division. Personal communication with Amy Kesler, CDA Technician.
- Richmond et.al, OM, J Tecklin, and SR Beissinger. 2008. Distribution of California black rails in the Sierra Nevada foothills. J Field Ornith 79(4): 381-390.
- Tecklin, Jerry. Black rail expert, Black Rail Project, UC Berkeley Foothill Research and Extension Center, Browns Valley, CA. Personal communication with Anne Wallace February 14, 2012.

U.S. Census Bureau 2009. U.S. Census Bureau State and County Quickfacts, Quickfacts for Nevada County, California (<http://quickfacts.census.gov/qfd/states/06/06057.html>), accessed July 8, 2009.

USEPA (United States Environmental Protection Agency). 2008. Good Up High. Retrieved June 12, 2009 from: <http://www.epa.gov/oar/oaqps/gooduphigh> .

Appendix A — CNDDDB Data, Plant List, Special Status Wildlife Table

Accipiter gentilis

northern goshawk

Element Code: ABNKC12060

Status Federal: None State: None
NDDB Element Ranks Global: G5 State: S3
Other Lists CDFG Status: SC

Habitat Associations

General: WITHIN, AND IN VICINITY OF, CONIFEROUS FOREST. USES OLD NESTS, AND MAINTAINS ALTERNATE SITES.
Micro: USUALLY NESTS ON NORTH SLOPES, NEAR WATER. RED FIR, LODGEPOLE PINE, JEFFREY PINE, AND ASPENS ARE TYPICAL NEST TREES.

Occurrence No. 171 **Map Index:** 12520 **EO Index:** 26638 **Dates Last Seen**
Occ Rank: None **Element:** 1980-03-03
Origin: Natural/Native occurrence **Site:** 2006-07-19
Presence: Extirpated
Trend: Decreasing **Record Last Updated:** 2007-02-08

Quad Summary: North Bloomfield (3912038/557C), Pike (3912048/557B)
County Summary: Nevada

Lat/Long: 39.37128° / -120.90467° **Township:** 17N
UTM: Zone-10 N4360073 E680494 **Range:** 10E
Radius: 1 mile **Mapping Precision:** NON-SPECIFIC **Section:** 06 **Qtr:** NW
Elevation: 3,360 ft **Symbol Type:** POINT **Meridian:** M

Location: MALAKOFF DIGGINS STATE HISTORIC PARK.
General: EYRIE NO. NE003. NEST ACTIVE IN 1980. PROTOCOL BROADCAST SURVEYS WERE CONDUCTED IN 2005 AND 2006, AND THERE WERE NO GOSHAWK DETECTIONS DURING THIS TIME; THERE ARE NO ACTIVE GOSHAWK NESTS IN MALAKOFF DIGGINS SHP AT THIS TIME.
Owner/Manager: DPR, USFS, BLM

Occurrence No. 172 **Map Index:** 12459 **EO Index:** 26634 **Dates Last Seen**
Occ Rank: None **Element:** 1983-XX-XX
Origin: Natural/Native occurrence **Site:** 2006-07-19
Presence: Extirpated
Trend: Decreasing **Record Last Updated:** 2007-02-08

Quad Summary: Pike (3912048/557B), North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.36989° / -120.93135° **Township:** 17N
UTM: Zone-10 N4359866 E678199 **Range:** 09E
Radius: 1 mile **Mapping Precision:** NON-SPECIFIC **Section:** 02 **Qtr:** NE
Elevation: 3,400 ft **Symbol Type:** POINT **Meridian:** M

Location: MALAKOFF DIGGINS STATE HISTORIC PARK.
General: EYRIE NO. NE005. ACTIVE IN 1983; UNKNOWN THEREAFTER. PROTOCOL BROADCAST SURVEYS WERE CONDUCTED IN 2005 AND 2006, AND THERE WERE NO GOSHAWK DETECTIONS DURING THIS TIME; THERE ARE NO ACTIVE GOSHAWK NESTS IN MALAKOFF DIGGINS SHP AT THIS TIME.
Owner/Manager: DPR-MALAKOFF DIGGINS SHP

Occurrence No. 371 **Map Index:** 40184 **EO Index:** 35186 **Dates Last Seen**
Occ Rank: Good **Element:** 1998-06-12
Origin: Natural/Native occurrence **Site:** 1999-07-12
Presence: Presumed Extant
Trend: Unknown **Record Last Updated:** 2000-02-22

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.33454° / -120.92171° **Township:** 17N
UTM: Zone-10 N4355961 E679120 **Range:** 09E
Area: **Mapping Precision:** NON-SPECIFIC **Section:** 13 **Qtr:** SW
Elevation: 3,000 ft **Symbol Type:** POLYGON **Meridian:** M

Location: SOUTH OF SOUTH YUBA RIVER, 4 MILES NORTH OF SCOTTS FLAT RESERVOIR.
Location Detail: NEST TREE IS A RECENTLY-DEAD DOUGLAS FIR (13-INCH DBH, 84-FT TALL); NEST IS LOCATED IN A MULTI-TOPPED SECTION. NEST TREE IS LOCATED ON A SLIGHT BENCH IN AN AREA OF STEEP TOPOGRAPHY.
Ecological: NEST TREE IS A DOUGLAS FIR (RECENTLY DEAD, BUT PROBABLY ALIVE WHEN NESTING STARTED) WITHIN SIERRAN MIXED CONIFER FOREST (WHR TYPE = SMC 4D); 100% CANOPY WITHIN 0.1 ACRE OF NEST TREE, 18% SLOPE, NORTH SLOPE ASPECT.
Threat: THREATENED BY CONTINUED LOGGING OF ADJOINING PRIVATE LANDS.
General: TERRITORY #63 (98-NEV-4). NEST WITH 1 ADULT OBSERVED DEFENDING DISCOVERED, 12 JUN 1998. WHITEWASH/PELLETS OBSERVED ON 26 AUG 1998 INDICATE AT LEAST ON BIRD FLEDGED. NEST PRESENT, BUT INACTIVE, 12 JUL 1999.
Owner/Manager: PVT

Ardea herodias

great blue heron

Element Code: ABNGA04010

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CDFG Status:
State: None	State: S4	

Habitat Associations

General: COLONIAL NESTER IN TALL TREES, CLIFFSIDES, AND SEQUESTERED SPOTS ON MARSHES.

Micro: ROOKERY SITES IN CLOSE PROXIMITY TO FORAGING AREAS: MARSHES, LAKE MARGINS, TIDE-FLATS, RIVERS AND STREAMS, WET MEADOWS.

Occurrence No.: 125	Map Index: 73017	EO Index: 73935	Dates Last Seen
Occ Rank: Good			Element: 2008-06-27
Origin: Natural/Native occurrence			Site: 2008-06-27
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2008-11-26

Quad Summary: North Bloomfield (3912038/557C)

County Summary: Nevada

Lat/Long: 39.28337° / -120.90537°	Township: 16N
UTM: Zone-10 N4350315 E680659	Range: 10E
Radius: 1/10 mile	Section: 06
Elevation: 3,075 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: NW
Symbol Type: POINT	

Location: NORTHEAST SHORE OF SCOTTS FLAT RESERVOIR, 0.4 MILES EAST OF GIRLS CAMP, & 1 MILE NORTH OF QUAKER HILL, NEVADA CITY.

Location Detail: PROVIDED COORDINATES WERE WRONG. MAPPED TO PROVIDED MAP & DESCRIPTION: "THE NEST SITE IS LOCATED ON SCOTTS FLAT RES., APPROX. 20FT FROM THE LAKE'S EDGE ON THE E SIDE. A SMALL INLET IS ADJACENT & TO THE N W/ RIPARIAN/WETLAND VEGETATION."

Ecological: HABITAT DESCRIBED AS PONDEROSA PINE FOREST: PINUS PONDEROSA, PSEUDOTSUGA MENZIESII, QUERCUS KELLOGGII, & ARBUTUS MENZIESII. UNDERSTORY = DOWNED TREES, DUFF, & ARCTOSTAPHYLOS VISCIDA. NESTS IN 80-100FT TALL P. PONDEROSA.

General: 3 ADULTS AND 6 JUVENILES WERE OBSERVED IN ROOKERY ON 27 JUN 2008.

Owner/Manager: NEVADA IRRIGATION DIST

Clarkia biloba ssp. brandegeeeae

Brandegee's clarkia

Element Code: PDONA05053

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T3	CNPS List: 1B.2
State: None	State: S3	

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.
 Micro: OFTEN IN ROADCUTS. 295-885M.

Occurrence No. : 8	Map Index : 43410	EO Index : 43410	Dates Last Seen
Occ Rank : Excellent			Element : 2002-06-20
Origin : Natural/Native occurrence			Site : 2002-06-20
Presence : Presumed Extant			
Trend : Unknown			Record Last Updated : 2004-07-30

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long : 39.32963° / -120.98891°	Township : 17N
UTM : Zone-10 N4355285 E673339	Range : 09E
Area : 1.8 acres	Section : 17 Qtr : SE
Elevation : 2,200 ft	Meridian : M
Mapping Precision : SPECIFIC	
Symbol Type : POLYGON	

Location: EDWARDS CROSSING, APPROXIMATELY 1/8 OF A MILE WEST OF NORTH BLOOMFIELD ROAD ON THE SOUTH SIDE OF THE SOUTH YUBA TRAIL.
Location Detail: ON BOTH SIDES OF THE "STATE PARK BOUNDARY" SIGN. MAPPED WITHIN THE SW 1/4 OF THE SE 1/4 OF SECTION 17.
Ecological: GROWING IN WEATHERED COBBLY ANDESITIC CONGLOMERATE (ANGULAR, RED ROCKS) IN A HIGHLY UNSTABLE, POTENTIALLY EROSION AREA ALONG THE TRAIL. COMMON PLANT ASSOCIATES TOXICODENDRON, CYNOSURUS ECHINATUS, POA SECUNDA, SEDUM SPATHULIFOLIUM, ET AL.
Threat: NONE; THIS SPECIES APPEARS TO THRIVE IN AREAS OF DISTURBANCE AND EROSION.
General: ABOUT 1200 PLANTS SEEN IN 2002, 400 PLANTS ON STATE PROPERTY AND 800 PLANTS ON BLM PROPERTY.
Owner/Manager: DPR, BLM

Emys marmorata

western pond turtle

Element Code: ARAAD02030

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3G4	CDFG Status: SC
State: None	State: S3	

Habitat Associations

General: A THOROUGHLY AQUATIC TURTLE OF PONDS, MARSHES, RIVERS, STREAMS & IRRIGATION DITCHES, USUALLY WITH AQUATIC VEGETATION, BE
Micro: NEED BASKING SITES AND SUITABLE (SANDY BANKS OR GRASSY OPEN FIELDS) UPLAND HABITAT UP TO 0.5 KM FROM WATER FOR EGG-LAYIN

Occurrence No. 654	Map Index: 52075	EO Index: 67286	Dates Last Seen
Occ Rank: Excellent			Element: 2006-10-26
Origin: Natural/Native occurrence			Site: 2006-10-26
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-12-04

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.31316° / -120.96138°	Township: 17N
UTM: Zone-10 N4353510 E675754	Range: 09E
Radius: 80 meters	Section: 27 Qtr: NW
Elevation: 3,050 ft	Meridian: M
Mapping Precision: SPECIFIC	
Symbol Type: POINT	

Location: EAST SIDE OF SAILOR FLAT, BETWEEN THE SOUTH YUBA RIVER AND HARMONY RIDGE.

Location Detail: THIS POND IS 1 OF 3 PONDS (2 PERENNIAL, 1 EPHEMERAL) LOCATED AT THIS SITE; THE POND CONTAINING WPT IS IN A PERENNIAL POND BEHIND THE BARN.

Ecological: HABITAT CONSISTS OF A PERENNIAL POND (~20' X 25'); OVERSTORY CONSISTS OF CONIFEROUS FOREST, WITH WILLOW AND BLACKBERRY AROUND THE POND EDGE. WATER MILFOIL AND TYPHA DOMINATE THE POND VEGETATION. 35 CRLF PRESENT IN 2006.

General: 22 WPT PRESENT ON 25-26 OCT 2006.

Owner/Manager: PVT

Fritillaria eastwoodiae

Butte County fritillary

Element Code: PMLILOV060

Status: _____ NDDB Element Ranks: _____ Other Lists: _____
 Federal: None Global: G3Q CNPS List: 3.2
 State: None State: S3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.

Micro: USUALLY ON DRY SLOPES BUT ALSO FOUND IN WET PLACES; SOILS CAN BE SERPENTINE, RED CLAY, OR SANDY LOAM. 40-1500M.

Occurrence No. 83 Map Index: 25799 EO Index: 28583 Dates Last Seen: _____
 Occ Rank: Excellent Element: 1993-05-03
 Origin: Natural/Native occurrence Site: 1993-05-03
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1994-05-06

Quad Summary: North Bloomfield (3912038/557C)

County Summary: Nevada

Lat/Long: 39.35732° / -120.89244° Township: 17N
 UTM: Zone-10 N4358548 E681583 Range: 10E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 07 Qtr: NE
 Elevation: 3,400 ft Symbol Type: POINT Meridian: M

Location: 1.1 AIR MI EAST OF BUCK MOUNTAIN (PEAK), SOUTH OF NORTH BLOOMFIELD AND SOUTHEAST OF MALAKOFF DIGGINGS.

Location Detail: TOP OF THE MISSOURI BAR TRAIL ON RELIEF HILL ROAD, ABOUT 0.5 MILE OUTSIDE OF NORTH BLOOMFIELD. WITHIN THE NW 1/4 OF THE NE 1/4 OF SECTION 7.

Ecological: MIXED CONIFER OVERSTORY WITH PINUS PONDEROSA, PSEUDOTSUGA, QUERCUS KELLOGGII, AND CALOEDRUS. SITE HAS AN EASTERLY ASPECT WITH ABOUT 10% SLOPE.

Threat: MISSOURI BAR TRAIL PASSES WITHIN 5' OF THE POPULATION BUT TRAFFIC IS NOT HEAVY IN THIS AREA.

General: 10 PLANTS OBSERVED IN 1993. TWO CLOSELY RELATED SPECIES, FRITILLARIA RECURVA AND F. MICRANTHA, ALSO OCCUR AT THIS SITE. THE PROXIMITY OF THESE THREE SPECIES MAY BE OF SCIENTIFIC INTEREST.

Owner/Manager: USFS-TAHOE NF

Occurrence No. 84 Map Index: 25798 EO Index: 14827 Dates Last Seen: _____
 Occ Rank: Unknown Element: 1992-04-29
 Origin: Natural/Native occurrence Site: 1992-04-29
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1995-04-25

Quad Summary: North Bloomfield (3912038/557C)

County Summary: Nevada

Lat/Long: 39.32632° / -120.92563° Township: 17N
 UTM: Zone-10 N4355041 E678803 Range: 09E
 Area: 33.3 acres Mapping Precision: SPECIFIC Section: 24 Qtr: NW
 Elevation: 3,200 ft Symbol Type: POLYGON Meridian: M

Location: ABOUT 0.7 AIR MI SOUTH OF SOUTH YUBA RIVER AND 2.5 AIR MI WEST OF CENTRAL HOUSE ON HIGHWAY 20.

Location Detail: TAKE MADRONE SPRINGS ROAD FROM HWY 20 THEN TURN LEFT ON FOREST SERVICE ROAD ACROSS FROM MADRONE SPRINGS. WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 23.

Ecological: GROWING IN PARTIAL SHADE IN ASSOCIATION WITH CHAMAEBATIA, PINUS JEFFREYI, P. PONDEROSA, P. LAMBERTIANA, CALOEDRUS, ARCTOSTAPHYLOS, SYMPHORICARPOS, AND QUERCUS KELLOGGII.

Threat: POTENTIAL TIMBER SALE THREATENS SITE.

General: ABOUT 400 PLANTS OBSERVED IN 1992. DISTRIBUTION IS CLUMPED.

Owner/Manager: USFS-TAHOE NF

Fritillaria eastwoodiae

Butte County fritillary

Element Code: PMLIL0V060

Status _____ NDDB Element Ranks _____ Other Lists _____
 Federal: None Global: G3Q CNPS List: 3.2
 State: None State: S3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.
 Micro: USUALLY ON DRY SLOPES BUT ALSO FOUND IN WET PLACES; SOILS CAN BE SERPENTINE, RED CLAY, OR SANDY LOAM. 40-1500M.

Occurrence No. 85 Map Index: 25797 EO Index: 14830 Dates Last Seen _____
 Occ Rank: Good Element: 1993-05-13
 Origin: Natural/Native occurrence Site: 1993-05-13
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1994-05-27

Quad Summary: North Bloomfield (3912038/557C)
 County Summary: Nevada

Lat/Long: 39.31578° / -120.92018° Township: 17N
 UTM: Zone-10 N4353882 E679299 Range: 09E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 25 Qtr: NW
 Elevation: 3,900 ft Symbol Type: POINT Meridian: M

Location: ABOUT 2.2 AIR MI WSW OF CENTRAL HOUSE AND ABOUT 2.5 AIR MI NNE OF FIVE MILE HOUSE ON HIGHWAY 20, WASHINGTON RIDGE.
 Location Detail: 1.2 MILES FROM HIGHWAY 20 ON THE ROCK CREEK ROAD TURNOFF, ON THE LEFT SIDE OF THE ROAD. IN FIRE BREAK ZONE.
 Ecological: GROWING IN MIXED CONIFER FOREST IN ASSOCIATION WITH PINUS PONDEROSA, CALOEDRUS, PSEUDOTSUGA, RUBUS, AND HIERACIUM.
 Threat: ROAD MAINTENANCE AND MAINTENANCE OF FIRE BREAK ZONE ARE POTENTIAL THREATS.
 General: 20+ PLANTS OBSERVED IN AREA. FRITILLARIA MICRANTHA, A CLOSELY RELATED SPECIES, IS ALSO FOUND AT THIS SITE. THE PROXIMITY OF THESE TWO SPECIES MAY BE OF SCIENTIFIC INTEREST.
 Owner/Manager: USFS-TAHOE NF

Occurrence No. 86 Map Index: 25796 EO Index: 14826 Dates Last Seen _____
 Occ Rank: Excellent Element: 1993-05-01
 Origin: Natural/Native occurrence Site: 1993-05-01
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1994-05-27

Quad Summary: North Bloomfield (3912038/557C)
 County Summary: Nevada

Lat/Long: 39.30920° / -120.93211° Township: 17N
 UTM: Zone-10 N4353128 E678287 Range: 09E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 26 Qtr: SW
 Elevation: 3,820 ft Symbol Type: POINT Meridian: M

Location: ON WASHINGTON RIDGE ABOUT 2.9 AIR MI WSW OF CENTRAL HOUSE AND ABOUT 1.7 AIR MI NNE OF FIVEMILE HOUSE ON HIGHWAY 20.
 Location Detail: NORTH OF HWY 20 ON ROCK CREEK/YCA CAMP TURNOFF. FOLLOW THIS ROAD 2-3 MILES TO THE ENTRANCE OF THE YCA CAMP. SITE IS ON EAST SIDE OF ROAD 20.3.
 Ecological: GROWING IN VERY OPEN HARDWOOD FOREST. ASSOCIATED WITH QUERCUS KELLOGGII, ARBUTUS, CHAMAEBATIA, AND SENECIO.
 Threat: TIMBER HARVEST PLANNED FOR THIS COMPARTMENT BUT THIS AREA SHOULD RECEIVE LITTLE IMPACT.
 General: 100+ PLANTS OBSERVED IN 1993. TWO CLOSELY RELATED SPECIES, FRITILLARIA RECURVA AND F. MICRANTHA, ALSO OCCUR AT THIS SITE. THE PROXIMITY OF THESE THREE SPECIES MAY BE OF SCIENTIFIC INTEREST.
 Owner/Manager: USFS-TAHOE NF

Lewisia cantelovii

Cantelow's lewisia

Element Code: PDPOR04020

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 1B.2
State: None	State: S3	

Habitat Associations

General: BROADLEAFED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, CISMONTANE WOODLAND, CHAPARRAL.
Micro: MESIC ROCK OUTCROPS AND WET CLIFFS, USUALLY IN MOSS OR CLUBMOSS; ON GRANITICS OR SOMETIMES ON SERPENTINE. 330-1340M.

Occurrence No.: 16	Map Index: 12310	EO Index: 3194	Dates Last Seen
Occ Rank: Excellent			Element: 1993-04-25
Origin: Natural/Native occurrence			Site: 1993-04-25
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-04-23

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.32942° / -120.98763°	Township: 17N
UTM: Zone-10 N4355265 E673450	Range: 09E
Area: 51.0 acres	Section: 20
Elevation: 1,994 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NE
Symbol Type: POLYGON	

Location: SOUTH BANK OF YUBA RIVER, VICINITY OF EDWARDS CROSSING.
Location Detail: 2 SUB-POPULATIONS MAPPED BY CNDD: ONE IS PRESENT ~400 M UPSTREAM FROM EDWARDS CROSSING BRIDGE AND THE OTHER POPULATION IS DOWNSTREAM OF EDWARDS CROSSING BRIDGE. MAPPED IN THE SE1/4 OF SEC 17, NE1/4 OF SEC 20 & THE SW 1/4 OF SEC 16.
Ecological: FOUND ON METAMORPHIC ROCK FACE IN CANYON LIVE OAK FOREST ASSOCIATED WITH TOXICODENDRON, HEUCHERA MICRANTHA AND MOSSES ON NORTH-FACING SLOPES. W POPULATION ALSO HAD FRITILLARIA VEGETATIVE LEAVES ON SLOPE.
Threat: E POP: POPULAR SWIMMING SPOT, BUT IT IS ON STEEP ROCK OUTCROPS WITH LIMITED ACCESS. W POP: TRAIL RUNS THROUGH POP.
General: VARIABLE MORPHOLOGY OF BASAL LEAVES. E POPULATION: 100-200 PLANTS SEEN IN 1983. W POPULATION: 100+ PLANTS OBSERVED IN 1993. INCLUDES FORMER EO #17.
Owner/Manager: BLM-FOLSOM RA, PVT

Occurrence No.: 25	Map Index: 31188	EO Index: 3187	Dates Last Seen
Occ Rank: Excellent			Element: 1993-04-25
Origin: Natural/Native occurrence			Site: 1993-04-25
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-05-16

Quad Summary: Washington (3912037/557D), North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.34390° / -120.87294°	Township: 17N
UTM: Zone-10 N4357098 E683299	Range: 10E
Area: 65.3 acres	Section: 17
Elevation: 2,400 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NE
Symbol Type: POLYGON	

Location: SOUTH BANK OF SOUTH YUBA RIVER, WEST OF LITTLE BROWN BEAR CREEK.
Location Detail: MAPPED BETWEEN MISSOURI BAR AND LITTLE BROWN BEAR CREEK ON ROCK OUTCROPS. BAILEY REPORTS THAT EXACT LOCATION WAS DIFFICULT TO PINPOINT DUE TO METHOD OF SURVEY (BY KAYAK). INCLUDES NE 1/4 OF SECTION 17 AND THE NW 1/4 OF SECTION 16.
Ecological: NORTH-FACING, MOSS-COVERED ROCK OUTCROPS ALONG THE RIVER. ASSOCIATED WITH SEDUM, CRASSULA, ARABIS BREWERI VAR. AUSTINAE, ETC.
General: MANY PLANTS ALONG THIS STRETCH OF RIVER AND MUCH POTENTIAL HABITAT IN 1993. NUMBERS OF PLANTS DIFFICULT TO ESTIMATE DUE TO INACCESSABILITY OF HABITAT.
Owner/Manager: USFS-TAHOE NF, PVT

Lewisia cantelovii

Cantelow's lewisia

Element Code: PDPOR04020

Status: _____ NDDB Element Ranks: _____ Other Lists: _____
 Federal: None Global: G3 CNPS List: 1B.2
 State: None State: S3

Habitat Associations

General: BROADLEAFED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, CISMONTANE WOODLAND, CHAPARRAL.
 Micro: MESIC ROCK OUTCROPS AND WET CLIFFS, USUALLY IN MOSS OR CLUBMOSS; ON GRANITICS OR SOMETIMES ON SERPENTINE. 330-1340M.

Occurrence No. 26 Map Index: 31184 EO Index: 3195 Dates Last Seen: _____
 Occ Rank: Excellent Element: 1993-04-25
 Origin: Natural/Native occurrence Site: 1993-04-25
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1995-04-03

Quad Summary: North Bloomfield (3912038/557C)
 County Summary: Nevada

Lat/Long: 39.33352° / -120.96913° Township: 17N
 UTM: Zone-10 N4355755 E675035 Range: 09E
 Area: 31.6 acres Mapping Precision: SPECIFIC Section: 16 Qtr: SW
 Elevation: 2,200 ft Symbol Type: POLYGON Meridian: M

Location: SOUTH BANK OF SOUTH YUBA RIVER, OPPOSITE KENEBEC CREEK AND 0.75 MILE EAST OF EDWARDS CROSSING.
 Location Detail: BAILEY REPORTS THAT EXACT LOCATION WAS DIFFICULT TO LOCATE DUE TO METHOD OF SURVEY (BY KAYAK).
 Ecological: GROWING ON NORTH-FACING MOSS-COVERED ROCKS. ASSOCIATED WITH SEDUM, CRASSULA, ARABIS BREWERI VAR. AUSTINAE, ETC.
 General: MANY PLANTS ALONG THIS STRETCH OF RIVER AND MUCH POTENTIAL HABITAT. NUMBERS OF PLANTS DIFFICULT TO ESTIMATE DUE TO INACCESSABILITY OF HABITAT.
 Owner/Manager: USFS-TAHOE NF, PVT

Occurrence No. 27 Map Index: 31185 EO Index: 3196 Dates Last Seen: _____
 Occ Rank: Excellent Element: 1993-04-25
 Origin: Natural/Native occurrence Site: 1993-04-25
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2009-04-23

Quad Summary: North Bloomfield (3912038/557C)
 County Summary: Nevada

Lat/Long: 39.33588° / -120.95194° Township: 17N
 UTM: Zone-10 N4356051 E676510 Range: 09E
 Area: 87.0 acres Mapping Precision: SPECIFIC Section: 15 Qtr: E
 Elevation: 2,200 ft Symbol Type: POLYGON Meridian: M

Location: SOUTH BANK OF SOUTH YUBA RIVER, ABOUT 1.6-2.3 MILES EAST OF EDWARDS CROSSING.
 Location Detail: MAPPED IN THE NW 1/4 OF SECTION 22 S1/2 AND E1/2 OF SECTION 15. BAILEY REPORTS THAT EXACT LOCATION WAS DIFFICULT TO LOCATE DUE TO METHOD OF SURVEY (BY KAYAK).
 Ecological: GROWING ON NORTH-FACING MOSS COVERED ROCKS. ASSOCIATED WITH SEDUM, CRASSULA, ARABIS BREWERI VAR. AUSTINAE, ETC.
 General: MANY PLANTS ALONG THIS STRETCH OF RIVER AND MUCH POTENTIAL HABITAT. NUMBERS OF PLANTS DIFFICULT TO ESTIMATE DUE TO INACCESSABILITY OF HABITAT. INCLUDES FORMER EO #28.
 Owner/Manager: USFS-TAHOE NF, PVT

Occurrence No. 29 Map Index: 31187 EO Index: 3198 Dates Last Seen: _____
 Occ Rank: Excellent Element: 1993-04-25
 Origin: Natural/Native occurrence Site: 1993-04-25
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1995-05-16

Quad Summary: North Bloomfield (3912038/557C)
 County Summary: Nevada

Lat/Long: 39.33708° / -120.91080° Township: 17N
 UTM: Zone-10 N4356265 E680054 Range: 09E
 Area: 49.6 acres Mapping Precision: SPECIFIC Section: 13 Qtr: E
 Elevation: 2,200 ft Symbol Type: POLYGON Meridian: M

Location: SOUTH BANK OF SOUTH YUBA RIVER, WEST OF NEW YORK CANYON AND 4 AIR MILES WEST OF EDWARDS CROSSING.
 Location Detail: WITHIN THE MIDDLE OF THE E 1/2 OF SECTION 13 (T17N, R9E) AND THE NW 1/4 OF THE SW 1/4 OF SECTION 18 (T17N, R10E). BAILEY REPORTS THAT EXACT LOCATION WAS DIFFICULT TO LOCATE DUE TO METHOD OF SURVEY (BY KAYAK).
 Ecological: GROWING ON NORTH-FACING MOSS COVERED ROCKS. ASSOCIATED WITH SEDUM, CRASSULA, ARABIS BREWERI VAR. AUSTINAE, ETC.
 General: MANY PLANTS ALONG THIS STRETCH OF RIVER AND MUCH POTENTIAL HABITAT. NUMBER OF PLANTS DIFFICULT TO ESTIMATE DUE TO INACCESSABILITY OF HABATAT.
 Owner/Manager: USFS-TAHOE NF, PVT

Lycopodiella inundata

inundated bog-clubmoss

Element Code: PPLYC03060

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CNPS List: 2.2
State: None	State: S1?	

Habitat Associations
 General: BOGS AND FENS, LOWER MONTANE CONIFEROUS FOREST, MARSHES AND SWAMPS.
 Micro: PEAT BOGS, MUDDY DEPRESSIONS, POND MARGINS. 0-1000M.

Occurrence No. 1	Map Index: 37265	EO Index: 32265	Dates Last Seen
Occ Rank: Unknown			Element: XXXX-XX-XX
Origin: Natural/Native occurrence			Site: XXXX-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-05-03

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.36036° / -120.98023°	Township: 17N
UTM: Zone-10 N4358713 E674011	Range: 09E
Radius: 1 mile	Section: 04
Elevation: 2,700 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: EAST PIT OF NORTH COLOMBIA DIGGINGS, NORTHEAST OF NEVADA CITY.
Location Detail: EXACT LOCATION UNKNOWN; NEED BETTER DATA.
Ecological: MARSHY FLATS WITH RHYNCOSPORA GLOMERA VAR. MINOR, JUNCUS MARGINATUS, J. MACRANDUS, J. ACUMINATUS, CAREX LAEVICULMIS, SCIRPUS DIFFUSUS, PANICUM PACIFICUM, DANTHONIA CALIFORNICA VAR. AMERICANA, ANDROPOGON VIRGINICUS, AND DROSERA ROTUNDIFOLIA.
Threat: MINING IN AREA, DOES NOT APPEAR TO THREATEN THE SITE.
General: POSSIBLY THE LARGEST AND HEALTHIEST POPULATION OF LYCOPODIELLA INUNDATA IN CALIFORNIA. MAIN SOURCE OF INFORMATION FOR THIS SITE IS ARTICLE IN FREMONTIA BY D. PENDELL "A FRESHWATER MARSH AT NORTH COLOMBIA DIGGINGS".
Owner/Manager: PVT

Occurrence No. 4	Map Index: 12520	EO Index: 60999	Dates Last Seen
Occ Rank: Unknown			Element: 1982-10-11
Origin: Natural/Native occurrence			Site: 1982-10-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-04-14

Quad Summary: North Bloomfield (3912038/557C), Pike (3912048/557B)
County Summary: Nevada

Lat/Long: 39.37128° / -120.90467°	Township: 17N
UTM: Zone-10 N4360073 E680494	Range: 10E
Radius: 1 mile	Section: 06
Elevation: 3,360 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: NW
Symbol Type: POINT	

Location: NEAR MALAKOFF DIGGINGS.
General: 1982 RAICHE COLLECTION IS THE ONLY SOURCE FOR THIS SITE. NEEDS FIELDWORK.
Owner/Manager: DPR, USFS, BLM

Rana boylei

foothill yellow-legged frog

Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.
Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 328	Map Index: 46514	EO Index: 46514	Dates Last Seen
Occ Rank: Fair			Element: 2001-11-02
Origin: Natural/Native occurrence			Site: 2001-11-02
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2001-11-14

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.36138° / -120.88111°	Township: 17N
UTM: Zone-10 N4359022 E682549	Range: 10E
Radius: 80 meters	Section: 05 Qtr: SW
Elevation: 3,600 ft	Mapping Precision: SPECIFIC
	Symbol Type: POINT
	Meridian: M

Location: MISSOURI CANYON (CREEK), 0.75 MILE NW OF PLEASANT PEAK, TAHOE NATIONAL FOREST
Location Detail: POOL WHERE FROGS WERE FOUND IS LOCATED ON THE UPHILL (NORTH) SIDE OF RELIEF HILL ROAD, AT THE TOP OF A WATERFALL.
Ecological: HABITAT SURROUNDING THE POOL CONSISTS OF RIPARIAN WOODLAND.
Threat: THREATENED BY LOGGING (LOGGING DEBRIS FOUND IN CREEK/POOL WHERE FROGS WERE FOUND)
General: 4 ADULT FROGS OBSERVED ON 2 NOV 2001
Owner/Manager: USFS-TAHOE NF

Occurrence No. 458	Map Index: 69656	EO Index: 70436	Dates Last Seen
Occ Rank: Unknown			Element: 2008-09-16
Origin: Natural/Native occurrence			Site: 2008-09-16
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-05-11

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.33817° / -120.93193°	Township: 17N
UTM: Zone-10 N4356344 E678229	Range: 09E
Area: 81.0 acres	Section: 14 Qtr: NE
Elevation: 2,160 ft	Mapping Precision: SPECIFIC
	Symbol Type: POLYGON
	Meridian: M

Location: NW BANK OF S YUBA RIVER AT HUMBUG CREEK CONFLUENCE, ~6.5 MILES NE OF NEVADA CITY, ~4.2 MI N OF SCOTTS FLAT RESERVOIR.
Location Detail: FROGS SEEN ON SEVERAL PRIOR OCCASIONS AT THIS LOCATION ALONG SOUTH YUBA RIVER & HUMBUG CREEK. MAPPED TO PROVIDED COORDINATES.
Ecological: HABITAT CONSISTED OF RIVERINE; SOMEWHAT DEGRADED BECAUSE OF HISTORIC UPSTREAM MINING ACTIVITY (MALAKOFF DIGGINS). DESCRIBED AS LOW TO HIGH GRADIENT RIFFLES, EDGEWATER, POOLS, RUN, GLIDE. ROCKY SUBSTRATE VARIED.
Threat: THREATENED BY MECHANICAL DREDGING, HIKERS, AND DOGS.
General: 3 JUVENILES OBSERVED ON 3 APR 2004. 3 ADULTS, 3 JUV, 6 EGG MASSES OBS ON 2 JUN 2008. 5 ADULTS, 2 JUV, 22 LARVAE OBS ON 23 JUN 2008. 32 ADULTS, 159 JUV, 2 LARVAE OBS ON 16 SEP 2008. 117 JUV OBS IN TRANSECT LINE ON 16 SEP 2008.
Owner/Manager: BLM, DPR-MALAKOFF DIGGINS SHP

Rana boylei

foothill yellow-legged frog

Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.

Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No.: 508	Map Index: 74028	EO Index: 75013	Dates Last Seen
Occ Rank: Unknown			Element: 2008-09-09
Origin: Natural/Native occurrence			Site: 2008-09-09
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-03-19

Quad Summary: North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.33212° / -120.98949°	Township: 17N
UTM: Zone-10 N4355561 E673282	Range: 09E
Area: 91.0 acres	Section: 17
Elevation: 1,940 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: SE
Symbol Type: POLYGON	

Location: ALONG SOUTH YUBA RIVER, AT SOUTH YUBA RIVER & SPRING CREEK CROSSING, ABOUT 4.8 MI NNE OF NEVADA CITY.

Location Detail: MAPPED TO PROVIDED COORDINATES, MOSTLY THROUGH SE1/4 SEC 17, BUT ALSO IN NE1/4 SEC 20.

Ecological: HABITAT CONSISTED OF LOW TO HIGH GRADIENT RIFFLES, POOLS, RUNS, EDGEWATER, & GLIDES WITH EXPOSED & PROTECTED BANKS. STREAM SUBSTRATES CONSISTED OF BOULDER, GRAVEL, SAND, COBBLE & BEDROCK.

General: ON 20 JUN 2008 41 ADULTS, 8 JUVENILES, 310 LARVAE OBSERVED. 8 JUL 2008 32 ADULTS, 4 JUVENILES, 29 LARVAE OBSERVED. 9 SEP 2008 57 ADULTS, 54 JUVENILES, 1 LARVA OBSERVED.

Owner/Manager: DPR-SOUTH YUBA RIVER SP

Rana draytonii

California red-legged frog

Element Code: AAABH01022

Status
 Federal: Threatened
 State: None

NDDB Element Ranks
 Global: G4T2T3
 State: S2S3

Other Lists
 CDFG Status: SC

Habitat Associations

General: LOWLANDS & FOOTHILLS IN OR NEAR PERMANENT SOURCES OF DEEP WATER WITH DENSE, SHRUBBY OR EMERGENT RIPARIAN VEGETATION.
Micro: REQUIRES 11-20 WEEKS OF PERMANENT WATER FOR LARVAL DEVELOPMENT. MUST HAVE ACCESS TO ESTIVATION HABITAT.

Occurrence No. 658

Map Index: 52075

EO Index: 52075

Dates Last Seen

Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown

Element: 2007-08-30
Site: 2007-08-30

Record Last Updated: 2009-01-15

Quad Summary: North Bloomfield (3912038/557C)

County Summary: Nevada

Lat/Long: 39.31316° / -120.96138°

UTM: Zone-10 N4353510 E675754

Radius: 80 meters

Elevation: 3,050 ft

Township: 17N

Range: 09E

Section: 27

Qtr: NW

Mapping Precision: SPECIFIC

Symbol Type: POINT

Meridian: M

Location: EAST SIDE OF SAILOR FLAT, BETWEEN THE SOUTH YUBA RIVER AND HARMONY RIDGE.

Location Detail: THIS POND IS 1 OF 3 PONDS (2 PERENNIAL, 1 EPHEMERAL) LOCATED AT THIS SITE; THE POND CONTAINING FROGS IS IN A PERENNIAL POND BEHIND THE BARN.

Ecological: HABITAT CONSISTS OF A PERENNIAL POND (~20' X 25'); OVERSTORY CONSISTS OF CONIFEROUS FOREST, WITH WILLOW AND BLACKBERRY AROUND THE POND EDGE. WATER MILFOIL AND TYPHA DOMINATE THE POND VEGETATION. 22 WPT PRESENT IN 2006.

Threat: POTENTIAL THREATS INCLUDE TIMBER HARVEST, HOUSING DEVELOPMENT, AND NON-NATIVE AQUATIC PLANT INVASION.

General: 4 ADULTS AND 1 TADPOLE OBSERVED ON 16 JUN 2003. 16 ADULTS AND 19 JUVENILES OBSERVED ON 25-26 OCT 2006, DURING A POND RESORATION PROJECT TO REMOVE PARROTHEAD PLANT. 9 ADULTS AND 40 JUVENILES OBSERVED 30 AUG 2007 IN A POST RESTORATION SURVEY.

Owner/Manager: PVT

Rhynchospora capitellata

brownish beaked-rush

Element Code: PMCYP0N080

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CNPS List: 2.2
State: None	State: S2S3	

Habitat Associations

General: LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, MARSHES AND SWAMPS, UPPER MONTANE CONIFEROUS FOREST.
Micro: MESIC SITES. 455-2000M.

Occurrence No.: 6	Map Index: 50475	EO Index: 50475	Dates Last Seen
Occ Rank: Unknown			Element: 1979-06-17
Origin: Natural/Native occurrence			Site: 1979-06-17
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-03-06

Quad Summary: Nevada City (3912131/558D), Pike (3912048/557B), Camptonville (3912141/558A), North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.36591° / -121.00454°	Township: 17N
UTM: Zone-10 N4359282 E671903	Range: 09E
Radius: 1 mile	Section: 06 Qtr: XX
Elevation: 2,900 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	
Symbol Type: POINT	

Location: NORTH COLUMBIA DIGGINGS.

Location Detail: IN MARSH ON WEST SIDE OF EAST PIT. MAPPED BY CNDDDB AS BEST GUESS AROUND NORTH COLUMBIA DIGGINGS; NEED MAP DETAIL.

General: SITE BASED ON A 1979 PENDEU COLLECTION. OTHER SITE INFO ATTRIBUTED HERE INCLUDES "MEADOW NEAR NORTH COLUMBIA ON THE SAN JUAN RIDGE", "BUCKEYE DIGGINGS", & "BUCKEYE RIDGE EAST OF DIGGINGS." NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Vulpes vulpes necator

Sierra Nevada red fox

Element Code: AMAJA03012

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5T3	CDFG Status:
State: Threatened	State: S1	

Habitat Associations

General: FOUND FROM THE CASCADES DOWN TO THE SIERRA NEVADA. FOUND IN A VARIETY OF HABITATS FROM WET MEADOWS TO FORESTED AREAS.
Micro: USE DENSE VEGETATION & ROCKY AREAS FOR COVER & DEN SITES. PREFER FORESTS INTERSPERSED W/ MEADOWS OR ALPINE FELL-FIELDS.

Occurrence No. 123	Map Index: 75976	EO Index: 76979	Dates Last Seen
Occ Rank: Unknown			Element: 1989-07-21
Origin: Natural/Native occurrence			Site: 1989-07-21
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-07-27

Quad Summary: Washington (3912037/557D), North Bloomfield (3912038/557C)
County Summary: Nevada

Lat/Long: 39.29472° / -120.88089°	Township: 17N
UTM: Zone-10 N4351624 E682741	Range: 10E
Area:	Section: 32 Qtr: XX
Elevation: 3,200 ft	Mapping Precision: NON-SPECIFIC
	Symbol Type: POLYGON
	Meridian: M

Location: VICINITY OF WEST END OF BURLINGTON RIDGE, NEAR CONFLUENCE OF NORTH & SOUTH FORKS OF DEER CREEK, TAHOE NATIONAL FOREST.

Location Detail: LOCATION DESCRIBED AS "T17 R10 SEC32, BURLINGTON RIDGE." MAPPED TO T17N R10E SEC32 IN IT'S ENTIRELY, AT THE WEST END OF BURLINGTON RIDGE.

General: POSSIBLE RED FOX OBSERVED ON 21 JUL 1989 BY P. HERNANDEZ; NOTED IN TAHOE NATIONAL FOREST WILDLIFE SIGTINGS DATABASE WITH A NOTE THAT SOME OF THE RED FOX SIGHTINGS MAY NOT BE RELIABLE.

Owner/Manager: USFS-TAHOE NF

Calystegia stebbinsii

Stebbins' morning-glory

Element Code: PDCON040H0

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G1	CNPS List: 1B.1
State: Endangered	State: S1	

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: ON RED CLAY SOILS OF THE PINE HILL FORMATION; GABBRO OR SERPENTINE; OPEN AREAS. 180-725M.

Occurrence No. 18	Map Index: 22742	EO Index: 8302	Dates Last Seen
Occ Rank: Good			Element: 2008-07-28
Origin: Natural/Native occurrence			Site: 2008-07-28
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2010-05-20

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long: 39.20850° / -121.11338°	Township: 16N
UTM: Zone-10 N4341610 E662890	Range: 08E
Area: 30.0 acres	Section: 31
Elevation: 2,380 ft	Meridian: M
	Qtr: XX
Mapping Precision: SPECIFIC	
Symbol Type: POLYGON	

Location: ALONG SOUTH PONDEROSA WAY, EXTENDING ABOUT 0.7 MILE WEST FROM JUNCTION WITH SQUIRREL CREEK RD, NE END OF DEADMANS FLAT.

Location Detail: ALONG EITHER SIDE OF SOUTH PONDEROSA WAY. MAPPED BY CNDDDB AS 3 POLYGONS TO ENCOMPASS INFO FROM HISCOX (1989) & CALLAHAN (2007). IN 2007 CALLAHAN MENTIONS THAT THERE ARE LIKELY MORE PLANTS IN AREA; ADDITIONAL FIELD WORK NEEDED.

Ecological: GABBROIC CHAPARRAL; CLEARINGS/OPENINGS IN CHAPARRAL WITH CUPRESSUS MACNABIANA, ARCTOSTAPHYLOS VISCIDA, CEANOTHUS SPP., QUERCUS SPP., PINUS SPP., GARRYA SPP., PICKERINGIA MONTANA, CAREX BRAINERDII, FREMONTODENDRON CALIFORNICUM, ETC.

Threat: DEVELOPMENT & COUNTY PUBLIC WORKS PROJECTS MAY THREATEN SITE. ALSO THREATENED BY ROAD USE, ROAD MAINTENANCE, & ORV USE.

General: 1 PLANT SEEN IN 1989. 2 PLANTS SEEN IN N PORTION OF OCC IN 1991, 1 PLANT SEEN IN SE-MOST POLY IN 1991; EXTENSIVE SURVEY NOT PERFORMED. 20+ PLANTS SEEN IN 2 NW POLYS IN 2007. UNK # SEEN IN 2008 IN N PORTION OF OCC. INCLUDES FORMER OCC #19.

Owner/Manager: PVT, BLM

Occurrence No. 20	Map Index: 22744	EO Index: 20409	Dates Last Seen
Occ Rank: None			Element: 1991-06-07
Origin: Natural/Native occurrence			Site: 2004-06-16
Presence: Possibly Extirpated			
Trend: Unknown			Record Last Updated: 2004-09-27

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long: 39.18628° / -121.10943°	Township: 15N
UTM: Zone-10 N4339151 E663283	Range: 08E
Radius: 80 meters	Section: 05
Elevation: 2,240 ft	Meridian: M
	Qtr: NE
Mapping Precision: SPECIFIC	
Symbol Type: POINT	

Location: NW OF MCCOURTNEY ROAD, 2.8 KM (1.7 MI) SOUTH OF LAST CHANCE MINE ON TOPO MAP, 4 KM (2.5 MI) SW OF GRASS VALLEY.

Location Detail: WEST SIDE OF SOUTH PONDEROSA ROAD, 1.2 KM (0.8 MI) FROM MCCOURTNEY RD, JUST NORTH OF #14366 AT BASE OF TELEPHONE POLE #12.

Ecological: GROWING ON SERPENTINE SOILS IN ASSOCIATION WITH ARCTOSTAPHYLOS SP., AND PINUS SABINIANA. ASSUME IT'S ON GABBRO, BUT POSSIBLY ON SERPENTINE.

Threat: PRESENT LAND USE IS RURAL RESIDENTIAL. HUMAN ALTERATION (ROCK PILE) AND GOAT GRASS ARE ALSO THREATS.

General: 1 PLANT SEEN IN 1991. EXTENSIVE SURVEY WAS NOT DONE, HISCOX BELIEVES MORE PLANTS COULD BE PRESENT IN AREA. NO PLANTS SEEN IN 2004. SITE WHERE POPULATION WAS MAPPED APPEARS ALTERED AND DEGRADED, POTENTIALLY NO LONGER SUITABLE HABITAT.

Owner/Manager: UNKNOWN

Calystegia stebbinsii

Stebbins' morning-glory

Element Code: PDCON040H0

Status	NDDB Element Ranks	Other Lists
Federal: Endangered	Global: G1	CNPS List: 1B.1
State: Endangered	State: S1	

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: ON RED CLAY SOILS OF THE PINE HILL FORMATION; GABBRO OR SERPENTINE; OPEN AREAS. 180-725M.

Occurrence No. 21	Map Index: 22745	EO Index: 8145	Dates Last Seen
Occ Rank: None			Element: 1991-06-12
Origin: Natural/Native occurrence			Site: 2004-06-16
Presence: Possibly Extirpated			
Trend: Unknown			Record Last Updated: 2004-09-28

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

Lat/Long: 39.18139° / -121.10554°	Township: 15N
UTM: Zone-10 N4338615 E663631	Range: 08E
Area: 6.6 acres	Section: 05 Qtr: SE
Elevation: 2,200 ft	Meridian: M
Mapping Precision: SPECIFIC	
Symbol Type: POLYGON	

Location: 0.5 KM (0.25 MI) SOUTH OF FRENCH RAVINE ALONG EITHER SIDE OF MCCOURTNEY ROAD, SOUTHWEST OF GRASS VALLEY.
Location Detail: ALONG EITHER SIDE OF MCCOURTNEY ROAD NEAR #14015 AND ACROSS THE ROAD NEAR TELEPHONE POLE #14067.
Ecological: GROWING IN OPEN GRASS WHICH HAD RECENTLY BEEN CLEARED OF ARCTOSTAPHYLOS SP., CUPRESSUS MACNABIANA, AND PINUS SABINIANA. SOILS ARE BELIVED TO BE SERPENTINE DERIVED.
Threat: PRESENT LAND USE IS RURAL RESIDENTIAL. IN 2004 AREA ON EAST SIDE OF ROAD HAD BEEN COMPLETELY LANDSCAPED.
General: 22 PLANTS SEEN IN 1991. MANY MORE PLANTS MAY BE IN AREA ACCORDING TO HISCOX, MOSTLY BLOOMING PLANTS WERE NOTED IN 1991. PLANTS NOT SEEN IN 2004; EAST SIDE OF ROAD IS COMPLETELY LANDSCAPED, BUT SUITABLE HABITAT REMAINS ON THE WEST SIDE.
Owner/Manager: UNKNOWN

Occurrence No. 22	Map Index: 22746	EO Index: 8144	Dates Last Seen
Occ Rank: Fair			Element: 2007-05-15
Origin: Natural/Native occurrence			Site: 2007-05-15
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2007-07-16

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

Lat/Long: 39.17366° / -121.11051°	Township: 15N
UTM: Zone-10 N4337748 E663219	Range: 08E
Area: 34.9 acres	Section: 05 Qtr: SE
Elevation: 2,300 ft	Meridian: M
Mapping Precision: SPECIFIC	
Symbol Type: POLYGON	

Location: MCCOURTNEY ROAD LANDFILL AND VICINITY, 1 MILE SOUTH OF FRENCH RAVINE ALONG MCCOURTNEY ROAD, SOUTHWEST OF GRASS VALLEY.
Location Detail: SEVERAL LOCATIONS INCLUDING 14383 MCCOURTNEY RD, MCCOURTNEY AND VAN TAM WAY, MCCOURTNEY AND WOLF MOUNTAIN RD, WOLF MOUNTAIN RD AT AMERICAN RANCH HILL RD, COUNTY ANIMAL SHELTER, COUNTY LANDFILL, AND ACROSS THE STREET FROM FIRE STATION.
Ecological: GROWING ON SERPENTINE SOILS (POSSIBLY ALSO GABBRO) WITHIN SERPENTINE CHAPARRAL. WITH CUPRESSUS MACNABIANA, ARCTOSTAPHYLOS VISCIDA, PINUS SABINIANA, QUERCUS GARRYANA, PENSTEMON SPP., RHAMNUS ILICIFOLIA, PICKERINGIA MONTANA, ET AL.
Threat: INCREASING DEVEL. PRESSURE INCLUDING CONSTRUCTION OF THE ANIMAL SHELTER, HOMES, LANDFILL & ROAD MAINTENANCE ARE THREATS.
General: MANY PLANTS SEEN IN 1988; ABOUT 218 PLANTS IN 1991; 3 AT SW COLONY IN 1996; 20 IN 2004, 5 IN 2007. 1966 COLLECTION BY DEMPSTER & STEBBINS AT ENTRANCE TO WOLF MTN RD ATTRIBUTED TO THIS SITE. THE RARE FREMONTODENDRON DECUMBENS OCCURS NEARBY.
Owner/Manager: NEV COUNTY, PVT

Calystegia stebbinsii

Stebbins' morning-glory

Element Code: PDCON040H0

Status	NDDDB Element Ranks	Other Lists
Federal: Endangered	Global: G1	CNPS List: 1B.1
State: Endangered	State: S1	

Habitat Associations
 General: CHAPARRAL, CISMONTANE WOODLAND.
 Micro: ON RED CLAY SOILS OF THE PINE HILL FORMATION; GABBRO OR SERPENTINE; OPEN AREAS. 180-725M.

Occurrence No. : 25	Map Index: 42024	EO Index: 42024	Dates Last Seen
Occ Rank: Poor			Element: 2008-07-16
Origin: Natural/Native occurrence			Site: 2008-07-16
Presence: Presumed Extant			Record Last Updated: 2008-12-04
Trend: Unknown			

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

Lat/Long: 39.17054° / -121.12156°	Township: 15N
UTM: Zone-10 N4337382 E662271	Range: 08E
Radius: 80 meters	Section: 08
Elevation: 2,220 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NW
Symbol Type: POINT	

Location: MCCOURTNEY ROAD AT PATTERSON VALLEY ROAD, 4 MILES SOUTHWEST OF NEVADA COUNTY FAIRGROUNDS, SOUTHWEST OF GRASS VALLEY.

Location Detail: EAST CORNER OF INTERSECTION. PLANTS ARE A FEW FEET FROM CULVERT AND ROAD DITCH. PATTERSON VALLEY ROAD IS ABOUT 1 MILE FROM "COUNTY TRANSFER STATION". MAPPED WITHIN THE NW 1/4 OF NW 1/4 SECTION 8.

Ecological: CHAPARRAL W/ PINUS SABINANA, CEANOOTHUS CUNEATUS, C. LEMMONII, ARCTOSTAPHYLOS VISCIDA, RHAMNUS SPP., HELIANTHELLA CALIFORNICA, MONARDELLA SPP., LINUM BIENNE, PICKERINGIA MONTANA, AND CALOCHORTUS SUPERBUS. SECCA SOIL SERIES ON GABBRO DIORITE.

Threat: HOME BUILDING IN AREA. PLANTS NEAR CULVERT AND ROAD DITCH. HEAVY TRAFFIC ON MCCOURTNEY ROAD & ROAD CLEARING, SPRAYING.

General: 4 PLANTS SEEN IN 1999. 2 PLANTS SEEN IN 2008.

Owner/Manager: UNKNOWN

Clarkia biloba ssp. brandegeae		
Brandegee's clarkia	Element Code: PDONA05053	
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T3	CNPS List: 1B.2
State: None	State: S3	
Habitat Associations		
General: CHAPARRAL, CISMONTANE WOODLAND.		
Micro: OFTEN IN ROADCUTS. 295-885M.		

Occurrence No.: 48	Map Index: 65011	EO Index: 65090	Dates Last Seen
Occ Rank: Unknown			Element: 2005-06-16
Origin: Natural/Native occurrence			Site: 2005-06-16
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2007-08-28

Quad Summary: Grass Valley (3912121/542A), Lake Combie (3912111/542D)
County Summary: Nevada

Lat/Long: 39.12255° / -121.02809°	Township: 15N
UTM: Zone-10 N4332228 E670462	Range: 09E
Area: 13.2 acres	Section: 30
Elevation: 1,656 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: SW
Symbol Type: POLYGON	

Location: CLOVER VALLEY ROAD, ALTA SIERRA SUBDIVISION.
Location Detail: MAPPED AT TWO LOCATIONS ALONG CLOVER VALLEY ROAD IN THE SW 1/4 OF SECTION 30 AND THE NE 1/4 OF SECTION 25.
Ecological: TYPICAL HABITAT OF OPEN, EXPOSED SLOPES AND ROAD BANKS/CUTS.
Threat: DEVELOPMENT.
General: OVER 1,000 PLANTS SEEN IN 2005.
Owner/Manager: UNKNOWN

<i>Fremontodendron decumbens</i>		Element Code: PDSTE03030	
Pine Hill flannelbush			
Status		NDDB Element Ranks	
Federal:	Endangered	Global:	G1
State:	Rare	State:	S1
Habitat Associations		Other Lists	
General: CHAPARRAL, CISMONTANE WOODLAND.		CNPS List: 1B.2	
Micro: ROCKY RIDGES; GABBRO OR SERPENTINE ENDEMIC; OFTEN AMONG ROCKS AND BOULDERS. 420-685M.			

Occurrence No.:	13	Map Index:	30490	EO Index:	3876	Dates Last Seen:	
Occ Rank:	Poor					Element:	2010-05-26
Origin:	Natural/Native occurrence					Site:	2010-05-26
Presence:	Presumed Extant					Record Last Updated:	2010-07-22
Trend:	Unknown						

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long:	39.17396° / -121.10835°	Township:	15N
UTM:	Zone-10 N4337785 E663405	Range:	08E
Area:	21.0 acres	Section:	05
Elevation:	2,260 ft	Meridian:	M
	Mapping Precision: SPECIFIC	Qtr:	SE
	Symbol Type: POLYGON		

Location: NEVADA COUNTY LANDFILL AND ANIMAL SHELTER ON MCCOURTNEY ROAD, SW OF GRASS VALLEY, NEAR VAN TAM WAY.
Location Detail: 2 COLONIES. WESTERN COLONY IS BETWEEN LANDFILL AND ANIMAL SHELTER. EASTERN COLONY IS INSIDE LANDFILL BOUNDARY, IN VICINITY OF FENCED ENDANGERED PLANT PROTECTION AREAS.
Ecological: GABBRO CHAPARRAL. ASSOC WITH CUPRESSUS MACNABIANA, ERIOICTYON, ARCTOSTAPHYLOS VISCIDA, CEANOTHUS LEMMONII, NAVARRETIA, TRITELEIA, BRODIAEA, GRASSES, MADIA; ALSO THE RARE CALYSTEGIA STEBBINSII, ALLIUM SANBORNII, AND PERIDERIDIA BACIGALUPII.
Threat: THREATENED BY LACK OF MANAGEMENT, LACK OF DISTURBANCE / SUCCESSION, INVASION BY NON-NATIVES.
General: E COLONY: ~10 PLANTS SEEN IN 1994, 1 IN 1999, 3 IN 2004. W COLONY: 7 SEEN IN 2004, 2 SEEN IN 2010. THE IDENTITY OF THESE PLANTS HAS BEEN QUESTIONED; TRAITS APPEAR INTERMEDIATE BETWEEN FREMONTODENDRON DECUMBENS AND F. CALIFORNICUM.
Owner/Manager: NEV COUNTY

Occurrence No.:	14	Map Index:	41294	EO Index:	41294	Dates Last Seen:	
Occ Rank:	Fair					Element:	2009-06-03
Origin:	Natural/Native occurrence					Site:	2009-06-03
Presence:	Presumed Extant					Record Last Updated:	2010-07-28
Trend:	Unknown						

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long:	39.21789° / -121.04598°	Township:	16N
UTM:	Zone-10 N4342776 E668688	Range:	08E
Area:	3.1 acres	Section:	26
Elevation:	2,520 ft	Meridian:	M
	Mapping Precision: SPECIFIC	Qtr:	SE
	Symbol Type: POLYGON		

Location: NORTH OF BENNETT ROAD, ABOUT 0.4 MILES EAST OF THE ELM RIDGE CEMETERY, GRASS VALLEY.
Location Detail: TWO COLONIES MAPPED WITHIN THE NW 1/4 SE 1/4 SECTION 26 ACCORDING TO A 1999 CALLAHAN MAP.
Ecological: GROWING IN CHAPARRAL WITH CEANOTHUS CUNEATUS, ARCTOSTAPHYLOS VISCIDA, PINUS PONDEROSA, P. SABINIANA, QUERCUS DURATA, Q. GARRYANA VAR. BREWERI, PICKERINGIA MONTANA, WYETHIA BOLANDERI, RHAMNUS, CUPRESSUS MACNABIANA, AND TOXICODENDRON.
Threat: PLANTS ARE LOCATED WITHIN FLAGGING FOR A TIMBER HARVEST ZONE. NEARBY DEVELOPMENT & PROPOSED MINE RE-OPENING ARE THREATS.
General: SW COLONY: 3 PLANTS IN 1999 & 2008. NE COLONY: 7 IN 1999, ~100 IN 2009. IDENTITY OF THESE PLANTS HAS BEEN QUESTIONED; MAY BE F. CALIFORNICUM BASED ON HAIRS. PROBABLY A DISTINCT POP OF F. DECUMBENS OR F. DECUMBENS X F. CALIFORNICUM HYBRID.
Owner/Manager: PVT

Fremontodendron decumbens

Pine Hill flannelbush

Element Code: PDSTE03030

Status	NDDB Element Ranks	Other Lists
Federal: Endangered State: Rare	Global: G1 State: S1	CNPS List: 1B.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.
Micro: ROCKY RIDGES; GABBRO OR SERPENTINE ENDEMIC; OFTEN AMONG ROCKS AND BOULDERS. 420-685M.

Occurrence No. 15	Map Index: 60311	EO Index: 60347	Dates Last Seen
Occ Rank: Fair			Element: 2004-06-16
Origin: Natural/Native occurrence			Site: 2004-06-16
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2005-03-01

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

Lat/Long: 39.17079° / -121.11463°	Township: 15N
UTM: Zone-10 N4337423 E662869	Range: 08E
Radius: 80 meters	Section: 08 Qtr: NW
Elevation: 2,400 ft	Meridian: M
Mapping Precision: SPECIFIC	
Symbol Type: POINT	

Location: ALONG MCCOURTNEY ROAD, NEAR NEVADA COUNTY LANDFILL.
Location Detail: SOUTH OF MCCOURTNEY ROAD ON NORTH FACING HILLSIDE IN NE 1/4 OF NW 1/4 OF SEC 8 IN RARE PLANT PRESERVE AREA.
Ecological: ARCTOSTAPHYLOS AND CEANOTHUS CHAPARRAL.
Threat: LACK OF MANAGEMENT, LACK OF DISTURBANCE / SUCCESSION, INVASION BY NON-NATIVES.
General: 3 PLANTS OBSERVED IN 2004 WITHIN FENCED-OFF PRESERVE AREA.
Owner/Manager: NEV COUNTY

Juncus digitatus

finger rush

Element Code: PMJUN013E0

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G1	CNPS List: 1B.1
State: None	State: S1	

Habitat Associations

General: CISMONTANE WOODLAND (OPENINGS), LOWER MONTANE CONIFEROUS FOREST (OPENINGS), VERNAL POOLS.
Micro: IN FULL SUN, IN THE VERNALLY DAMP GROUND OF SEEPS, VERNAL POOLS AND SWALES ON GENTLE SLOPES OVER VOLCANIC BEDROCK. 600-8

Occurrence No.: 3	Map Index: 83108	EO Index: 84104	Dates Last Seen
Occ Rank: Excellent			Element: 2011-06-01
Origin: Natural/Native occurrence			Site: 2011-06-01
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2011-06-24

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

Lat/Long: 39.22366° / -121.02610°	Township: 16N
UTM: Zone-10 N4343453 E670390	Range: 08E
Radius: 80 meters	Section: 25
Elevation: 2,620 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NE
Symbol Type: POINT	

Location: JUST SE OF THE INTERSECTION OF IDAHO MARYLAND ROAD AND BRUNSWICK ROAD, GRASS VALLEY.
Location Detail: MAPPED IN THE WEST 1/2 OF THE NE 1/4 OF SECTION 25 ACCORDING TO 2011 BRONNY COORDINATES.
Ecological: OPEN CHAPARRAL HABITAT SURROUNDED BY MIXED OAK / CONIFER WOODLAND ON A LOW GRADIENT, NORTH-FACING, VERNALLY MOIST HILLSLOPE. SANDY CLAY LOAM SOIL SUBSTRATES UNDERLAIN BY GRANITIC BEDROCK 6-13" BELOW SURFACE. MIX OF UPLAND / HYDROPHYTES.
Threat: INFRASTRUCTURE DEVELOPMENT PROJECTS AND ALTERATION OF UPSLOPE MICRO-WATERSHED HYDROLOGY ARE THREATS.
General: APPROXIMATELY 20,000 PLANTS OBSERVED IN 2011. ID CONFIRMED BY CAROL WITHAM AND ELLEN DEAN.
Owner/Manager: NEVADA IRRIGATION DIST

Laterallus jamaicensis coturniculus

California black rail

Element Code: ABNME03041

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4T1	CDFG Status:
State: Threatened	State: S1	

Habitat Associations

General: INHABITS FRESHWATER MARSHES, WET MEADOWS & SHALLOW MARGINS OF SALTWATER MARSHES BORDERING LARGER BAYS.
Micro: NEEDS WATER DEPTHS OF ABOUT 1 INCH THAT DOES NOT FLUCTUATE DURING THE YEAR & DENSE VEGETATION FOR NESTING HABITAT.

Occurrence No. 135	Map Index: 68011	EO Index: 68166	Dates Last Seen
Occ Rank: Good			Element: 2007-01-23
Origin: Natural/Native occurrence			Site: 2007-01-23
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-09-24

* SENSITIVE *

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

* SENSITIVE *	Lat/Long:	Mapping Precision:	Township:
	UTM:		Range:
	Radius:	Symbol Type:	Section:
	Elevation:		Qtr:

Location: *SENSITIVE* Location information suppressed.
Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.
Ecological: MEADOW/EMERGENT WETLAND HABITAT ASSOCIATED WITH SEEPAGE FROM A POND, DOMINATED BY TYPHA DOMINGENSIS, CAREX SP., JUNCUS EFFUSUS PACIFICUS, EPILOBIUM SPP, SALIX LESIDEPIS, AND RUBUS DISCOLOR; SURROUNDED BY HOMES. BISECTED BY A ROAD.
Threat: UPLAND, NOXIOUS WEEDS INVADING MEADOW. SIPHON IN MEADOW DEGRADING WETLAND HABITAT. DEVELOPMENT PROPOSED IN 2007.
Owner/Manager:

Occurrence No. 264	Map Index: 76676	EO Index: 77622	Dates Last Seen
Occ Rank: Unknown			Element: XXXX-XX-XX
Origin: Natural/Native occurrence			Site: XXXX-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-09-23

Quad Summary: Grass Valley (3912121/542A)
County Summary: Nevada

Lat/Long: 39.15650° / -121.07821°	Mapping Precision: NON-SPECIFIC	Township: 15N
UTM: Zone-10 N4335903 E666050		Range: 08E
Radius: 2/5 mile	Symbol Type: POINT	Section: 15
Elevation: 1,860 ft		Qtr: NW
		Meridian: M

Location: VICINITY OF OLD AUBURN RD ABOUT 2.1 MI NORTH OF JUNCTION WITH HWY 49, ABOUT 4.3 MI SSW OF GRASS VALLEY (PO).
Location Detail: MAPPED BY GEOREFERENCING FIGURE 2 IN RICHMOND 2008. WITHIN THE CORE SURVEY AREA.
Ecological: SURVEY MARSHES GENERALLY SMALL, GENTLY SLOPED, DENSELY VEGETATED & HIGHLY FRAGMENTED (SURROUNDED BY UNSUITABLE HABITAT). WATER SOURCES PRIMARILY FROM IRRIGATION DITCHES. OCCURRENCE REPRESENTS PART OF A METAPOPULATION IN THE SIERRA FOOTHILLS
General: CA BLACK RAILS DETECTED BY RICHMOND ET AL AT 1 SITE DURING AT LEAST 1 PHASE OF CALL-PLAYBACK SURVEYS IN 1994-2006. PART OF A YEAR-ROUND RESIDENT BREEDING POPULATION IN THE SIERRA FOOTHILLS, DISCONTINUOUS WITH THE SF BAY-DELTA POPULATION.
Owner/Manager: UNKNOWN

Lathyrus sulphureus var. argillaceus

dubious pea

Element Code: PDFAB25101

Status _____ NDDB Element Ranks _____ Other Lists _____
Federal: None Global: G1G2 CNPS List: 3
State: None State: S1S2

Habitat Associations

General: CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST.

Micro: 150-305M.

Occurrence No. 4 Map Index: 79239 EO Index: 80219 Dates Last Seen _____
Occ Rank: Unknown Element: 1926-04-17
Origin: Natural/Native occurrence Site: 1926-04-17
Presence: Presumed Extant
Trend: Unknown Record Last Updated: 2010-06-30

Quad Summary: Grass Valley (3912121/542A)

County Summary: Nevada

Lat/Long: 39.21825° / -121.06179° Township: 16N
UTM: Zone-10 N4342786 E667322 Range: 08E
Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 27 Qtr: XX
Elevation: Symbol Type: POINT Meridian: M

Location: GRASS VALLEY.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB IN VICINITY OF COMMUNITY OF GRASS VALLEY.

General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1926 COLLECTION BY ROBBINS. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Phrynosoma blainvillii

coast horned lizard

Element Code: ARACF12100

Status: _____ NDDB Element Ranks: _____ Other Lists: _____
 Federal: None Global: G4G5 CDFG Status: SC
 State: None State: S3S4

Habitat Associations

General: FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.
 Micro: OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

Occurrence No. 577 Map Index: 23689 EO Index: 7330 Dates Last Seen: _____
 Occ Rank: Excellent Element: 1995-XX-XX
 Origin: Natural/Native occurrence Site: 1995-XX-XX
 Presence: Presumed Extant Record Last Updated: 1998-10-05
 Trend: Unknown

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long: 39.17205° / -121.10910° Township: 15N
 UTM: Zone-10 N4337572 E663345 Range: 08E
 Area: Mapping Precision: NON-SPECIFIC Section: 08 Qtr: SE
 Elevation: 2,250 ft Symbol Type: POLYGON Meridian: M

Location: ~4 MILES SW OF GRASS VALLEY, MOSTLY SOUTH OF MCCOURTNEY ROAD IN AND AROUND COUNTY LANDFILL.
 Location Detail: EAST SIDE OF MCCOURTNEY ROAD, 3 MILES SW OF GRASS VALLEY.
 Ecological: HABITAT CONSISTS OF CHAPARRAL, DOMINATED BY MANZANITA, WITH SOME GRAY PINE, YELLOW PINE, MAGNAD CYPRESS, BLUE OAK, BLACK OAK AND LIVE OAK.
 Threat: DEVELOPMENT, COUNTY LANDFILL
 General: TWO ADULT LIZARDS FOUND IN A LEACHFIELD AREA. LIZARDS COMMON AT THIS LOCATION, FIELDWORK DONE IN THE TIME PERIOD OF 1974 TO 1995.
 Owner/Manager: NEV COUNTY, PVT

Occurrence No. 599 Map Index: 39883 EO Index: 34885 Dates Last Seen: _____
 Occ Rank: Poor Element: 1991-XX-XX
 Origin: Natural/Native occurrence Site: 1991-XX-XX
 Presence: Presumed Extant Record Last Updated: 1998-10-01
 Trend: Decreasing

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long: 39.22785° / -121.06730° Township: 16N
 UTM: Zone-10 N4343842 E666824 Range: 08E
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 22 Qtr: XX
 Elevation: 2,560 ft Symbol Type: POINT Meridian: M

Location: GRASS VALLEY TREATMENT PLANT, 11808 ALTA VISTA AVE, GRASS VALLEY.
 Ecological: GROUNDS COVERED WITH PEA GRAVLE, MANY BUSHES AND SHRUBS, MANY ANTS.
 Threat: TREATMENT PLANT UNDERGOING MAJOR RECONSTRUCTION.
 General: OBSERVED LIZARDS FROM 1983 TO 1991; RESCUED DOZENS OF YOUNG OFF FLOATING RESERVOIR COVER. YOUNG APPEAR 1ST 2 WEEKS OF AUGUST. OBSERVED FEWER EACH YEAR, WITH ONLY 1 SEEN IN 1991.
 Owner/Manager: CITY OF GRASS VALLEY

Occurrence No. 602 Map Index: 39902 EO Index: 34904 Dates Last Seen: _____
 Occ Rank: Unknown Element: 1991-05-03
 Origin: Natural/Native occurrence Site: 1991-05-03
 Presence: Presumed Extant Record Last Updated: 1998-10-05
 Trend: Unknown

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long: 39.21658° / -121.10049° Township: 16N
 UTM: Zone-10 N4342530 E663985 Range: 08E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 29 Qtr: SE
 Elevation: 3,220 ft Symbol Type: POINT Meridian: M

Location: 12277 NUTHATCH CT, SQUIRREL CREEK ROAD (MAP PROVIDED; USGS MAP - DEADMANS FLAT ROAD), GRASS VALLEY
 Location Detail: OPEN ROCKY AREA NEAR HOME IN RURAL LOCATION.
 Ecological: EDGE BETWEEN DIGGER PINES, MANZANITA, LEMMONS CEANOTHUS, BLUE OAKS AND PONDEROSA, BLACK OAK, INCENSE CEDAR - ALL PLANTS MENTIONED WERE WITHIN 100 FEET FROM WERE LIZARD WAS OBSERVED.
 Threat: RURAL RESIDENTIAL
 General: ONE LIZARD OBSERVED TWICE ON SUCCESSIVE DAYS AT THE SAME LOCATION, TOTAL LENGTH ~4.5 INCHES.
 Owner/Manager: PVT

<i>Rhynchospora capitellata</i>		Element Code: PMCYP0N080	
brownish beaked-rush			
Status	NDDB Element Ranks	Other Lists	
Federal: None	Global: G5	CNPS List: 2.2	
State: None	State: S2S3		
Habitat Associations			
General: LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, MARSHES AND SWAMPS, UPPER MONTANE CONIFEROUS FOREST.			
Micro: MESIC SITES. 455-2000M.			

Occurrence No. 5	Map Index: 50474	EO Index: 50474	Dates Last Seen
Occ Rank: Unknown			Element: 1973-07-23
Origin: Natural/Native occurrence			Site: 1973-07-23
Presence: Presumed Extant			Record Last Updated: 2007-12-12
Trend: Unknown			

Quad Summary: Grass Valley (3912121/542A)
 County Summary: Nevada

Lat/Long: 39.20691° / -121.08038°	Township: 16N
UTM: Zone-10 N4341493 E665744	Range: 08E
Radius: 1/5 mile	Section: 33
Elevation:	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: NE
Symbol Type: POINT	

Location: NORTHWEST CORNER OF FAIRGROUNDS, "NEVADA CITY."
 Location Detail: MARSHY AREA ALONG HWY 20. MAPPED BY CNDDDB AS BEST GUESS AROUND COUNTY FAIRGROUNDS.
 Ecological: WITH THE RARE SIDALCEA STIPULARIS.
 General: NEVADA COUNTY FAIRGROUNDS ARE IN GRASS VALLEY. LOCATION ORIGINALLY CITED IN "FOUR SEASONS" ARTICLE WHICH IS CITED BY SOURCE. A 1973 TRUE COLLECTION FROM "SCADDEN FLAT, JUST W OF GRASS VALLEY, AT HEAD OF SQUIRREL CREEK" ATTRIBUTED HERE.
 Owner/Manager: UNKNOWN

Sidalcea stipularis

Scadden Flat checkerbloom

Element Code: PDMAL110R0

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G1	CNPS List: 1B.1
State: Endangered	State: S1	

Habitat Associations

General: MARSHES AND SWAMPS.

Micro: WET MONTANE MARSHES FED BY SPRINGS. 700-740M.

Occurrence No. 1	Map Index: 12076	EO Index: 4484	Dates Last Seen
Occ Rank: Fair			Element: 2008-07-20
Origin: Natural/Native occurrence			Site: 2008-07-20
Presence: Presumed Extant			Record Last Updated: 2009-05-18
Trend: Fluctuating			

* SENSITIVE *

Quad Summary: Grass Valley (3912121/542A)

County Summary: Nevada

* SENSITIVE *

Lat/Long:	Mapping Precision:	Township:
UTM:	Symbol Type:	Range:
Radius:		Section:
Elevation:		Meridian:
		Qtr:

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:
 (916) 324-3812.

Ecological: PLANTS IN FIVE SMALL PATCHES IN WET MARSHY GROUND SURROUNDED BY PINUS PONDEROSA (INVADING MEADOW). ASSOCIATES INCLUDE SISYRINCHIUM, HOLCUS LANATUS, TYPHA LATIFOLIA, JUNCUS, LUZULA, SCIRPUS, MIMULUS, EPILOBIUM, PERIDERIDIA, AND RUBUS.

Threat: NATIVE AND NON-NATIVE SPECIES ENCROACHING.. GRAZING, HYDROLOGICAL CHANGES, HERBICIDE SPRAYING, OTHER ROAD MAINT.

Owner/Manager:

Clarkia biloba ssp. brandegeee

Brandegee's clarkia

Element Code: PDONA05053

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T3	CNPS List: 1B.2
State: None	State: S3	

Habitat Associations
 General: CHAPARRAL, CISMONTANE WOODLAND.
 Micro: OFTEN IN ROADCUTS. 295-885M.

Occurrence No. 29	Map Index: 56258	EO Index: 56274	Dates Last Seen
Occ Rank: Poor			Element: 2004-06-13
Origin: Natural/Native occurrence			Site: 2004-06-13
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2004-07-30

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.18648° / -120.94087°	UTM: Zone-10 N4339491 E677842	Area: 4.3 acres	Elevation: 2,000 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 15N	Range: 09E	Section: 02	Qtr: NW	Meridian: M
--	--------------------------------------	------------------------	----------------------------	------------------------------------	-----------------------------	----------------------	-------------------	--------------------	----------------	--------------------

Location: YOU BET ROAD, NEXT TO GREENHORN BRIDGE AND ON ARROWHEAD MINE ROAD.
Location Detail: TWO COLONIES, JUST WEST OF THE MINE. MAPPED NEAR THE CENTER OF SECTION 2.
Ecological: ROCKY SLOPE NEAR CREEK. WITH QUERCUS GARRYANA BREWERI, PENSTEMON LAETUS, ARCTOSTAPHYLOS MEWUKKA, FRAXINUS LATIFOLIUS, PSEUDOTSUGA MENZIESII, CHAMAEBATIA FOLIOSUS, PHYSOCARPUS CAPITATUS.
Threat: TRASH DUMPING, VEHICLES, ORV USE, PARKING LOT EXPANSION.
General: 200+ PLANTS SEEN IN 2004. ELEVATION IS HIGHER THAN THAT GIVEN IN THE JEPSON MANUAL, AND THIS FLOWERING DATE IS EARLIER THAN AVERAGE.
Owner/Manager: PVT

Occurrence No. 30	Map Index: 56259	EO Index: 56275	Dates Last Seen
Occ Rank: Poor			Element: 2004-06-13
Origin: Natural/Native occurrence			Site: 2004-06-13
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2004-07-30

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.13575° / -120.96374°	UTM: Zone-10 N4333815 E675993	Radius: 80 meters	Elevation: 2,000 ft	Mapping Precision: SPECIFIC	Symbol Type: POINT	Township: 15N	Range: 09E	Section: 22	Qtr: SW	Meridian: M
--	--------------------------------------	--------------------------	----------------------------	------------------------------------	---------------------------	----------------------	-------------------	--------------------	----------------	--------------------

Location: WEST OF ROLLINS RESERVOIR, ALONG STATE HIGHWAY 174 0.45 MILE NORTHWEST OF BEAR RIVER BRIDGE ON SOUTHWEST SIDE OF ROAD.
Location Detail: MAPPED WITHIN THE NW 1/4 OF THE SW 1/4 OF SECTION 22.
Ecological: ROAD CUTBANK SURROUNDED BY MIXED HARDWOOD FOREST.
Threat: ROAD MAINTENANCE.
General: 200 PLANTS SEEN IN 2003.
Owner/Manager: UNKNOWN

Occurrence No. 31	Map Index: 56260	EO Index: 56276	Dates Last Seen
Occ Rank: Fair			Element: 2004-06-13
Origin: Natural/Native occurrence			Site: 2004-06-13
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2004-07-30

Quad Summary: Chicago Park (3912028/541B)
County Summary: Placer

Lat/Long: 39.13028° / -120.95871°	UTM: Zone-10 N4333218 E676441	Area: 3.9 acres	Elevation: 2,000 ft	Mapping Precision: SPECIFIC	Symbol Type: POLYGON	Township: 15N	Range: 09E	Section: 27	Qtr: NE	Meridian: M
--	--------------------------------------	------------------------	----------------------------	------------------------------------	-----------------------------	----------------------	-------------------	--------------------	----------------	--------------------

Location: SOUTH OF ROLLINS RESERVOIR, ALONG STATE HIGHWAY, 300 METERS AND 0.5 MILE SOUTH OF BEAR RIVER BRIDGE.
Location Detail: TWO COLONIES MAPPED WITHIN THE NW 1/4 OF THE NE 1/4 OF SECTION 27.
Ecological: ROAD CUT BANK AND OPENING IN QUERCUS CHRYSOLEPIS/QUERCUS KELLOGGII FOREST.
Threat: ROAD MAINTENANCE.
General: 400 PLANTS SEEN IN 2003 IN TWO COLONIES.
Owner/Manager: UNKNOWN

Clarkia biloba ssp. brandegeae

Brandegee's clarkia

Element Code: PDONA05053

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T3	CNPS List: 1B.2
State: None	State: S3	

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.
 Micro: OFTEN IN ROADCUTS. 295-885M.

Occurrence No.: 73	Map Index: 70886	EO Index: 71863	Dates Last Seen
Occ Rank: Good			Element: 2008-06-04
Origin: Natural/Native occurrence			Site: 2008-06-04
Presence: Presumed Extant			Record Last Updated: 2010-06-15
Trend: Unknown			

Quad Summary: Colfax (3912018/541C), Chicago Park (3912028/541B)
County Summary: Placer

Lat/Long: 39.11624° / -120.94151°	Township: 15N
UTM: Zone-10 N4331693 E677963	Range: 09E
Area: 24.0 acres	Section: 26
Elevation: 2,300 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

Location: ON BOTH SIDES OF INTERSTATE 80, FROM 0.65 TO 1.65 AIR MILES NORTHEAST OF COLFAX.

Location Detail: MAPPED BY CNDDDB AS 12 COLONIES. 7 NORTHERN COLONIES ALONG ROADWAYS IN THE VICINITY OF THE LONG RAVINE RAILROAD CROSSING MAPPED ACCORDING TO 2007 HILLAIRE MAP. 5 SOUTHERN COLONIES MAPPED ACCORDING TO A 2008 FRANKLIN MAP.

Ecological: ALONG ROADCUTS AND IN OPEN DRY AREAS. ASSOC WITH PINUS PONDEROSA, QUERCUS KELLOGGII, PSEUDOTSUGA MENZIESII, ARCTOSTAPHYLOS MANZANITA, CEANOTHUS CUNEATUS, TOXICODENDRON DIVERSILOBUM, COLLINSIA TINCTORIA, BROMUS RUBENS, B. HORDEACEUS, ETC.

Threat: THREATENED BY RAILROAD/ROAD MAINTENANCE AND OVERSHADING. STEVENS TRAIL INTERSECTS SW PORTION; ORV USE THREAT.

General: POPULATION NUMBERS OBSERVED IN 2007 RELATIVE TO I-80 AND THE LONG RAVINE CROSSING: ~350 PLANTS ON THE NW, ~650 ON THE NE, ~275 ON THE SW, AND 180 PLANTS ON THE SE. 2008: >500 PLANTS TOTAL OBSERVED BETWEEN 5 SOUTHERN COLONIES AND EO #92.

Owner/Manager: CALTRANS ROW, UNKNOWN

Lateralus jamaicensis coturniculus

California black rail

Element Code: ABNME03041

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4T1	CDFG Status:
State: Threatened	State: S1	

Habitat Associations

General: INHABITS FRESHWATER MARSHES, WET MEADOWS & SHALLOW MARGINS OF SALTWATER MARSHES BORDERING LARGER BAYS.
Micro: NEEDS WATER DEPTHS OF ABOUT 1 INCH THAT DOES NOT FLUCTUATE DURING THE YEAR & DENSE VEGETATION FOR NESTING HABITAT.

Occurrence No.: 265	Map Index: 76678	EO Index: 77624	Dates Last Seen
Occ Rank: Unknown			Element: XXXX-XX-XX
Origin: Natural/Native occurrence			Site: XXXX-XX-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-09-23

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.17442° / -120.98518°	Township: 15N
UTM: Zone-10 N4338066 E674044	Range: 09E
Radius: 2/5 mile	Section: 05
Elevation: 2,550 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: SE
Symbol Type: POINT	

Location: BETWEEN HWY 174 & LOWER COLFAX RD, ABOUT 1.4 MI SW OF SONTAG HILL & 2.6 MI SE OF CEDAR RIDGE PO.
Location Detail: MAPPED BY GEOREFERENCING FIGURE 2 IN RICHMOND 2008. JUST OUTSIDE THE CORE SURVEY AREA.
Ecological: SURVEY MARSHES GENERALLY SMALL, GENTLY SLOPED, DENSELY VEGETATED & HIGHLY FRAGMENTED (SURROUNDED BY UNSUITABLE HABITAT). WATER SOURCES PRIMARILY FROM IRRIGATION DITCHES. OCCURRENCE REPRESENTS PART OF A METAPOPULATION IN THE SIERRA FOOTHILLS
General: CA BLACK RAILS DETECTED BY RICHMOND ET AL AT 1 SITE DURING AT LEAST 1 PHASE OF CALL-PLAYBACK SURVEYS IN 1994-2006. PART OF A YEAR-ROUND RESIDENT BREEDING POPULATION IN THE SIERRA FOOTHILLS, DISCONTINUOUS WITH THE SF BAY-DELTA POPULATION.
Owner/Manager: UNKNOWN

Martes pennanti (pacifica) DPS

Pacific fisher

Element Code: AMAJF01021

Status: Candidate
 Federal: Candidate
 State: None

NDDB Element Ranks
 Global: G5
 State: S2S3

Other Lists
 CDFG Status: SC

Habitat Associations

General: INTERMEDIATE TO LARGE-TREE STAGES OF CONIFEROUS FORESTS & DECIDUOUS-RIPARIAN AREAS WITH HIGH PERCENT CANOPY CLOSURE.
 Micro: USES CAVITIES, SNAGS, LOGS & ROCKY AREAS FOR COVER & DENNING. NEEDS LARGE AREAS OF MATURE, DENSE FOREST.

Occurrence No. 397
 Occ Rank: Unknown
 Origin: Natural/Native occurrence
 Presence: Presumed Extant
 Trend: Unknown

Map Index: 37957

EO Index: 32964

Dates Last Seen

Element: 1973-XX-XX
 Site: 1973-XX-XX

Record Last Updated: 1998-01-22

Quad Summary: Colfax (3912018/541C), Dutch Flat (3912027/541A), Foresthill (3912017/541D), Chicago Park (3912028/541B)

County Summary: Placer

Lat/Long: 39.11363° / -120.88231°
 UTM: Zone-10 N4331521 E683089
 Radius: 1 mile
 Elevation: 2,400 ft

Mapping Precision: NON-SPECIFIC
 Symbol Type: POINT

Township: 15N
 Range: 10E
 Section: 29
 Meridian: M
 Qtr: XX

Location: AMERICAN RIVER CANYON NEAR IOWA HILL.

General: MANY VISITS, ONE ADULT OBSERVED IN 1973.

Owner/Manager: BLM

Phrynosoma blainvillii

coast horned lizard

Element Code: ARACF12100

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5	CDFG Status: SC
State: None	State: S3S4	

Habitat Associations

General: FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.
Micro: OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

Occurrence No. 600	Map Index: 39884	EO Index: 34886	Dates Last Seen
Occ Rank: Unknown			Element: 1990-07-XX
Origin: Natural/Native occurrence			Site: 1990-07-XX
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1998-10-01

Quad Summary: Colfax (3912018/541C), Chicago Park (3912028/541B)

County Summary: Placer

Lat/Long: 39.12367° / -120.95189°	Township: 15N	
UTM: Zone-10 N4332497 E677048	Range: 09E	
Radius: 2/5 mile	Section: 27	Qtr: XX
Elevation: 2,400 ft	Mapping Precision: NON-SPECIFIC	Meridian: M
	Symbol Type: POINT	

Location: 560 OLD GRASS VALLEY RD, ~1.5 MILES NORTH OF COLFAX.

Location Detail: WOODPILE OF RESIDENCE

Ecological: GRAY PINE CHAPARRAL WITH SOME CEDARS.

General: 2 JUVENILES OBSERVED (~2.5 INCHES TOTAL LENGTH).

Owner/Manager: PVT

Rana boylei

foothill yellow-legged frog

Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.
Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 343	Map Index: 48730	EO Index: 48730	Dates Last Seen	
Occ Rank: Fair			Element: 2000-06-09	
Origin: Natural/Native occurrence			Site: 2000-06-09	
Presence: Presumed Extant			Record Last Updated: 2009-04-30	
Trend: Unknown				

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.22415° / -120.91249°	Township: 16N
UTM: Zone-10 N4343728 E680196	Range: 09E
Area: 10.0 acres	Section: 25
Elevation: 2,450 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NE
Symbol Type: POLYGON	

Location: ALONG GREENHORN CREEK; ABOUT 0.6 MILES DOWNSTREAM FROM THE SOUTH FORK CONFLUENCE, ABOUT 7 MILES EAST OF GRASS VALLEY.

Location Detail: SW POLYGON MAPPED TO PROVIDED COORDINATES AT CROSSING OF GREENHORN CREEK & RED DOG RD (SITE ID T-114). NE POLYGON MAPPED TO POINT DRAWN ON PROVIDED MAP ALONG GREENHORN CREEK ABOUT 0.4 MI SOUTH OF POORE MINE.

Ecological: HABITAT CONSISTED OF AN OPEN, ROCKY STREAMBED THAT WAS HISTORICALLY MINED FOR GOLD; VERY OPEN, WITH NO RIPARIAN VEGETATION PRESENT; 1 INDIVIDUAL FOUND IN SOFT DRINK CAN (1999).

Threat: THREATENED BY GOLD MINING AND ORV'S.

General: 3 ADULTS & 720 SUBADULTS OBSERVED ON 27 SEP 1997 (T-114). 2 ADULTS COLLECTED ON 13 AUG 1999 & DEPOSITED AT CAS (MRJ #1484, CAS #238587). 80 LARVAE OBSERVED ON 9 JUN 2000 (T-114).

Owner/Manager: PVT

Occurrence No. 470	Map Index: 69698	EO Index: 70484	Dates Last Seen	
Occ Rank: Excellent			Element: 2009-08-12	
Origin: Natural/Native occurrence			Site: 2009-08-12	
Presence: Presumed Extant			Record Last Updated: 2010-05-27	
Trend: Unknown				

Quad Summary: Dutch Flat (3912027/541A), Chicago Park (3912028/541B)
County Summary: Nevada, Placer

Lat/Long: 39.17683° / -120.89030°	Township: 15N
UTM: Zone-10 N4338520 E682235	Range: 10E
Area: 158.0 acres	Section: 06
Elevation: 2,240 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: XX
Symbol Type: POLYGON	

Location: BEAR RIVER AND STEEPHOLLOW CK, 4.3 MI NE ROLLINS RESERVOIR DIVERSION DAM, ~1.2 MI W OF GOLD RUN, ~2.5 MI SW DUTCH FLAT

Location Detail: PG&E SITES 1 AND 1B (A). 2002 SURVEY EXTENDED UPSTREAM FROM THE CHICAGO PARK POWERHOUSE FOR 1662 METERS (5451'). 2003 SURVEYS EXTENDED UPSTREAM FROM THE CHICAGO PARK POWERHOUSE FOR 700 METERS (2296'). MAPPED TO PROVIDED COORDINATES (B).

Ecological: HABITAT CONSISTS OF MULTIPLE FLOWING CHANNELS BRAIDED ACROSS THE FLOODPLAIN; DOMINATED BY A GRAVEL/COBBLE SUBSTRATE AND COMPRISED OF LOW-MOD VELOCITY RIFFLES, RUNS, & GLIDES. VEGETATION INCLUDES WILLOW, ALDER, FORBS, & FILAMENTOUS ALGAE.

Threat: THREATENED BY OHV RECREATION.

General: A: 2 AD/500 JUV OBS 31 OCT 02. 45 AD/36 JUV/85 LAR/66 EGG MA 5 JUN; 49 AD/1885 JUV/1 LAR OCT 03. B: 67 AD/83 JUV/188 LAR/2 UKN JUN 08. 22 AD/288 JUV/187 LAR/15 EGG MA/321 UKN JUN. 349 AD/2082 JUV/1063 LAR AUG. 250 LAR SEP 08. 10 LAR AUG 09.

Owner/Manager: BLM, NEVADA IRRIGATION DIST

Rana boylei

foothill yellow-legged frog

Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.
Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. 525	Map Index: 74068	EO Index: 75061	Dates Last Seen
Occ Rank: Unknown			Element: 2008-06-25
Origin: Natural/Native occurrence			Site: 2008-06-25
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-03-19

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.18119° / -120.90355°	Township: 15N
UTM: Zone-10 N4338977 E681078	Range: 10E
Radius: 80 meters	Section: 06
Elevation: 2,720 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: SW
Symbol Type: POINT	

Location: ON NORTH SIDE OF BEAR RIVER, ABOUT 2.7 MI NORTH OF HAYFORD HILL, ABOUT 4.1 MI NE OF CHICAGO PARK.
Location Detail: MAPPED TO PROVIDED COORDINATES.
Ecological: HABITAT CONSISTED OF LOW GRADIENT RIFFLE AND EDGEWATER. SUBSTRATE INCLUDED COBBLE.
General: ON 25 JUN 2008 12 LARVAE OBSERVED.
Owner/Manager: UNKNOWN

Occurrence No. 833	Map Index: 78958	EO Index: 79918	Dates Last Seen
Occ Rank: Good			Element: 2009-08-11
Origin: Natural/Native occurrence			Site: 2009-08-11
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2010-06-29

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.18181° / -120.94333°	Township: 15N
UTM: Zone-10 N4338968 E677641	Range: 09E
Radius: 1/10 mile	Section: 02
Elevation: 2,320 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: SW
Symbol Type: POINT	

Location: ALONG GREENHORN CREEK, 0.5 MI SW OF ARROWHEAD MINE AND 1.5 MI E OF HIGHWAY 174, ABOUT 6.5 MI ESE OF GRASS VALLEY.
Location Detail: COORDINATES (OBTAINED FROM GOOGLE EARTH) DO NOT MATCH DESCRIPTION OF "MARGIN OF GREENHORN CREEK" AND NEITHER MATCH THE QUARTER QUARTER SECTION GIVEN. LOCATION MAPPED TO INCLUDE THE MARGIN OF THE CREEK & THE PROVIDED COORDINATES.
Ecological: CREEK IN CONFINED CANYON. STREAM WIDTH: 60 FT; DEPTH 2 FT AT BANK FULL W/ SAND/GRAVEL/COBBLE SUBSTRATES. POOLS: ~ 5 FT DIAMETER, MAX DEPTH 2 FT. OTHER STREAM HABITAT: RIFFLES, RUNS, GLIDES; SOME SIDE CHANNELS, BACKWATER. SPARSE RIPARIAN.
General: 3 ADULTS WERE OBSERVED BASKING ALONG CREEK ON 11 AUG 2009. THERE IS HEAVY RECREATION USE AT THIS SITE. STREAM CHANNEL PROVIDES PUBLIC ACCESS TO ROLLINS RESERVOIR.
Owner/Manager: U.S. JURISDICTIONAL WATERS

Rhynchospora capitellata

brownish beaked-rush

Element Code: PMCYP0N080

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CNPS List: 2.2
State: None	State: S2S3	

Habitat Associations

General: LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, MARSHES AND SWAMPS, UPPER MONTANE CONIFEROUS FOREST.
Micro: MESIC SITES. 455-2000M.

Occurrence No.: 4	Map Index: 50473	EO Index: 50473	Dates Last Seen
Occ Rank: Fair			Element: 1978-09-14
Origin: Natural/Native occurrence			Site: 1978-09-14
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-03-10

Quad Summary: Chicago Park (3912028/541B)
County Summary: Nevada

Lat/Long: 39.24289° / -120.89163°	Township: 16N
UTM: Zone-10 N4345849 E681949	Range: 10E
Area:	Section: 19 Qtr: NE
Elevation: 3,120 ft	Mapping Precision: NON-SPECIFIC
	Symbol Type: POLYGON
	Meridian: M

Location: NORTH SIDE OF LAKE ON BUCKEYE RIDGE, BUCKEYE DIGGINGS. ABOUT 2 MI SE OF QUAKERS HILL.
Location Detail: IN HYDRAULIC MINING AREA, 4 COLONIES MAPPED TOGETHER IN NE 1/4 OF NE 1/4 SEC 19.
Ecological: IN SAND/GRAVELLY SOIL IN STREAM CHANNELS, POOLS AND SLOPES IN VARIOUS STAGES OF INUNDATION; WITH JUNCUS, ELEOCHARIS, ARCTOSTAPHYLOS VISCIDA, PINUS PONDEROSA.
Threat: TRAFFIC FROM TRESPASSING CAMPERS.
General: 1978 PLANT COUNT ESTIMATES: 300 PLANTS IN COLONY A, 5000 PLANTS IN COLONY B, 600 PLANTS IN COLONY C, 340 PLANTS IN COLONY D.
Owner/Manager: USFS-TAHOE NF

Sidalcea stipularis

Scadden Flat checkerbloom

Element Code: PDMAL110R0

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G1	CNPS List: 1B.1
State: Endangered	State: S1	

Habitat Associations

General: MARSHES AND SWAMPS.

Micro: WET MONTANE MARSHES FED BY SPRINGS. 700-740M.

Occurrence No. 2	Map Index: 30554	EO Index: 4399	Dates Last Seen
Occ Rank: Poor			Element: 1995-XX-XX
Origin: Natural/Native occurrence			Site: 2008-07-28
Presence: Presumed Extant			Record Last Updated: 2009-05-15
Trend: Decreasing			

* SENSITIVE *

Quad Summary: Chicago Park (3912028/541B)

County Summary: Nevada

* SENSITIVE *

Lat/Long:	Mapping Precision:	Township:	
UTM:	Symbol Type:	Range:	
Radius:		Section:	Qtr:
Elevation:		Meridian:	

Location: *SENSITIVE* Location information suppressed.

Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information:
 (916) 324-3812.

Ecological: FRESHWATER MARSH WITH TYPHA LATIFOLIA SURROUNDED BY PINUS PONDEROSA MARSH. OTHER ASSOCIATES INCLUDE CAREX SP. AND RUBUS PROCERUS.

Threat: USED AS PASTURE. CALTRANS PROPOSED TO WIDEN HWY; PLANTS 10 FT. S OF HWY. INVADING BLACKBERRY; MOWING; ALTERED HYDRO.

Owner/Manager:

Clarkia biloba ssp. brandegeeeae

Brandegee's clarkia

Status

NDDB Element Ranks

Element Code: PDONA05053

Other Lists

Federal: None
 State: None

Global: G4G5T3
 State: S3

CNPS List: 1B.2

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND.

Micro: OFTEN IN ROADCUTS. 295-885M.



Occurrence No. 13 Map Index: 43429 EO Index: 43429 Dates Last Seen
 Occ Rank: Excellent Element: 2007-05-26
 Origin: Natural/Native occurrence Site: 2007-05-26
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2008-12-10

Quad Summary: Nevada City (3912131/558D)

County Summary: Nevada

Lat/Long: 39.29796° / -121.09165° Township: 17N
 UTM: Zone-10 N4351578 E664558 Range: 08E
 Area: 27.5 acres Mapping Precision: SPECIFIC Section: 33 Qtr: NW
 Elevation: 1,300 ft Symbol Type: POLYGON Meridian: M

Location: HIGHWAY 49 AT THE SOUTH YUBA RIVER, EXTENDING ABOUT 0.5 MILE NORTH AND 0.25 MILE SOUTH OF THE RIVER, NW OF NEVADA CITY.

Location Detail: SEVERAL COLONIES FOUND IN THE PICNIC AND PARKING AREA OF THE SOUTH YUBA RECREATION AREA AND ON CUT BANKS AND SLOPES ABOVE HIGHWAY 49. PETAL LOBES SOMEWHAT WEAK ON SOME PLANTS, MAY BE HYBRIDS?

Ecological: OAK WOODLAND, CHAPARRAL, AND YELLOW PINE FOREST. ON STEEP GRITTY GRANITE SLOPES. ASSOCIATES: PHACELIA CICUTARIA, MIMULUS AURANTIACUS, LONICERA HISPIDULA, CYNOSURUS ECHINATUS, TORILIS ARVENSIS, QUERCUS KELLOGGII, Q. CHRYSOLEPIS, ET AL.

Threat: RECREATION USE AND ROAD/SLOPE MAINTENANCE, BUT THREATS APPEAR TO BE LOW.

General: MORE THAN 700 PLANTS IN 1998; 5,100 PLANTS IN 2002 IN EXPANDED SURVEY; "ABUNDANT, SHOWY COLONIES" SEEN IN 2005; "COMMON" IN 2007. A 1956 COLLECTION BY BALLS & LENZ FROM "S FORK YUBA RIVER, 7.6 MI NW OF NEVADA CITY" ATTRIBUTED TO THIS SITE.

Owner/Manager: DPR-SOUTH YUBA RIVER SP, PVT



Occurrence No. 14 Map Index: 43434 EO Index: 43434 Dates Last Seen
 Occ Rank: Excellent Element: 2002-06-20
 Origin: Natural/Native occurrence Site: 2002-06-20
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2004-08-04

Quad Summary: Nevada City (3912131/558D)

County Summary: Nevada

Lat/Long: 39.28872° / -121.10054° Township: 17N
 UTM: Zone-10 N4350537 E663812 Range: 08E
 Radius: 80 meters Mapping Precision: SPECIFIC Section: 32 Qtr: SE
 Elevation: 1,500 ft Symbol Type: POINT Meridian: M

Location: ALONG THE EAST SIDE OF HIGHWAY 49, APPROXIMATELY 0.75 MILE SOUTH OF THE SOUTH YUBA RIVER HIGHWAY 49 BRIDGE.

Location Detail: MAPPED WITHIN THE SW 1/4 OF THE SE 1/4 OF SECTION 32.

Ecological: GROWING IN LOOSE, ROCKY SLOPE ALONG HIGHWAY 49. COMMON ASSOCIATES INCLUDE PINUS PONDEROSA, CEANOTHUS CUNEATUS, CYNOSURUS ECHINATUS, ARCTOSTAPHYLOS VISCIDA, TOXICODENDRON DIVERSILOBUM, AND ERIOPHYLLUM LANATUM.

Threat: NONE NOTED IN 2002. THIS SPECIES APPEARS TO THRIVE IN AREAS OF DISTURBANCE AND EROSION.

General: 100 PLANTS SEEN IN 2002. A 1947 COLLECTION BY LEWIS AND LEWIS ATTRIBUTED TO THIS SITE.

Owner/Manager: DPR-SOUTH YUBA RIVER SP

Clarkia biloba ssp. brandegeee

Brandegee's clarkia

Element Code: PDONA05053

Status: _____ NDDDB Element Ranks: _____ Other Lists: _____
 Federal: None Global: G4G5T3 CNPS List: 1B.2
 State: None State: S3

Habitat Associations: _____
 General: CHAPARRAL, CISMONTANE WOODLAND.
 Micro: OFTEN IN ROADCUTS. 295-885M.

→ * Occurrence No. 15 Map Index: 43435 EO Index: 43435 Dates Last Seen: _____
 Occ Rank: Unknown Element: XXXX-XX-XX
 Origin: Natural/Native occurrence Site: XXXX-XX-XX
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2006-07-20

Quad Summary: Nevada City (3912131/558D)
 County Summary: Nevada

Lat/Long: 39.27288° / -121.04591° Township: 16N
 UTM: Zone-10 N4348879 E668562 Range: 08E
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 02 Qtr: XX
 Elevation: 2,900 ft Symbol Type: POINT Meridian: M

Location: CEMENT HILL, NEAR INDIAN FLAT, JUST NORTHWEST OF NEVADA CITY.
 Location Detail: MAPPED AS BEST GUESS BY CNDDDB; LOCATION GIVEN AS CEMENT HILL, NEAR INDIAN FLAT, 2900 FEET ELEVATION.
 General: INCLUDES FORMER OCCURRENCE #16 FROM "HIGHWAY 49 AT INDIAN FLAT, WEST OF NEVADA CITY." BOTH SIGHTINGS ARE FROM A 1973 CHECKLIST OF PLANTS OF NEVADA COUNTY BY TRUE; NEEDS FIELDWORK.
 Owner/Manager: UNKNOWN

Occurrence No. 32 Map Index: 56261 EO Index: 56277 Dates Last Seen: _____
 Occ Rank: Excellent Element: 2002-06-20
 Origin: Natural/Native occurrence Site: 2002-06-20
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2004-07-30

Quad Summary: Nevada City (3912131/558D)
 County Summary: Nevada

Lat/Long: 39.32763° / -121.03937° Township: 17N
 UTM: Zone-10 N4354968 E668995 Range: 08E
 Area: 2.0 acres Mapping Precision: SPECIFIC Section: 23 Qtr: NE
 Elevation: 2,000 ft Symbol Type: POLYGON Meridian: M

Location: SOUTH YUBA RIVER STATE PARK, 0.4 MILE UPSTREAM FROM PURDON'S CROSSING, ALONG THE NORTHERN FORK OF THE SOUTH YUBA TRAIL.
 Location Detail: MAPPED WITHIN THE NE 1/4 OF THE NE 1/4 SECTION 23.
 Ecological: FOUND GROWING IN LOOSE GRANITIC SOIL ON STEEP ERODING/CUT SLOPES ALONG TRAIL. COMMON PLANT ASSOCIATES INCLUDE CYNOSURUS, TORILIS ARVENSIS, QUERCUS KELLOGGII, Q. CHRYSOLEPIS, Q. WISLIZENII, ELYMUS GLAUCUS, ERIOPHYLLUM LANATUM, ET AL.
 Threat: NONE. THIS SPECIES APPEARS TO THRIVE IN AREAS OF DISTURBANCE AND EROSION.
 General: 4,400 PLANTS SEEN IN 2002 BETWEEN THIS SITE AND OCCURRENCE #33.
 Owner/Manager: DPR-SOUTH YUBA RIVER SP

Occurrence No. 33 Map Index: 56262 EO Index: 56278 Dates Last Seen: _____
 Occ Rank: Excellent Element: 2002-06-20
 Origin: Natural/Native occurrence Site: 2002-06-20
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2006-07-05

Quad Summary: Nevada City (3912131/558D)
 County Summary: Nevada

Lat/Long: 39.32575° / -121.04832° Township: 17N
 UTM: Zone-10 N4354743 E668228 Range: 08E
 Area: 7.1 acres Mapping Precision: SPECIFIC Section: 23 Qtr: NW
 Elevation: 2,000 ft Symbol Type: POLYGON Meridian: M

Location: DOWNSTREAM FROM PURDON'S CROSSING, SOUTH YUBA RIVER STATE PARK.
 Location Detail: AT SEVERAL CUT SLOPE LOCATIONS ALONG PURDON ROAD NORTH OF BRIDGE AND ALONG LAKE VERA ROAD SOUTH OF BRIDGE. MAPPED WITHIN THE NW 1/4 OF SECTION 23.
 Ecological: FOUND GROWING IN LOOSE GRANITIC SOIL ON STEEP ERODING/CUT SLOPES ALONG TRAIL. COMMON PLANT ASSOCIATES INCLUDE CYNOSURUS, TORILIS ARVENSIS, QUERCUS KELLOGGII, Q. CHRYSOLEPIS, Q. WISLIZENII, ELYMUS GLAUCUS, ERIOPHYLLUM LANATUM, ET AL.
 Threat: NONE. THIS SPECIES APPEARS TO THRIVE IN AREAS OF DISTURBANCE AND EROSION.
 General: 4,400 PLANTS SEEN IN 2002 BETWEEN THIS SITE AND OCCURRENCE #32.
 Owner/Manager: DPR-SOUTH YUBA RIVER SP

Clarkia biloba ssp. brandegeeeae

Brandegee's clarkia

Element Code: PDONA05053

Status: _____ NDDB Element Ranks: _____ Other Lists: _____
 Federal: None Global: G4G5T3 CNPS List: 1B.2
 State: None State: S3

Habitat Associations: _____
 General: CHAPARRAL, CISMONTANE WOODLAND.
 Micro: OFTEN IN ROADCUTS. 295-885M.

Occurrence No. 34 Map Index: 56305 EO Index: 56321 Dates Last Seen: _____
 Occ Rank: Excellent Element: 2002-05-23
 Origin: Natural/Native occurrence Site: 2002-05-23
 Presence: Presumed Extant Record Last Updated: 2007-07-11
 Trend: Unknown

Quad Summary: Nevada City (3912131/558D)

County Summary: Nevada

Lat/Long: 39.29050° / -121.11461° Township: 17N
 UTM: Zone-10 N4350709 E662595 Range: 08E
 Area: 1.8 acres Mapping Precision: SPECIFIC Section: 31 Qtr: SE
 Elevation: 1,400 ft Symbol Type: POLYGON Meridian: M

Location: NORTH SLOPES OF JONES RAVINE, ALONG JONES BAR ROAD, SOUTH YUBA RIVER STATE PARK.

Location Detail: NORTH SLOPE OF RAVINE ABOVE ABANDONED DITCH. MAPPED WITHIN THE NE 1/4 OF THE SE 1/4 OF SECTION 31.

Ecological: SOUTH-FACING ROAD CUT. GROWING IN BUCKBRUSH SERIES DOMINATED BY CEANOTHUS CUNEATUS. ASSOCIATES INCLUDE HETEROMELES ARBUTIFOLIA, QUERCUS DOUGLASII, AND ANNUAL GRASSES AND HERBS.

Threat: NO THREATS NOTED. THIS SPECIES APPEARS TO THRIVE IN AREAS OF DISTURBANCE AND EROSION.

General: 60 PLANTS SEEN IN THREE DISTINCT PATCHES OF APPROXIMATELY 20 PLANTS EACH ALONG THE NORTH SIDE OF THE ROAD.

Owner/Manager: DPR-SOUTH YUBA RIVER SP

<i>Didymodon norrisii</i>		Element Code: NBMUS2C0H0
Norris' beard moss		
Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3G4	CNPS List: 2.2
State: None	State: S3S4	
Habitat Associations		
General: CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.		
Micro: MOSS FROM SEASONALLY WET SHEET DRAINAGES ON EXPOSED ROCK SLABS OR TERRACES THAT COMPLETELY DRY IN SUMMER. LESS FREQUENTL		



Occurrence No. 18	Map Index: 65396	EO Index: 65475	Dates Last Seen
Occ Rank: Unknown			Element: 1981-12-24
Origin: Natural/Native occurrence			Site: 1981-12-24
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-07-26

Quad Summary: Nevada City (3912131/558D)
 County Summary: Nevada

Lat/Long: 39.27155° / -121.06095°	Township: 16N
UTM: Zone-10 N4348704 E667268	Range: 08E
Area:	Section: 03
Elevation: 2,000 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: S
Symbol Type: POLYGON	

Location: ALONG ROAD TO DOWNIEVILLE ABOUT 3 MILES FROM NEVADA CITY.
 Location Detail: EXACT LOCATION UNKNOWN. MAPPED BY CNDDDB AS BEST GUESS ALONG APPROPRIATE STRETCH OF ROAD.
 Ecological: ON MOIST, SUNNY OUTCROP IN OPEN QUERCUS AND CHAPARRAL FOREST.
 General: ONLY SOURCE OF INFORMATION FOR THIS OCCURRENCE IS A 1981 COLLECTION BY NORRIS. NEEDS FIELDWORK.
 Owner/Manager: UNKNOWN

Fritillaria eastwoodiae

Butte County fritillary

Element Code: PMLIL0V060

----- Status ----- NDDB Element Ranks ----- Other Lists -----
 Federal: None Global: G3Q
 State: None State: S3 CNPS List: 3.2

----- Habitat Associations -----

General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.

Micro: USUALLY ON DRY SLOPES BUT ALSO FOUND IN WET PLACES; SOILS CAN BE SERPENTINE, RED CLAY, OR SANDY LOAM. 40-1500M.

Occurrence No. 82 Map Index: 25782 EO Index: 5550 ----- Dates Last Seen -----
 Occ Rank: Unknown Element: 1979-04-12
 Origin: Natural/Native occurrence Site: 1979-04-12
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 1994-05-05

Quad Summary: Nevada City (3912131/558D)
 County Summary: Nevada

Lat/Long: 39.30469° / -121.07302° Township: 17N
 UTM: Zone-10 N4352359 E666148 Range: 08E
 Radius: 1/5 mile Mapping Precision: NON-SPECIFIC Section: 27 Qtr: SW
 Elevation: 2,500 ft Symbol Type: POINT Meridian: M

Location: SOUTH OF THE YUBA RIVER AND WEST OF DEVILS SLIDE ABOUT 4 AIR MI NORTHWEST OF NEVADA CITY.
 Location Detail: ON ROADSIDE.
 Threat: FOOT TRAFFIC & TRAMPLING.
 General: SMALL POPULATION OBSERVED IN 1979.
 Owner/Manager: UNKNOWN

Lewisia cantelovii

Cantelov's lewisia

Element Code: PDPOR04020

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 1B.2
State: None	State: S3	

Habitat Associations

General: BROADLEAFED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, CISMONTANE WOODLAND, CHAPARRAL.
Micro: MESIC ROCK OUTCROPS AND WET CLIFFS, USUALLY IN MOSS OR CLUBMOSS; ON GRANITICS OR SOMETIMES ON SERPENTINE. 330-1340M.



Occurrence No.: 43	Map Index: 31174	EO Index: 3199	Dates Last Seen
Occ Rank: Excellent			Element: 1991-06-24
Origin: Natural/Native occurrence			Site: 1991-06-24
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 1995-10-23

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.29284° / -121.10004°	Township: 17N
UTM: Zone-10 N4350995 E663846	Range: 08E
Radius: 80 meters	Section: 32
Elevation: 1,100 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NE
Symbol Type: POINT	

Location: SOUTH SIDE OF SOUTH YUBA RIVER, ABOUT 0.7 AIR MILE WSW OF HIGHWAY 49 BRIDGE AND NORTHWEST OF NEVADA CITY.
Location Detail: TAKE INDEPENDANCE TRAIL UNDER HIGHWAY 49 AND TURN RIGHT AT SIGN "YUBA RIVER .3 MI" WHICH LEADS TO A GAGING STATION. HIKE UPSTREAM ABOUT 0.25 MILE. PLANTS ARE ON STEEP ROCKS ABOUT 50 FEET FROM RIVER.
Ecological: ON MOSSY NORTH FACING, NEARLY VERTICAL ROCK FACES. ASSOCIATED WITH HEUCHERA MICRANTHA, SEDUM SPATHULIFOLIUM, MIMULUS BIFIDUS, AND MOSS.
Threat: POTENTIAL THREAT FROM ILLEGAL COLLECTION AND HIKERS SCRAMBLING OVER ROCKS, HOWEVER THERE IS NO EASY ACCESS TO SITE.
General: 150 PLANTS OBSERVED IN 1991.
Owner/Manager: STATE

Occurrence No.: 61	Map Index: 74820	EO Index: 75744	Dates Last Seen
Occ Rank: Unknown			Element: 1972-06-03
Origin: Natural/Native occurrence			Site: 1972-06-03
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-04-23

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.30178° / -121.08355°	Township: 17N
UTM: Zone-10 N4352017 E665247	Range: 08E
Radius: 2/5 mile	Section: 33
Elevation:	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: 0.5 MI UPSTREAM OF THE HWY 49 BRIDGE OVER THE S FORK YUBA RIVER, HEAD OF EXCELSIOR DITCH.
Location Detail: LOCATION DESCRIP ON HERB LABEL SAYS "-0.5 MI UPSTREAM S FRK YUBA RIVER, DEVIL'S SLIDE, HEAD OF EXCELSIOR DITCH HWY 49 BRIDGE." MAPPED BY CNDDDB AS BEST GUESS TO ENCOMPASS THE AREA -0.5 MI UPSTREAM FROM HWY 49 BRIDGE OVER S FORK YUBA RIVER.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS A 1972 HECKARD COLLECTION. NEEDS FIELDWORK.
Owner/Manager: BLM?

Mielichhoferia elongata

elongate copper moss

Element Code: NBMUS4Q022

----- Status ----- NDDDB Element Ranks ----- Other Lists -----
 Federal: None Global: G4? CNPS List: 2.2
 State: None State: S2

----- Habitat Associations -----
 General: CISMONTANE WOODLAND. COMMONLY CALLED "COPPER MOSSES".
 Micro: MOSS GROWING ON VERY ACIDIC, METAMORPHIC ROCK OR SUBSTRATE; USUALLY IN HIGHER PORTIONS IN FENS. OFTEN ON SUBSTRATES NATU

----- Occurrence No. 5 Map Index: 45605 EO Index: 45605 ----- Dates Last Seen -----
 Occ Rank: Unknown Element: XXXX-XX-XX
 Origin: Natural/Native occurrence Site: XXXX-XX-XX
 Presence: Presumed Extant
 Trend: Unknown Record Last Updated: 2001-08-16

----- Quad Summary: Nevada City (3912131/558D) -----
 County Summary: Nevada

----- Lat/Long: 39.32166° / -121.10374° Township: 17N
 UTM: Zone-10 N4354187 E663460 Range: 08E
 Radius: 1 mile Mapping Precision: NON-SPECIFIC Section: 20 Qtr: XX
 Elevation: 1,780 ft Symbol Type: POINT Meridian: M

----- Location: SHADY CREEK BETWEEN NEVADA CITY AND NORTH SAN JUAN.
 Location Detail: MAPPED AS BEST GUESS AT SHADY CREEK ON HWY BETWEEN NEVADA CITY AND NORTH SAN JUAN BY CNDDDB.
 General: NEEDS FIELDWORK.
 Owner/Manager: UNKNOWN

Phrynosoma blainvillii
 coast horned lizard

Status _____ **NDDB Element Ranks** _____ **Element Code:** ARACF12100 **Other Lists** _____
 Federal: None **Global:** G4G5 **CDFG Status:** SC
 State: None **State:** S3S4

Habitat Associations _____
General: FREQUENTS A WIDE VARIETY OF HABITATS, MOST COMMON IN LOWLANDS ALONG SANDY WASHES WITH SCATTERED LOW BUSHES.
Micro: OPEN AREAS FOR SUNNING, BUSHES FOR COVER, PATCHES OF LOOSE SOIL FOR BURIAL, & ABUNDANT SUPPLY OF ANTS & OTHER INSECTS.

→ *

Occurrence No. 603	Map Index: 39903	EO Index: 34905	Dates Last Seen	
Occ Rank: Good			Element: 1991-05-28	
Origin: Natural/Native occurrence			Site: 1991-05-28	
Presence: Presumed Extant			Record Last Updated: 1998-10-06	
Trend: Unknown				

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.26496° / -121.06283°	Township: 16N
UTM: Zone-10 N4347969 E667122	Range: 08E
Area: 11.8 acres	Section: 10 Qtr: NE
Elevation: 2,500 ft	Meridian: M
Mapping Precision: SPECIFIC	Symbol Type: POLYGON

Location: THREE PROPERTIES; 10448, 10347 & 10457 NEWTOWN ROAD, 2.5 AIR MILES FROM JUNCTION OF HIGHWAYS 49 & 20, NEVADA CITY.
Location Detail: LIZARDS ARE SEEN FREQUENTLY IN THIS AREA.
Ecological: CHAPARRAL WITH DIGGER PINES, MANZANITA, MCNAB CYPRESS, AND CHAPARRAL PEA, ON SERPENTINE SOIL
Threat: RESIDENTIAL
General: 5 (3 ADULTS & 2 JUVENILES) OBSERVED IN 1990. 2 ADULTS OBSERVED IN 1991.
Owner/Manager: PVT

→ *

Occurrence No. 604	Map Index: 39905	EO Index: 34907	Dates Last Seen	
Occ Rank: Unknown			Element: 1990-08-28	
Origin: Natural/Native occurrence			Site: 1990-08-28	
Presence: Presumed Extant			Record Last Updated: 1998-10-06	
Trend: Unknown				

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.25910° / -121.09869°	Township: 16N
UTM: Zone-10 N4347253 E664042	Range: 08E
Radius: 1/5 mile	Section: 08 Qtr: SE
Elevation: 2,260 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Symbol Type: POINT

Location: NEW HOME SITES, ~0.7 MILE S OF JOHN WOOLMAN SCHOOL, & ~4.5 MILES W OF THE HWY 49 & 20 SPLIT.
Location Detail: CONSTRUCTION SITE OF NEW HOMES (5 ACRE LOTS). SEEN WHILE CONSTRUCTING DRIVEWAY FORMS.
Ecological: CHAPARRAL WITH ROCK OUTCROPS.
Threat: CONSTRUCTION / DEVELOPMENT
General: ONE, ~4" LONG ADULT OBSERVED, BASICALLY BROWN COLORATION.
Owner/Manager: PVT

Rana boylei

foothill yellow-legged frog

Element Code: AAABH01050

Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations

General: PARTLY-SHADED, SHALLOW STREAMS & RIFFLES WITH A ROCKY SUBSTRATE IN A VARIETY OF HABITATS.
 Micro: NEED AT LEAST SOME COBBLE-SIZED SUBSTRATE FOR EGG-LAYING. NEED AT LEAST 15 WEEKS TO ATTAIN METAMORPHOSIS.

Occurrence No. : 446	Map Index: 66300	EO Index: 66385	Dates Last Seen
Occ Rank: Fair			Element: 2006-09-16
Origin: Natural/Native occurrence			Site: 2006-09-16
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2006-09-21

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.29799° / -121.08919°	Township: 17N
UTM: Zone-10 N4351586 E664769	Range: 08E
Radius: 80 meters	Section: 33
Elevation: 1,193 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NW
Symbol Type: POINT	

Location: SOUTH YUBA RIVER, JUST DOWNSTREAM FROM THE OLD (ORIGINAL) HIGHWAY 49 BRIDGE, SOUTH YUBA RIVER STATE PARK.
Location Detail: FROGS WERE OBSERVED IN A BACKWATER AREA (MEASURING ~1.5M X 1.0M), ADJACENT TO A TRANSITION FROM MAIN CHANNEL POOL TO RIFFLE.
Ecological: HABITAT CONSISTS OF AN AQUATIC SUBSTRATE OF BOULDER/COBBLE/GRAVEL. AVERAGE DEPTH = 10-20CM.
Threat: THREATENED BY RECREATIONAL ACTIVITIES.
General: INCIDENTAL OBSERVATION OF 6 JUVENILE FROGS (SVL = 18-25MM) ON 16 SEP 2006.
Owner/Manager: DPR-SOUTH YUBA RIVER SP

Occurrence No. : 505	Map Index: 73999	EO Index: 75000	Dates Last Seen
Occ Rank: Unknown			Element: 2008-09-12
Origin: Natural/Native occurrence			Site: 2008-09-12
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-03-18

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.32706° / -121.04835°	Township: 17N
UTM: Zone-10 N4354888 E668222	Range: 08E
Area: 64.0 acres	Section: 23
Elevation: 1,660 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NW
Symbol Type: POLYGON	

Location: PURDON CROSSING, ALONG SOUTH YUBA RIVER, AT SOUTH YUBA RIVER & PURDON CREEK CROSSING, ABOUT 4.5 MI NNW OF NEVADA CITY.
Location Detail: MAPPED TO PROVIDED COORDINATES IN N1/2 SEC 23.
Ecological: HABITAT CONSISTED OF LOW TO HIGH GRADIENT RIFFLES, POOLS, RUNS, EDGEWATER, & GLIDES WITH EXPOSED & PROTECTED BANKS. STREAM SUBSTRATES CONSISTED OF BOULDER, GRAVEL, SAND, COBBLE & BEDROCK.
General: ON 20 MAY 2008 26 ADULTS, 11 JUVENILES, 1 EGG MASS OBSERVED. 10 JUN-15 ADULTS, 3 JUV, 2 LARVAE, 2 EGG MASSES OBS. 12 SEP-11 ADULTS, 79 JUV, 2 LARVAE OBS; 5 JUV OBS ON TRANSECT LINE.
Owner/Manager: DPR-SOUTH YUBA RIVER SP

Occurrence No. : 729	Map Index: 74756	EO Index: 75754	Dates Last Seen
Occ Rank: Good			Element: 2008-08-12
Origin: Natural/Native occurrence			Site: 2008-08-12
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2009-04-22

Quad Summary: Nevada City (3912131/558D)
County Summary: Nevada

Lat/Long: 39.35461° / -121.05661°	Township: 17N
UTM: Zone-10 N4357931 E667444	Range: 08E
Area: 17.0 acres	Section: 11
Elevation: 2,230 ft	Meridian: M
Mapping Precision: SPECIFIC	Qtr: NW
Symbol Type: POLYGON	

Location: ALONG SHADY CREEK, NORTH OF SAN JUAN RIDGE; ~0.45 MI NE OF BLIND SHADY CREEK CONFLUENCE, ~2.6 MI ESE OF NORTH SAN JUAN.
Location Detail: MAPPED TRANSECT TO PROVIDED MAP & TOWNSHIP, RANGE & QUARTER SECTION; SEC 11 SW 1/4 OF NW 1/4.
Ecological: HABITAT CONSISTED OF A PERENNIAL CREEK. VEGETATION INCLUDED ALDER & WILLOW. SUBSTRATE WAS 75% BEDROCK & 25% SAND, SILT & ORGANIC MATTER.
General: 39 ADULTS & 19 LARVAE OBSERVED ON 12 AUG 2008.
Owner/Manager: BLM, PVT

Rhynchospora capitellata

brownish beaked-rush

Element Code: PMCYP0N080

_____ Status _____	NDDB Element Ranks	_____ Other Lists _____
Federal: None	Global: G5	CNPS List: 2.2
State: None	State: S2S3	

_____ Habitat Associations _____

General: LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, MARSHES AND SWAMPS, UPPER MONTANE CONIFEROUS FOREST.
 Micro: MESIC SITES. 455-2000M.

Occurrence No. 6	Map Index: 50475	EO Index: 50475	_____ Dates Last Seen _____
Occ Rank: Unknown			Element: 1979-06-17
Origin: Natural/Native occurrence			Site: 1979-06-17
Presence: Presumed Extant			
Trend: Unknown			Record Last Updated: 2003-03-06

Quad Summary: Nevada City (3912131/558D), Pike (3912048/557B), Camptonville (3912141/558A), North Bloomfield (3912038/557C)
 County Summary: Nevada

Lat/Long: 39.36591° / -121.00454°	Township: 17N
UTM: Zone-10 N4359282 E671903	Range: 09E
Radius: 1 mile	Section: 06
Elevation: 2,900 ft	Meridian: M
Mapping Precision: NON-SPECIFIC	Qtr: XX
Symbol Type: POINT	

Location: NORTH COLUMBIA DIGGINGS.

Location Detail: IN MARSH ON WEST SIDE OF EAST PIT. MAPPED BY CNDDDB AS BEST GUESS AROUND NORTH COLUMBIA DIGGINGS; NEED MAP DETAIL.

General: SITE BASED ON A 1979 PENDEU COLLECTION. OTHER SITE INFO ATTRIBUTED HERE INCLUDES "MEADOW NEAR NORTH COLUMBIA ON THE SAN JUAN RIDGE", "BUCKEYE DIGGINGS", & "BUCKEYE RIDGE EAST OF DIGGINGS." NEEDS FIELDWORK.

Owner/Manager: UNKNOWN



California Department of Fish and Game
Spotted Owl Database Management System

1 OF 1

Report # 1 - Territories Found

Spotted owl territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_18N_08E Sections(33,34,32,31,35,36);
M_18N_09E Sections(31,32,33,34,35,36);
M_18N_10E Sections(31,32);
M_17N_08E Sections
(05,04,02,01,03,06,09,10,11,12,08,07,14,13,15,16,18,17,23,24,22,21,19,20,28,27,26,25,29,30,33,32,34,31,35,36);
M_17N_09E Sections
(06,03,02,05,04,01,07,09,10,08,11,12,13,18,14,17,16,15,23,24,22,21,20,19,25,26,27,28,29,30,31,36,35,34,32,33);
M_17N_10E Sections(06,05,07,08,18,17,20,19,30,29,32,31);
M_16N_10E Sections(05,06,07,08,18,17,19,20,30,29,31,32);
M_16N_09E Sections
(01,02,03,04,06,05,07,08,11,12,10,09,13,15,14,17,16,18,22,23,20,21,24,19,27,26,28,29,25,30,36,35,34,33,32,31);
M_16N_08E Sections
(01,02,03,04,05,06,12,11,09,10,08,07,13,15,16,14,17,18,24,23,22,21,20,19,25,26,27,28,29,30,36,35,34,33,32,31);
M_15N_10E Sections(06,05,07,08,18,17,19,20,30,29);
M_15N_09E Sections(01,02,03,04,05,06,08,07,09,10,11,12,18,17,16,15,14,13,19,20,21,22,23,24,30,29,28,27,26,25);
M_15N_08E Sections(02,03,01,04,05,06,07,09,10,08,11,12,18,17,16,15,14,13,19,20,22,23,21,24,26,25,27,30,29,28);

Territory	Subspecies	Lat DD N83	Lon DD N83
NEV0001	CALIFORNIA	39.24459300	-120.98503200
NEV0006	CALIFORNIA	39.28891000	-120.92986000
NEV0007	CALIFORNIA	39.31983200	-120.92179200
NEV0027	CALIFORNIA	39.35687500	-120.91948800
NEV0028	CALIFORNIA	39.30051100	-120.88651900
NEV0029	CALIFORNIA	39.28584500	-120.88762100
NEV0035	CALIFORNIA	39.24252400	-120.85891100
NEV0038	CALIFORNIA	39.27096200	-120.94718400
NEV0040	CALIFORNIA	39.33044800	-120.85832000
NEV0052	CALIFORNIA	39.34837400	-121.01570800
NEV0053	CALIFORNIA	39.23951800	-120.88670600
NEV0061	CALIFORNIA	39.35683500	-120.99945300
NEV0064	CALIFORNIA	39.30372300	-120.91077600
NEV0066	CALIFORNIA	39.37087700	-120.94693200
NEV0074	CALIFORNIA	39.25184900	-121.04868900



California Department of Fish and Game
Spotted Owl Database Management System

1 OF 7

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_18N_08E Sections(33,34,32,31,35,36);
 M_18N_09E Sections(31,32,33,34,35,36);
 M_18N_10E Sections(31,32);
 M_17N_08E Sections
 (05,04,02,01,03,06,09,10,11,12,08,07,14,13,15,16,18,17,23,24,22,21,19,20,28,27,26,25,29,30,33,32,34,31,35,36);
 M_17N_09E Sections
 (06,03,02,05,04,01,07,09,10,08,11,12,13,18,14,17,16,15,23,24,22,21,20,19,25,26,27,28,29,30,31,36,35,34,32,33);
 M_17N_10E Sections(06,05,07,08,18,17,20,19,30,29,32,31);
 M_16N_10E Sections(05,06,07,08,18,17,19,20,30,29,31,32);
 M_16N_09E Sections
 (01,02,03,04,06,05,07,08,11,12,10,09,13,15,14,17,16,18,22,23,20,21,24,19,27,26,28,29,25,30,36,35,34,33,32,31);
 M_16N_08E Sections
 (01,02,03,04,05,06,12,11,09,10,08,07,13,15,16,14,17,18,24,23,22,21,20,19,25,26,27,28,29,30,36,35,34,33,32,31);
 M_15N_10E Sections(06,05,07,08,18,17,19,20,30,29);
 M_15N_09E Sections(01,02,03,04,05,06,08,07,09,10,11,12,18,17,16,15,14,13,19,20,21,22,23,24,30,29,28,27,26,25);
 M_15N_08E Sections(02,03,01,04,05,06,07,09,10,08,11,12,18,17,16,15,14,13,19,20,22,23,21,24,26,25,27,30,29,28);

Territory: NEV0001

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1974-06-11	1	UM				39.244593	-120.985032

Territory: NEV0006

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2002-06-20	2	AMAF	Y			39.288910	-120.929860
POS	2003-06-09	1	UM	N			39.295817	-120.936788
POS	2003-06-03	1	UM	N			39.297163	-120.940053
POS	2003-06-02	1	UU	N			39.295300	-120.942729
POS	2002-07-25	1	UF	N			39.297764	-120.935838
POS	2002-07-25	1	UM	N			39.297764	-120.935838
POS	2002-07-25	2	UMUF	Y			39.297764	-120.935838
POS	2002-07-23	1	UU	N			39.296266	-120.939233
POS	2002-07-10	1	UM	N			39.295340	-120.940373
POS	2002-07-09	1	UU	N			39.298242	-120.942967
POS	2002-06-19	1	UU	N			39.292803	-120.919832
POS	1999-07-15	1	UU			0	39.294010	-120.954872
POS	1999-07-15	1	UU	N			39.291828	-120.946598
POS	1999-07-13	1	UU			0	39.294010	-120.954872
POS	1999-07-13	1	UU	N			39.295493	-120.946491
POS	1992-07-15	1	UU				39.289550	-120.933424
POS	1985-05-19	1	UU				39.297850	-120.940671
POS	1979-07-31	1	UU				39.297974	-120.931391



2 OF 7

California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

POS	1978-07-13	1	UM				39.290493	-120.950127
POS	1978-04-30	1	UU				39.294337	-120.936136
POS	1974-01-01	2	UMUF	Y		1	39.290020	-120.968901

Territory: NEV0007

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2000-06-07	2	UMUF	Y		1	39.319832	-120.921792
POS	2002-06-19	1	UU	N			39.320035	-120.917019
POS	2001-06-12	1	UU	N			39.319195	-120.934129
POS	2001-05-30	2	UMUF	Y			39.319094	-120.937578
POS	1999-06-23	2	AMAF			0	39.323457	-120.917439
POS	1999-06-23	2	UMUF	Y			39.320299	-120.918205
POS	1999-06-09	1	UU			0	39.323457	-120.917439
POS	1999-06-09	1	UU	N			39.318836	-120.922053
POS	1999-06-04	1	UU			0	39.323457	-120.917439
POS	1999-06-04	1	UU	N			39.319899	-120.922022
POS	1999-05-25	1	UU			0	39.323457	-120.917439
POS	1999-05-25	1	UU	N			39.319204	-120.922959
POS	1992-07-15	1	UU				39.334236	-120.930786
POS	1992-06-11	2	UMUF	Y		1	39.318318	-120.914715
POS	1991-05-06	1	UU				39.326908	-120.940237
POS	1983-04-27	1	UU				39.323375	-120.935607
POS	1983-04-25	1	UU				39.323375	-120.935607
POS	1976-06-10	1	UU				39.323457	-120.917439
POS	1976-06-08	1	UU				39.312528	-120.931101

Territory: NEV0027

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1990-07-17	1	UM				39.356875	-120.919488
NEG	1990-07-11	0					39.356875	-120.919488
NEG	1990-06-13	0					39.356875	-120.919488
POS	2004-05-19	1	UU				39.362522	-120.921897
POS	1990-07-16	1	UU				39.355524	-120.922035

Territory: NEV0028

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2003-04-08	2	AMUF	Y	Y		39.300511	-120.886519



California Department of Fish and Game
Spotted Owl Database Management System

3 OF 7

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

NEG	1992-07-15	0					39.294986	-120.885410
NEG	1992-06-25	0					39.294986	-120.885410
NEG	1992-06-10	0					39.294986	-120.885410
NEG	1992-06-03	0					39.294986	-120.885410
NEG	1992-05-27	0					39.294986	-120.885410
POS	2003-05-29	2	UMUF	Y			39.301530	-120.883589
POS	2003-03-31	2	UMUF	Y			39.301066	-120.887337
POS	2003-03-25	1	UM	N			39.300503	-120.880165
POS	2002-06-20	2	AMSF	Y			39.301000	-120.883698
POS	2002-05-06	1	UU	N			39.300580	-120.889323
POS	2002-05-02	1	UM	N			39.296751	-120.884904
POS	2002-05-02	2	AMSF	Y			39.296751	-120.884904
POS	2002-04-30	1	UU	N			39.299157	-120.885377
POS	2002-04-30	1	UU	N			39.296348	-120.884522
POS	2002-04-24	1	UU	N			39.298585	-120.883179
POS	2002-04-23	1	UU	N			39.297266	-120.885434
POS	2001-04-30	1	UF	N			39.290729	-120.878767
POS	2001-04-24	1	UF	N			39.289952	-120.889527
POS	1999-05-13	1	UM			0	39.295225	-120.880730
POS	1999-05-13	1	UM	N			39.293053	-120.889619
POS	1999-05-11	2	UMUF			0	39.295225	-120.880730
POS	1999-05-11	2	UMUF	Y			39.293053	-120.889619
POS	1999-05-09	2	UMUF			0	39.295225	-120.880730
POS	1999-05-09	2	UMUF	Y			39.291870	-120.889504
POS	1998-07-14	1	UU			0	39.295225	-120.880730
POS	1998-07-13	1	UU			0	39.295225	-120.880730
POS	1998-06-04	1	UU			0	39.295225	-120.880730
POS	1998-06-02	1	UU			0	39.295225	-120.880730
POS	1990-07-16	2	UMUF				39.298684	-120.885148

Territory: NEV0029

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1992-06-25	2	UMUF	Y		1	39.285845	-120.887621
POS	1993-04-21	2	UMUF				39.283985	-120.885428
POS	1992-07-15	1	UU				39.283882	-120.894648
POS	1991-06-10	2	UMUF	Y		1	39.285583	-120.883107
POS	1991-05-24	2	UMUF	Y			39.283985	-120.885428



California Department of Fish and Game
Spotted Owl Database Management System

4 OF 7

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

POS	1991-05-23	1	UM			39.283985	-120.885428
POS	1991-05-22	1	UM			39.283985	-120.885428
POS	1990-08-29	1	UU			39.280388	-120.880829
POS	1990-08-23	2	UMUF	Y		39.283985	-120.885428
POS	1990-07-31	1	UM			39.283985	-120.885428
POS	1990-07-30	1	UM			39.283985	-120.885428
POS	1990-07-24	1	UU			39.283985	-120.885428
POS	1990-07-23	1	UM			39.284062	-120.876278
POS	1990-07-23	1	UU			39.276746	-120.876279
POS	1990-07-02	1	UU			39.276704	-120.885357
POS	1990-06-13	1	UU			39.283985	-120.885428
POS	1990-06-12	1	UM			39.283985	-120.885428

Territory: NEV0035

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1991-04-18	2	UMUF	Y			39.242524	-120.858911
NEG	1991-06-10	0					39.240283	-120.866406
NEG	1991-05-30	0					39.240283	-120.866406
NEG	1991-05-28	0					39.240283	-120.866406
POS	1994-07-19	1	UF	N		0	39.248108	-120.856366
POS	1994-07-19	1	UF	N		0	39.240833	-120.856113
POS	1994-07-19	1	UM	N		0	39.240283	-120.866406
POS	1994-07-19	2	UMUF	Y		0	39.241084	-120.846303
POS	1993-07-20	1	UU				39.240833	-120.856113
POS	1993-06-22	1	UU				39.248108	-120.856366
POS	1992-03-11	1	UU				39.225654	-120.875966
POS	1991-05-03	1	UM				39.240283	-120.866406
POS	1991-05-03	1	UU				39.240283	-120.866406
POS	1991-04-26	1	UM				39.242524	-120.858911
POS	1991-04-18	1	UU				39.240833	-120.856113
POS	1991-04-10	1	UM				39.248317	-120.846696
POS	1991-04-10	2	UMUF	Y			39.248317	-120.846696
POS	1991-03-11	1	UU				39.240283	-120.866406
POS	1991-03-11	1	UU				39.233419	-120.856165
POS	1991-03-11	2	UMUF				39.240283	-120.866406
POS	1991-03-11	2	UMUF	Y			39.241084	-120.846303
POS	1991-01-01	1	UU				39.236846	-120.861285



5 OF 7

California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Territory: NEV0038

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1998-01-01	2	UMUF	Y		1	39.270962	-120.947184
POS	2003-04-30	2	UMUF	Y			39.268782	-120.949752
POS	1997-01-01	2	UMUF	Y		2	39.268782	-120.949752
POS	1993-08-08	2	UMUF	Y		2	39.268782	-120.949752
POS	1993-01-01	2	UMUF	Y		2	39.268782	-120.949752
POS	1992-06-03	2	UMUF				39.270962	-120.947184
POS	1991-01-01	1	UU				39.268782	-120.949752
POS	1987-01-01	1	UU				39.268782	-120.949752

Territory: NEV0040

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1997-08-14	1	AU				39.330448	-120.858320
NEG	2004-06-08	0					39.328612	-120.857912
NEG	1991-06-14	0					39.324539	-120.862306
NEG	1991-06-07	0					39.324539	-120.862306
POS	1992-07-07	1	UM				39.336453	-120.876237
POS	1992-07-06	1	UU				39.334860	-120.875844
POS	1991-07-26	1	UU				39.328008	-120.866713
POS	1991-06-10	1	UU				39.328008	-120.866713
POS	1991-05-22	1	UU				39.320386	-120.867223

Territory: NEV0052

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1992-04-05	2	UMUF	Y			39.348374	-121.015708
POS	2007-06-13	1	UU				39.356653	-121.035819
POS	2007-06-12	1	UU				39.356653	-121.035819
POS	2007-06-11	1	UU				39.356653	-121.035819
POS	1993-08-01	2	UMUF	Y			39.347938	-121.016579
POS	1993-04-04	2	UMUF	Y			39.348374	-121.015708
POS	1992-04-08	2	UMUF	Y			39.348374	-121.015708
POS	1992-04-07	2	UMUF	Y			39.355509	-121.016736
POS	1992-04-07	2	UMUF	Y			39.348374	-121.015708
POS	1992-04-06	2	UMUF	Y			39.348374	-121.015708



California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Territory: NEV0053

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2001-06-25	2	UMUF	Y			39.239518	-120.886706
POS	2002-06-24	1	UU	N			39.247001	-120.880548
POS	2001-06-14	1	UU				39.243072	-120.886460
POS	1996-04-15	1	UU				39.247595	-120.876046
POS	1994-06-30	1	UU				39.255147	-120.885089
POS	1993-05-18	1	UU				39.253138	-120.882577
POS	1993-05-08	1	UU				39.255022	-120.876216
POS	1993-04-20	1	UU				39.255147	-120.885089
POS	1993-04-15	1	UU				39.253138	-120.882577

Territory: NEV0061

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1995-05-09	1	UF		Y		39.356835	-120.999453
POS	1995-04-01	1	UU				39.346631	-120.998119

Territory: NEV0064

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1999-07-09	2	UMUF	Y			39.303723	-120.910776
POS	2003-06-02	1	UU	N			39.301289	-120.916194
POS	2000-06-23	1	UU	N			39.298527	-120.913911
POS	2000-06-21	2	UUUU	Y			39.302615	-120.911238
POS	1999-07-07	1	UU	N			39.298588	-120.914280

Territory: NEV0066

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2004-01-01	2	UMUF	Y			39.370877	-120.946932
POS	2000-01-01	1	UU				39.365892	-120.954495
POS	1999-01-01	1	UU				39.365892	-120.954495
POS	1998-01-01	1	UU				39.365892	-120.954495
POS	1997-01-01				Y	3	39.365892	-120.954495
POS	1996-01-01	2	UUUU				39.365892	-120.954495



California Department of Fish and Game
Spotted Owl Database Management System

7 OF 7

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Territory: NEV0074

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2008-06-02	2	UMUF	Y			39.251849	-121.048689
POS	2008-06-08	2	UMUF	Y			39.252028	-121.046980
POS	2008-05-31	1	UU				39.252491	-121.052043



California Department of Fish and Game Spotted Owl Database Management System

Report # 1 - Territories Found

Spotted owl territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_16N_09E Sections(13,15,14,17,16,18,22,23,20,21,24,19,27,26,28,29,25,30,36,35,34,33,32,31);
M_16N_10E Sections(18,17,19,20,30,29,31,32);
M_15N_10E Sections(06,05,07,08,18,17,19,20,30,29);
M_15N_09E Sections(01,02,03,04,05,08,09,10,11,12,17,16,15,14,13,20,21,22,23,24,29,28,27,26,25);

Territory	Subspecies	Lat DD N83	Lon DD N83
NEV0001	CALIFORNIA	39.24459300	-120.98503200
NEV0035	CALIFORNIA	39.24252400	-120.85891100
NEV0053	CALIFORNIA	39.23951800	-120.88670600



California Department of Fish and Game Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_16N_09E Sections(13,15,14,17,16,18,22,23,20,21,24,19,27,26,28,29,25,30,36,35,34,33,32,31);
 M_16N_10E Sections(18,17,19,20,30,29,31,32);
 M_15N_10E Sections(06,05,07,08,18,17,19,20,30,29);
 M_15N_09E Sections(01,02,03,04,05,08,09,10,11,12,17,16,15,14,13,20,21,22,23,24,29,28,27,26,25);

Territory: NEV0001 SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1974-06-11	1	UM				39.244593	-120.985032

Territory: NEV0035 SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1991-04-18	2	UMUF	Y			39.242524	-120.858911
NEG	1991-06-10	0					39.240283	-120.866406
NEG	1991-05-30	0					39.240283	-120.866406
NEG	1991-05-28	0					39.240283	-120.866406
POS	1994-07-19	1	UF	N		0	39.248108	-120.856366
POS	1994-07-19	1	UF	N		0	39.240833	-120.856113
POS	1994-07-19	1	UM	N		0	39.240283	-120.866406
POS	1994-07-19	2	UMUF	Y		0	39.241084	-120.846303
POS	1993-07-20	1	UU				39.240833	-120.856113
POS	1993-06-22	1	UU				39.248108	-120.856366
POS	1992-03-11	1	UU				39.225654	-120.875966
POS	1991-05-03	1	UM				39.240283	-120.866406
POS	1991-05-03	1	UU				39.240283	-120.866406
POS	1991-04-26	1	UM				39.242524	-120.858911
POS	1991-04-18	1	UU				39.240833	-120.856113
POS	1991-04-10	1	UM				39.248317	-120.846696
POS	1991-04-10	2	UMUF	Y			39.248317	-120.846696
POS	1991-03-11	1	UU				39.240283	-120.866406
POS	1991-03-11	1	UU				39.233419	-120.856165
POS	1991-03-11	2	UMUF				39.240283	-120.866406
POS	1991-03-11	2	UMUF	Y			39.241084	-120.846303
POS	1991-01-01	1	UU				39.236846	-120.861285

Territory: NEV0053 SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2001-06-25	2	UMUF	Y			39.239518	-120.886706



California Department of Fish and Game
Spotted Owl Database Management System

2 OF 2

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

POS	2002-06-24	1	UU	N	39.247001	-120.880548
POS	2001-06-14	1	UU		39.243072	-120.886460
POS	1996-04-15	1	UU		39.247595	-120.876046
POS	1994-06-30	1	UU		39.255147	-120.885089
POS	1993-05-18	1	UU		39.253138	-120.882577
POS	1993-05-08	1	UU		39.255022	-120.876216
POS	1993-04-20	1	UU		39.255147	-120.885089
POS	1993-04-15	1	UU		39.253138	-120.882577



California Department of Fish and Game
Spotted Owl Database Management System

Report # 1 - Territories Found

Spotted owl territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_18N_09E Sections(31,32);
 M_17N_08E Sections
 (05,04,02,01,03,06,09,10,11,12,08,07,14,13,15,16,18,17,23,24,22,21,19,20,28,27,26,25,29,30,33,32,34,31,35,36);
 M_17N_09E Sections(06,05,07,08,18,17,20,19,29,30,31,32);
 M_16N_09E Sections(06,05,07,08,17,18);
 M_16N_08E Sections(01,02,03,04,05,06,12,11,09,10,08,07,13,15,16,14,17,18);

Territory	Subspecies	Lat DD N83	Lon DD N83
NEV0052	CALIFORNIA	39.34837400	-121.01570800
NEV0074	CALIFORNIA	39.25184900	-121.04868900



1 OF 1

California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_18N_09E Sections(31,32);

M_17N_08E Sections

(05,04,02,01,03,06,09,10,11,12,08,07,14,13,15,16,18,17,23,24,22,21,19,20,28,27,26,25,29,30,33,32,34,31,35,36);

M_17N_09E Sections(06,05,07,08,18,17,20,19,29,30,31,32);

M_16N_09E Sections(06,05,07,08,17,18);

M_16N_08E Sections(01,02,03,04,05,06,12,11,09,10,08,07,13,15,16,14,17,18);

Territory: NEV0052

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1992-04-05	2	UMUF	Y			39.348374	-121.015708
POS	2007-06-13	1	UU				39.356653	-121.035819
POS	2007-06-12	1	UU				39.356653	-121.035819
POS	2007-06-11	1	UU				39.356653	-121.035819
POS	1993-08-01	2	UMUF	Y			39.347938	-121.016579
POS	1993-04-04	2	UMUF	Y			39.348374	-121.015708
POS	1992-04-08	2	UMUF	Y			39.348374	-121.015708
POS	1992-04-07	2	UMUF	Y			39.355509	-121.016736
POS	1992-04-07	2	UMUF	Y			39.348374	-121.015708
POS	1992-04-06	2	UMUF	Y			39.348374	-121.015708

Territory: NEV0074

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2008-06-02	2	UMUF	Y			39.251849	-121.048689
POS	2008-06-08	2	UMUF	Y			39.252028	-121.046980
POS	2008-05-31	1	UU				39.252491	-121.052043



California Department of Fish and Game
Spotted Owl Database Management System

Report # 1 - Territories Found

Spotted owl territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_18N_09E Sections(31,32,33,34,35,36);
 M_18N_10E Sections(31,32);
 M_17N_09E Sections
 (06,03,02,05,04,01,07,09,10,08,11,12,13,18,14,17,16,15,23,24,22,21,20,19,25,26,27,28,29,30,31,36,35,34,32,33);
 M_17N_10E Sections(06,05,07,08,18,17,20,19,30,29,32,31);
 M_16N_10E Sections(05,06,07,08,18,17);
 M_16N_09E Sections(01,02,03,04,06,05,07,08,11,12,10,09,13,15,14,17,16,18);

Territory	Subspecies	Lat DD N83	Lon DD N83
NEV0006	CALIFORNIA	39.28891000	-120.92986000
NEV0007	CALIFORNIA	39.31983200	-120.92179200
NEV0027	CALIFORNIA	39.35687500	-120.91948800
NEV0028	CALIFORNIA	39.30051100	-120.88651900
NEV0029	CALIFORNIA	39.28584500	-120.88762100
NEV0038	CALIFORNIA	39.27096200	-120.94718400
NEV0040	CALIFORNIA	39.33044800	-120.85832000
NEV0053	CALIFORNIA	39.23951800	-120.88670600
NEV0061	CALIFORNIA	39.35683500	-120.99945300
NEV0064	CALIFORNIA	39.30372300	-120.91077600
NEV0066	CALIFORNIA	39.37087700	-120.94693200

← 5.38 miles + east
 ← 9 miles north
 ← 6.7 miles northeast



California Department of Fish and Game Spotted Owl Database Management System

1 OF 5

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Meridian, Township, Range, Section (MTRS) intersected by search area.

M_18N_09E Sections(31,32,33,34,35,36);
 M_18N_10E Sections(31,32);
 M_17N_09E Sections
 (06,03,02,05,04,01,07,09,10,08,11,12,13,18,14,17,16,15,23,24,22,21,20,19,25,26,27,28,29,30,31,36,35,34,32,33);
 M_17N_10E Sections(06,05,07,08,18,17,20,19,30,29,32,31);
 M_16N_10E Sections(05,06,07,08,18,17);
 M_16N_09E Sections(01,02,03,04,06,05,07,08,11,12,10,09,13,15,14,17,16,18);

Territory: NEV0006 SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2002-06-20	2	AMAF	Y			39.288910	-120.929860
POS	2003-06-09	1	UM	N			39.295817	-120.936788
POS	2003-06-03	1	UM	N			39.297163	-120.940053
POS	2003-06-02	1	UU	N			39.295300	-120.942729
POS	2002-07-25	1	UF	N			39.297764	-120.935838
POS	2002-07-25	1	UM	N			39.297764	-120.935838
POS	2002-07-25	2	UMUF	Y			39.297764	-120.935838
POS	2002-07-23	1	UU	N			39.296266	-120.939233
POS	2002-07-10	1	UM	N			39.295340	-120.940373
POS	2002-07-09	1	UU	N			39.298242	-120.942967
POS	2002-06-19	1	UU	N			39.292803	-120.919832
POS	1999-07-15	1	UU			0	39.294010	-120.954872
POS	1999-07-15	1	UU	N			39.291828	-120.946598
POS	1999-07-13	1	UU			0	39.294010	-120.954872
POS	1999-07-13	1	UU	N			39.295493	-120.946491
POS	1992-07-15	1	UU				39.289550	-120.933424
POS	1985-05-19	1	UU				39.297850	-120.940671
POS	1979-07-31	1	UU				39.297974	-120.931391
POS	1978-07-13	1	UM				39.290493	-120.950127
POS	1978-04-30	1	UU				39.294337	-120.936136
POS	1974-01-01	2	UMUF	Y		1	39.290020	-120.968901

Territory: NEV0007 SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2000-06-07	2	UMUF	Y		1	39.319832	-120.921792
POS	2002-06-19	1	UU	N			39.320035	-120.917019
POS	2001-06-12	1	UU	N			39.319195	-120.934129
POS	2001-05-30	2	UMUF	Y			39.319094	-120.937578



California Department of Fish and Game
Spotted Owl Database Management System

2 OF 5

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

POS	1999-06-23	2	AMAF		0	39.323457	-120.917439
POS	1999-06-23	2	UMUF	Y		39.320299	-120.918205
POS	1999-06-09	1	UU		0	39.323457	-120.917439
POS	1999-06-09	1	UU	N		39.318836	-120.922053
POS	1999-06-04	1	UU		0	39.323457	-120.917439
POS	1999-06-04	1	UU	N		39.319899	-120.922022
POS	1999-05-25	1	UU		0	39.323457	-120.917439
POS	1999-05-25	1	UU	N		39.319204	-120.922959
POS	1992-07-15	1	UU			39.334236	-120.930786
POS	1992-06-11	2	UMUF	Y	1	39.318318	-120.914715
POS	1991-05-06	1	UU			39.326908	-120.940237
POS	1983-04-27	1	UU			39.323375	-120.935607
POS	1983-04-25	1	UU			39.323375	-120.935607
POS	1976-06-10	1	UU			39.323457	-120.917439
POS	1976-06-08	1	UU			39.312528	-120.931101

Territory: NEV0027

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1990-07-17	1	UM				39.356875	-120.919488
NEG	1990-07-11	0					39.356875	-120.919488
NEG	1990-06-13	0					39.356875	-120.919488
POS	2004-05-19	1	UU				39.362522	-120.921897
POS	1990-07-16	1	UU				39.355524	-120.922035

Territory: NEV0028

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2003-04-08	2	AMUF	Y	Y		39.300511	-120.886519
NEG	1992-07-15	0					39.294986	-120.885410
NEG	1992-06-25	0					39.294986	-120.885410
NEG	1992-06-10	0					39.294986	-120.885410
NEG	1992-06-03	0					39.294986	-120.885410
NEG	1992-05-27	0					39.294986	-120.885410
POS	2003-05-29	2	UMUF	Y			39.301530	-120.883589
POS	2003-03-31	2	UMUF	Y			39.301066	-120.887337
POS	2003-03-25	1	UM	N			39.300503	-120.880165
POS	2002-06-20	2	AMSF	Y			39.301000	-120.883698
POS	2002-05-06	1	UU	N			39.300580	-120.889323



California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

POS	2002-05-02	1	UM	N		39.296751	-120.884904
POS	2002-05-02	2	AMSF	Y		39.296751	-120.884904
POS	2002-04-30	1	UU	N		39.299157	-120.885377
POS	2002-04-30	1	UU	N		39.296348	-120.884522
POS	2002-04-24	1	UU	N		39.298585	-120.883179
POS	2002-04-23	1	UU	N		39.297266	-120.885434
POS	2001-04-30	1	UF	N		39.290729	-120.878767
POS	2001-04-24	1	UF	N		39.289952	-120.889527
POS	1999-05-13	1	UM		0	39.295225	-120.880730
POS	1999-05-13	1	UM	N		39.293053	-120.889619
POS	1999-05-11	2	UMUF		0	39.295225	-120.880730
POS	1999-05-11	2	UMUF	Y		39.293053	-120.889619
POS	1999-05-09	2	UMUF		0	39.295225	-120.880730
POS	1999-05-09	2	UMUF	Y		39.291870	-120.889504
POS	1998-07-14	1	UU		0	39.295225	-120.880730
POS	1998-07-13	1	UU		0	39.295225	-120.880730
POS	1998-06-04	1	UU		0	39.295225	-120.880730
POS	1998-06-02	1	UU		0	39.295225	-120.880730
POS	1990-07-16	2	UMUF			39.298684	-120.885148

Territory: NEV0029

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1992-06-25	2	UMUF	Y		1	39.285845	-120.887621
POS	1993-04-21	2	UMUF				39.283985	-120.885428
POS	1992-07-15	1	UU				39.283882	-120.894648
POS	1991-06-10	2	UMUF	Y		1	39.285583	-120.883107
POS	1991-05-24	2	UMUF	Y			39.283985	-120.885428
POS	1991-05-23	1	UM				39.283985	-120.885428
POS	1991-05-22	1	UM				39.283985	-120.885428
POS	1990-08-29	1	UU				39.280388	-120.880829
POS	1990-08-23	2	UMUF	Y			39.283985	-120.885428
POS	1990-07-31	1	UM				39.283985	-120.885428
POS	1990-07-30	1	UM				39.283985	-120.885428
POS	1990-07-24	1	UU				39.283985	-120.885428
POS	1990-07-23	1	UM				39.284062	-120.876278
POS	1990-07-23	1	UU				39.276746	-120.876279
POS	1990-07-02	1	UU				39.276704	-120.885357



4 OF 5

California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

POS	1990-06-13	1	UU			39.283985	-120.885428
POS	1990-06-12	1	UM			39.283985	-120.885428

Territory: NEV0038 **SubSpecies: CALIFORNIA**

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1998-01-01	2	UMUF	Y		1	39.270962	-120.947184
POS	2003-04-30	2	UMUF	Y			39.268782	-120.949752
POS	1997-01-01	2	UMUF	Y		2	39.268782	-120.949752
POS	1993-08-08	2	UMUF	Y		2	39.268782	-120.949752
POS	1993-01-01	2	UMUF	Y		2	39.268782	-120.949752
POS	1992-06-03	2	UMUF				39.270962	-120.947184
POS	1991-01-01	1	UU				39.268782	-120.949752
POS	1987-01-01	1	UU				39.268782	-120.949752

Territory: NEV0040 **SubSpecies: CALIFORNIA**

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1997-08-14	1	AU				39.330448	-120.858320
NEG	2004-06-08	0					39.328612	-120.857912
NEG	1991-06-14	0					39.324539	-120.862306
NEG	1991-06-07	0					39.324539	-120.862306
POS	1992-07-07	1	UM				39.336453	-120.876237
POS	1992-07-06	1	UU				39.334860	-120.875844
POS	1991-07-26	1	UU				39.328008	-120.866713
POS	1991-06-10	1	UU				39.328008	-120.866713
POS	1991-05-22	1	UU				39.320386	-120.867223

Territory: NEV0053 **SubSpecies: CALIFORNIA**

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2001-06-25	2	UMUF	Y			39.239518	-120.886706
POS	2002-06-24	1	UU	N			39.247001	-120.880548
POS	2001-06-14	1	UU				39.243072	-120.886460
POS	1996-04-15	1	UU				39.247595	-120.876046
POS	1994-06-30	1	UU				39.255147	-120.885089
POS	1993-05-18	1	UU				39.253138	-120.882577
POS	1993-05-08	1	UU				39.255022	-120.876216
POS	1993-04-20	1	UU				39.255147	-120.885089
POS	1993-04-15	1	UU				39.253138	-120.882577



5 OF 5

California Department of Fish and Game
Spotted Owl Database Management System

Report # 2 - Observations Reported

Spotted Owl observations belonging to territories having observations within search area.

Territory: NEV0061

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1995-05-09	1	UF		Y		39.356835	-120.999453
POS	1995-04-01	1	UU				39.346631	-120.998119

Territory: NEV0064

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	1999-07-09	2	UMUF	Y			39.303723	-120.910776
POS	2003-06-02	1	UU	N			39.301289	-120.916194
POS	2000-06-23	1	UU	N			39.298527	-120.913911
POS	2000-06-21	2	UUUU	Y			39.302615	-120.911238
POS	1999-07-07	1	UU	N			39.298588	-120.914280

Territory: NEV0066

SubSpecies: CALIFORNIA

Type	Date Obs	No. of Adult Owls	Age Sex	Pair	Nest	No. of Young	Latitude NAD 83	Longitude NAD 83
AC	2004-01-01	2	UMUF	Y			39.370877	-120.946932
POS	2000-01-01	1	UU				39.365892	-120.954495
POS	1999-01-01	1	UU				39.365892	-120.954495
POS	1998-01-01	1	UU				39.365892	-120.954495
POS	1997-01-01				Y	3	39.365892	-120.954495
POS	1996-01-01	2	UUUU				39.365892	-120.954495

Appendix B — Biological Study Report

Loma Rica Reservoir Cleaning Project

Final Biological Resources Report

EcoBridges/Anne Wallace

March 2012

1.0 Introduction and Summary

This biological resources report was prepared to support a California Environmental Quality Act (CEQA) categorical exemption for the Loma Rica Reservoir Cleaning Project, proposed by the Nevada Irrigation District (NID), Grass Valley, Nevada County, CA. The paragraphs below provide a description of the project, some details of the local setting, and a discussion of potential impacts to general and special-status plants and wildlife. Appended to this report are figures, tables, and site photos that provide visual reference and additional information.

The project will involve floating a barge over the surface of the reservoir. Dredged material will be brought to the surface using a suction device that pumps sediments to a disturbed area next to the reservoir for dewatering. Water from dewatered sediments will be routed back to the reservoir; dewatered sediment will be hauled off site for appropriate disposal.

Based on local biological considerations, a number of conservation measures have been incorporated into the project to avoid or minimize potential impacts to sensitive habitats as well as special-status plants and animals. Implementation of these measures would reduce potential adverse impacts to less-than-significant levels. Reservoir cleaning is therefore not expected to have any adverse environmental effects.

2.0 Project Location and Description

Loma Rica Reservoir is located east of the City of Grass Valley in an unincorporated portion of western Nevada County at an elevation of 3,154 feet above mean sea level (msl) (Figure 1). Situated in the foothills of the Sierra Nevada, the reservoir is part of the NID water-supply system and stores raw water delivered through the Cascade Canal. Water from the reservoir feeds the Loma Rica Water Treatment Plant and the District's canal system (i.e., the Chicago Park Canal).

The project area is defined as parcel number 06-401-02 (Figure 1). This parcel comprises the reservoir itself plus ancillary facilities directly west of the reservoir, including two water-storage tanks, three settling ponds, surface roads, incoming and outgoing canals, and a small building (Figures 2 and 3). The attached photos provide visual reference.

NID proposes to remove sediments from the reservoir that have accumulated since its construction in 1964. The reservoir has a total design capacity of 97 acre-feet. The purpose of the project is to regain lost storage capacity and the project will not increase the original reservoir's capacity. An estimated 25,000–50,000 cubic yards of sediment will be removed over a period of three to four months, resulting in an increase in storage capacity of 16–32 percent. Two dredging methods were initially considered for this effort: a bucket/dragline method that would require the reservoir to be significantly drawn down, and a suction/hydraulic method where a barge would float on the lake surface to mechanically pump sediment through a discharge line. The latter method has been selected because it will be less environmentally disturbing.

Using the hydraulic method, it is anticipated that the barge will be launched at the sandbar in the northwest corner of the reservoir. The barge will be maneuvered across the lake surface along pull

wires affixed to opposite shores. Pull wires will not be affixed within or run through the wetland; there will be no direct or indirect impacts to the wetland. The barge will be kept at least 15 feet from south, west, and north shorelines, and at least 50 feet from the edge of the wetland to minimize disturbance to frogs and birds using shoreline and wetland habitats.

Dredged material will be brought to the surface using a suction device that pumps sediments to a disturbed area next to the reservoir for dewatering. The intake end of the suction line disturbs an area approximately six inches around its mouth, which means that impacts to water quality and water currents should be minimal from use of this method (Hines pers. comm.). Dewatering will be accomplished either with a centrifuge or by gravity through temporary settling basins. Water from dewatered sediments will be routed back to the reservoir. Dewatered sediment will be hauled off site for appropriate disposal.

The reservoir will remain at operational level and will not be drawn down. Equipment will operate from 7 AM to 7 PM. Reservoir cleaning will begin after September 15, 2012, and will be completed before March 15, 2013.

3.0 Methods

Preparation of this biological resources report started with a records search of the California Natural Diversity Database (CNDDDB 2012) for records of special-status species occurring in a nine-quad area centered on the Grass Valley USGS 7.5' quadrangle (quad). Records were obtained for the Grass Valley, Nevada City, Chicago Park, Lake Combie, Colfax, North Bloomfield, French Corral, Rough and Ready, and Wolf quads. Additionally, environmental documents for three other local projects were reviewed (WRA 2004, Jones & Stokes 2006, Visger 2009, RBF Consulting 2010, ESA 2011). A site assessment for California red-legged frogs (*Rana draytonii*) was prepared, which included a driving survey of habitats within one mile of the project site. Site visits to Loma Rica Reservoir were conducted on September 6, 2011, and January 25, 2012; visits to creeks, ponds, and habitats within one mile were conducted on January 30 and 31, and February 3 and 7, 2012. Reconnaissance surveys were conducted by wildlife biologist Anne Wallace and botanist/wetland ecologist Barry Anderson.

4.0 Results

4.1 General Vegetation

Table 1 (attached) presents a list of plant species detected during the January 25, 2012, site visit; scientific names are provided in the table and are not included below. The following vegetation types were found within the project area shown on Figure 2.

4.1.1 Montane Mixed Coniferous Forest

Montane mixed coniferous forest has a variety of other names, notably lower montane coniferous forest. Although conifers (cone-bearing trees) are often the dominant species, broad-leaved hardwoods are present as well. The forest surrounding the Loma Rica Reservoir includes Pacific ponderosa pine, Douglas-fir, incense cedar, California black oak, and canyon live oak. The understory on the south side of the reservoir has been cleared for the most part, probably to reduce the fire hazard. Manzanita shrubs and small madrone trees are scattered in the understory, and mountain misery forms a low carpet of greenery in places. Bracken fern is common, especially on the forest perimeter.

The forest on the north side is denser and supports more California black oaks. Manzanita, hoary coffeeberry, and mahala mat are common understory shrubs. In places shrubs are the dominant species and trees are only widely scattered.

4.1.2 Valley and Foothill Riparian

Riparian habitat is not well developed along the reservoir, and it does not form a continuous canopy. Rather, it consists of scattered trees and shrubs along the shoreline. In many places, the montane mixed coniferous forest extends to the reservoir edge. Common riparian species include white alder, arroyo willow, and Fremont cottonwood. On the eastern end of the reservoir, and along the northern side, Himalayan blackberry and bracken fern form the understory. Because the riparian canopy is scattered and discontinuous, this habitat is not shown on the habitat map (Figure 2).

4.1.3 Freshwater Emergent Marsh

Freshwater emergent marsh occurs in the shallow, eastern end of the reservoir and, to a much lesser extent, in the northwest corner of the reservoir. Cattails (*Typha* spp) are the dominant species, forming a dense stand at the eastern end of the reservoir; however, soft rush is common in the shallowest portions at the edge of the cattails.

4.1.4 Open Water

Open water habitat makes up most of the reservoir. No emergent or rooted floating vegetation was observed during the field survey.

4.1.4 Disturbed

Disturbed habitats occur along the reservoir dam and spillway and around buildings and other infrastructure. Plants in these areas consist of species adapted to disturbance. Some may have been planted as part of erosion control measures. Common species include Queen Anne's lace, yellow starthistle, short-podded mustard, red-stem filaree, klamathweed, summer cottonweed, English plantain, and non-native grass species.

4.2 Special-status Plants

An unidentified species of *Clarkia* was found along the southwest shoreline of the reservoir, but this area may be outside the work area. Brandegees clarkia (*Clarkia biloba* subsp. *brandegeeeae*), a CNPS List 1B species, is known to occur in the area, and the plant found may be a subspecies of *Clarkia biloba*. Flowers are needed to confirm the identification, and surveys in May or June would be needed if this area is disturbed by project activities.

4.3 General Wildlife

Loma Rica Reservoir occurs within a mixed-forest setting in the Sierra Nevada foothills at 3,154 feet msl. Also present are fresh emergent wetland, valley and foothill riparian, open water, and denuded disturbed areas. The reservoir is fed solely by NID's Cascade Canal; no other surface water flows into the reservoir. A small amount of water flows out through an overflow spillway that connects to a small shallow drainage below the reservoir. It is not apparent either on the ground or on a topography map that this outflow drainage connects with other natural creeks or drainages. Water from the reservoir flows primarily through a canal to a treatment plant and to other NID canals. Loma Rica Reservoir is therefore not directly connected to other creeks in the area.

Wildlife species seen or heard during site visits were typical of animals using these habitats and include bushtit (*Psaltriparus minimus*), spotted towhee (*Pipilo maculatus*), ruby-crowned kinglet (*Regulus calendula*), bufflehead (*Bucephala albeola*), American coot (*Fulica americana*), Canada goose (*Anser canadensis*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemalis*), brown creeper (*Certhia americana*), western gray squirrel (*Sciurus griseus*), and Sierra newt (*Taricha sierrae*). Visger (2009) reports having seen several 10- to 14-inch bass (*Micropterus* spp), several sunfish (*Lepomis* spp), and numerous Sierra newts, as well as trout (unknown species), raccoons (*Procyon lotor*), mergansers (*Mergus* spp), bullfrogs (*Lithobates catesbeiana*), and Sierran treefrogs (*Pseudacris sierra*).

Other wildlife likely to use the reservoir and its surroundings are black-tailed deer (*Odocoileus hemionus*), striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), coyote (*Canis latrans*), gopher snake (*Pituophis catenifer*), and western fence lizard (*Sceloporus occidentalis*).

4.4 Nesting Birds

Birds that are not otherwise protected as special-status species (see section 3.5 below) are protected by the state during the nesting season by California Fish and Game Code sections 3503 and 3503.5 (nesting birds), 3511 (California fully protected birds), and 3513 (birds protected by federal law). They may also be protected by the federal Migratory Bird Treaty Act (MBTA). Project activities taking place between March 15 and September 15 could adversely affect nesting birds. Since the reservoir cleaning project will take place outside the nesting season (in fall and winter), nesting birds will not be adversely affected and no preconstruction survey for nesting birds will be required.

4.5 Special-status Wildlife

In this report, special-status animals are defined as those that fall into one or more of the following categories:

- Species that are listed or proposed for listing as threatened or endangered under the federal Endangered Species Act – FESA (50 CFR 17.11);
- Species that are candidates for listing as threatened or endangered under FESA (50 CFR 17, February 28, 1996);
- Species that are listed or proposed for listing as threatened or endangered under the California Endangered Species Act – CESA (California Administrative Code, Title 14, Section 670.5);
- Wildlife identified by California Department of Fish and Game (CDFG) as species of special concern, i.e., species that are not formally protected by CESA or FESA but whose populations are known to be declining;
- Wildlife designated as fully protected by CDFG (California Administrative Code, Title 14, Section 670.5);

Impact is defined as any action that would individually or cumulatively 1) disturb, harass, or otherwise "take" either individuals or habitat of a formally protected species, 2) disturb, reduce, or destroy enough individuals or habitat to affect any special-status animal at a local population level, 3) disturb or destroy adults, nests, eggs, or nestlings of birds protected by the MBTA, 4) disturb or destroy adults, nests, eggs, or nestlings of any bird protected by Fish and Game Code, or 5) disturb or destroy roosting or maternal bat colonies.

Table 2 presents a list of special-status species that could occur in or near Loma Rica Reservoir and an assessment of the potential for project-related impact. This species list was compiled from the CNDDDB search mentioned above and from a US Fish and Wildlife Service species list for the Grass

Valley quad (USFWS 2012). Table 2 shows that the project is not likely to have an adverse effect upon most special-status species because conservation measures will minimize or avoid project impacts, because the project area does not provide suitable habitat, or both. Scientific names and status designations are provided in the table and are not repeated in text below.

Two wildlife species could potentially be adversely affected by this project: California red-legged frog and California black rail. Both are listed formally under either CESA or FESA. The paragraphs below provide additional detail on both; refer to Table 2 for information on all other species.

4.5.1 California Red-legged Frog

Natural History. California red-legged frogs typically breed along the margins of permanent and near-permanent ponds, lakes, and streams where water is still or slow, shoreline and emergent vegetative cover are dense and extensive, and water depth is at least two feet near the shoreline (Jennings and Hayes 1994, Barry 1999). Occupied breeding sites often have floating rooted vegetation and “grunge” (i.e., algae, particulates, or some form of turbidity – Barry 2005). Cook (1997) reported that important microhabitat features for all seasons included vegetative cover at water surface and water depth and states that red-legged frogs typically avoid open water. The habitats described above would be considered optimal; however, CRLFs also occur in suboptimal habitats throughout their range (USFWS 2002, Barry pers. comm.).

While nonnative predators such as bullfrogs (*Lithobates catesbiana*), sunfish (Family Centrarchidae), and other fishes may reduce habitat suitability, their presence does not preclude CRLF occurrence. CRLFs often occur at sites with bullfrogs and warmwater fishes such as bass and mosquitofish (*Gambusia affinis*) (Cook 1997, Barry pers. comm). The presence of green sunfish (*Lepomis cyanellus*) may be more problematic but CRLFs do occur in ponds with this fish species (Barry pers. comm.).

Potential Presence at Loma Rica Reservoir. In 2009, protocol CRLF surveys were conducted at the northwest corner of Loma Rica Reservoir and at two other nearby locations (Visger 2009). No CRLF egg masses, tadpoles, subadults, or adults were detected at any location. This survey did not, however, include the wetland at the east end of Loma Rica Reservoir. CRLFs were also not detected during September 2011 or January 2012 site visits for this present project.

Loma Rica Reservoir provides potentially suitable but suboptimal breeding habitat for California red-legged frogs. CRLFs are not typically reservoir frogs, but they are known to occur in some reservoirs. Loma Rica Reservoir lacks habitat features found at many occupied CRLF ponds, namely shoreline cover, egg-mass-attachment sites in the form of overhanging shoreline vegetation, and aquatic cover in the form of submersed and floating aquatic vegetation. They tend to avoid open water (Cook 1997) and Loma Rica Reservoir is primarily open water. Another feature of occupied habitats is water depth of at least two feet near the shoreline for egg-mass development. Except where it abuts the lake directly, the wetland at the east end is extremely shallow. Water depth where cattails meet open water is unknown and may or may not be suitably deep for egg masses. Some of the upland within 300 feet of the reservoir is composed of relatively undisturbed montane mixed coniferous forest (see 5.1.1 above), but developed home sites surround adjacent upland habitats beyond that.

The availability and abundance of suitable prey at the reservoir are not known, but Sierran treefrogs occur there (Visger 2009) and are suitable prey. Nonnative bullfrogs and nonnative fishes are reported to occur there by both Jones & Stokes 2006 and Visger 2009.

A number of potentially suitable ponds and creeks occur within one mile; however, the surroundings for several miles in most directions are heavily developed with residences, surface streets, and urban

and domestic predators (Figure 3). The single known CRLF population in Nevada County, Sailor Flat, occurs 6.5 miles north of Loma Rica Reservoir but several miles of continuous residential development lie between Sailor Flat and Loma Rica Reservoir.

The absence of ideal breeding conditions would not necessarily preclude CRLF use of Loma Rica Reservoir; however, breeding is considered unlikely for several reasons. US Fish and Wildlife Service (2002) states that while California red-legged frogs are known to occur and breed in habitats that would appear unsuitable, populations are most likely to persist where multiple breeding areas are embedded within a matrix of habitats for dispersal, and where relative pond permanence, pond structure, shoreline and aquatic vegetative cover, relative abundance of nonnative predators, and a suitable prey base are conducive to long-term survival. That description superficially describes habitat conditions in the vicinity of Loma Rica Reservoir; however, Bulger (1999) states that as landscapes become increasingly developed with buildings, abnormally high predator densities (e.g., dogs and cats), roads/traffic, and related infrastructure, the connectivity between aquatic sites decreases and dispersal between aquatic habitats becomes more perilous. Low recruitment of dispersing individuals, he suggests, is likely to play an “insidious and primary role” in the extirpation of frog populations from suitable aquatic sites in developing landscapes. From that standpoint, colonization of new sites would be as perilous and perhaps increasingly less likely as development increases. Given the suboptimal breeding conditions and the intensity of residential development within one mile, the likelihood of red-legged frog occurrence at Loma Rica Reservoir is believed to be low.

For CRLFs to be occurring in Loma Rica Reservoir now, they would presumably have been persisting there over time because of how unlikely it is that they could be successfully dispersing through the surrounding developments now. Since the reservoir and its surroundings do not provide conditions likely to be supporting a persisting population, the likelihood of CRLF occurrence at Loma Rica Reservoir is believed to be low. This is based on suboptimal breeding conditions (a relatively small cattail edge in an otherwise very shallow wetland), suboptimal cover (extensive open water with no cover in the form of submersed and floating aquatics), and the intensity of surrounding developments. There are only six or eight known CRLF occurrences in the Sierra foothills. While one of those known occurrences is only 6.5 miles away at Sailor Flat, several continuous miles of residences, highways, surface streets, and domestic and urban predators lie between Sailor Flat and Loma Rica Reservoir.

Use by nonbreeding CRLFs would be possible if there were occupied breeding habitats within one or two miles and safe and continuous dispersal habitat between them; however, since these two conditions are unlikely, use of Loma Rica Reservoir by CRLFs in any season is considered unlikely.

Combined with the low likelihood of occurrence, the conservation measures described below should reduce any potential impacts to less-than-significant levels.

Critical Habitat and Core Recovery Areas. The nearest critical-habitat boundary is roughly 4.25 miles to the north. There are no core recovery areas in Nevada County.

4.5.2 California Black Rail

Natural History. The California black rail is a secretive marsh bird inhabiting salt, brackish, and freshwater marshes from the coast to the foothills. It appears to be a year-round resident in the Sierra foothills (Richmond et al. 2008). In the Sierra it is found in a patchy network of densely vegetated wetlands that are typically small, gently sloped sites at elevations ranging from 100–2,600 feet msl and ranging in size from 0.17 to 34 acres (Black Rail Project 2009, Richmond et al. 2008, Richmond et al. 2010). Occupied marshes occur on wet slopes, around streams, in depressions, and on the fringes of ponds and lakes. Black rails occur less often in fringe marshes and more often in

marshes with flowing or standing water and saturated mud, which indicate a site that maintains water throughout the summer and fall; rails are less likely to be found in wetlands that dry up by summer's end (Richmond et al. 2010).

In the Sierra, black rails exhibit a clear preference for larger, permanently flooded sites (Black Rail Project 2009). Water depths generally less than one inch are preferred. Black rail wetlands in the Sierra support a range of emergent plant species including cattails, rushes (*Juncus* spp) bulrush (*Schoenoplectus* spp), and other herbaceous plants; however, neither species composition nor plant type or height was as important as the provision of dense cover and wet-to-muddy substrates with small, shallow pools less than one inch deep (Richmond et al. 2008).

Potential Presence at Loma Rica Reservoir. The wetland at the east end of Loma Rica Reservoir is potentially suitable black rail habitat because of its size (0.6 acre) and the density of cattail cover it supports. Black rails are rarely found above 865 feet msl (Richmond et al. 2008), perhaps because of the cold winters at higher elevations, and there are no known occurrences in the foothills above 2,550 feet msl. At 3,154 feet elevation, Loma Rica Reservoir is unlikely to support black rails; however, their presence there cannot be ruled out (J Tecklin pers. comm.) Black rails were not seen or heard during either site visit.

5.0 Avoidance and Minimization Measures

The hydraulic method using a barge and suction/discharge line creates the least disturbance to existing conditions of the two methods considered. According to Mike Hines of Muck Doctor (pers. comm.), the intake end of the suction line disturbs an area approximately six inches in front of it, which means that impacts to water quality and water currents from the suction line are expected to be minimal. Seven conservation measures have been incorporated into this project to avoid or minimize disturbance to California red-legged frogs, California black rails, special-status plants, and the wetland.

1. The hydraulic/suction method was selected over the clamshell/dragline method because it will result in less disturbance to existing conditions.
2. Cleaning will take place between September 15 and March 15 to minimize impacts to the frog-breeding, tadpole-rearing, and bird-nesting seasons.
3. The barge will avoid the north, west, and south shorelines by 15 feet and the cattail edges of the wetland by 50 feet.
4. The reservoir will remain at operational level throughout the cleaning process, i.e., there will be no water-level drawdown during cleaning. This will leave the marsh in a "normal" condition throughout the process as protection for frogs and rails potentially occurring there.
5. No pull wires for the barge will be affixed within or run through the wetland at the east end of the reservoir. There will be no physical disturbance to the wetland area.
6. A preconstruction CRLF and black rail survey will be conducted within 14 days before the project start date. The sandbar area where the barge will likely be launched, areas of disturbance for the pull wires, shorelines, and the eastern wetland will be included for CRLF surveys; if California red-legged frogs are discovered, the US Fish and Wildlife Service will be contacted for further guidance. A taped-call playback method at the eastern wetland will be used for black rails; if black rails are detected, California Fish and Game will be contacted for further guidance.

7. A rare-plant survey will be conducted in May or June of this year, 2012, if any disturbance associated with pull wires or other activities will be required within the southwest quadrant of the project area.

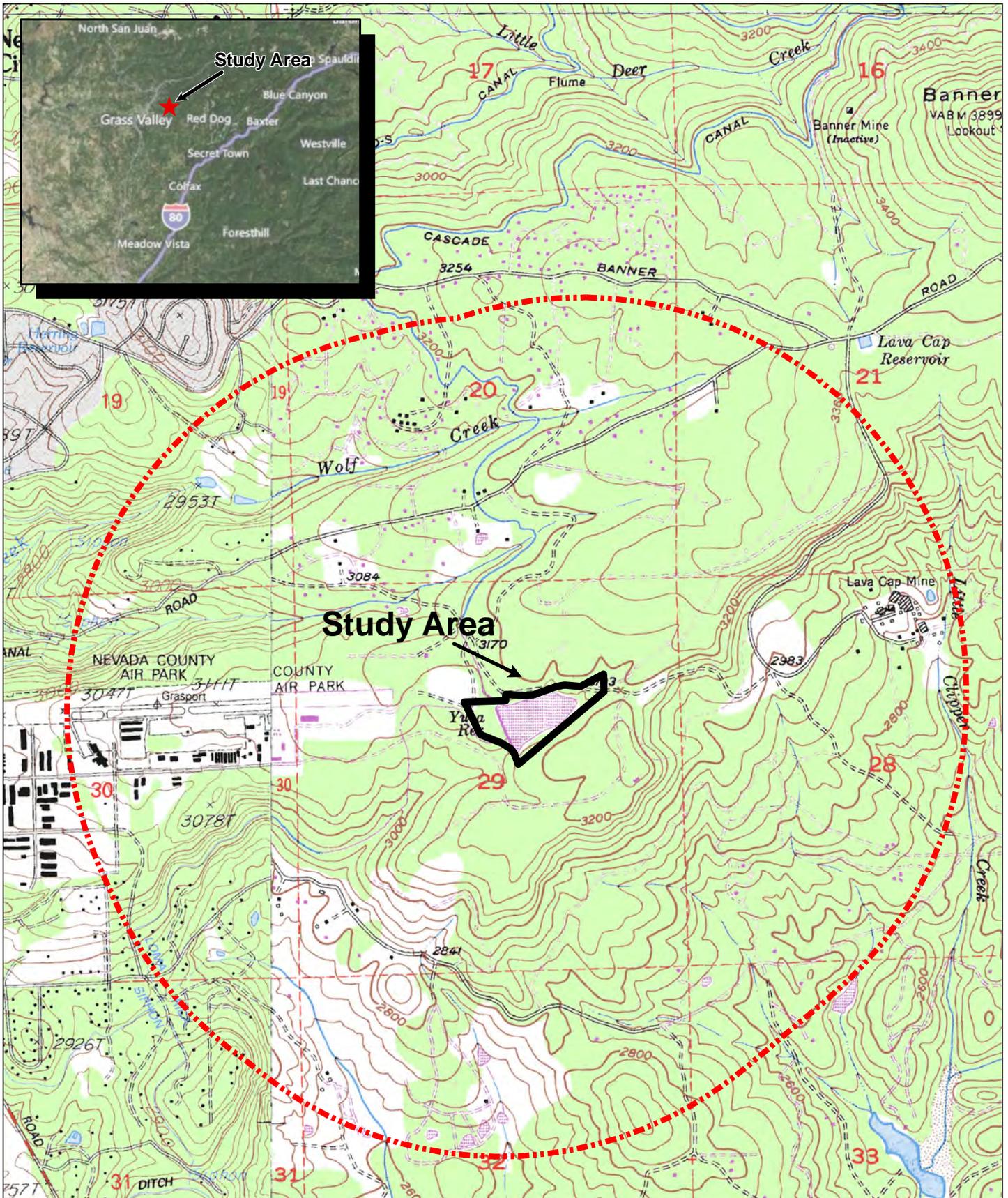
6.0 Potential Impacts to Sensitive Habitats and Special-status Species

Project implementation will avoid direct and indirect impacts to sensitive habitats, i.e., the wetland at the east end of the reservoir. Both the California red-legged frog and the California black rail are unlikely to occur at Loma Rica Reservoir for reasons provided above. The low likelihood of occurrence, combined with the project conservation measures, would reduce any potential for adverse impacts to less-than-significant levels.

7.0 Literature Cited, References, and Persons Contacted

- Black Rail Project. 2009. California black rail report. Newsletter for Landowners 7(1). Found online at <http://nature.berkeley.edu/~beis/rail/html/newsletters.html>.
- Barry, S. 1999. A study of the California red-legged frog (*Rana aurora draytonii*) of Butte County, California. Par Environmental Services, Inc. Sacramento, CA. 16 pp.
- _____. 2005. Special status amphibians and reptiles of northern California. Curriculum from UC Davis Extension class. Prepared by ENTRIX, Inc. 196 pp.
- Barry, Sean. Amphibian expert, UC Davis, CA. Personal communication with Anne Wallace, June 2004 and July 2005.
- Bulger, J. 1999. Terrestrial activity and conservation of California red-legged frogs (*Rana aurora draytonii*) in forested habitats of Santa Cruz County, California. Prepared for Land Trust of Santa Cruz County, Santa Cruz, CA. 37 pp.
- California Natural Diversity Database (CNDDB). 2012. Record search of nine quads conducted on February 6, 2012. California Department of Fish and Game, Sacramento, CA.
- Cook, D. 1997. Microhabitat use and reproductive success of the California red-legged frog (*Rana aurora draytonii*) and bullfrog (*Rana catesbeiana*) in an ephemeral marsh. MS Thesis, Sonoma State University. 23pp+tables and figures.
- Environmental Science Associates (ESA). 2011. NID Elizabeth George–Loma Rica Intertie Pump Station Project initial study. Prepared for Carollo Engineers by Environmental Science Associates, Sacramento. Found online at: <http://www.nid.dst.ca.us/projects.cfm>
- Federal Register. 2001. Endangered and threatened wildlife and plants; final determinations of critical habitat for the California red-legged frog; final rule. Federal Register 50 CFR Part 17, March 13, 2001: 14626-14758.
- Hines, Mike. Muck Doctor lake and pond cleaning services. Personal communication with Anne Wallace February 2012.
- Holland, VL and DJ Keil. 1995. California Vegetation. Kendall/Hunt Publishing Company.

- Jennings, MR and MP Hayes. 1994. Amphibian and reptile species of special concern in California. Final report. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA. 255 pp.
- Jones & Stokes [now ICF International]. 2006. Lower Cascade Canal–Banner/Cascade Pipeline Project EIR. Prepared for Nevada Irrigation District, Grass Valley, by Jones & Stokes Associates, Sacramento. Found online at: <http://www.nidwater.com/lower-cascade-eir.cfm>
- Rathbun, GB, NJ Scott, and TG Murphey. 1997. *Rana aurora draytonii* behavior. Herpetological Review 28(2): 85-86.
- RBF Consulting. 2010. Loma Rica Ranch Specific Plan DEIR. Prepared for City of Grass Valley by RBF Consulting, Walnut Creek, CA. Found online at: http://www.cityofgrassvalley.com/services/departments/cdd/SDA_LomaRicaRanch.php
- Richmond, OM, J Tecklin, and SR Beissinger. 2008. Distribution of California black rails in the Sierra Nevada foothills. J Field Ornith 79(4): 381-390.
- Richmond, OM, SK Chen, BB Risk, J Tecklin, SR Beissinger. 2010. California black rails depend on irrigation-fed wetlands in the Sierra Nevada foothills. California Agriculture 64(2): 85-93.
- Tecklin, Jerry. Black rail expert, Black Rail Project, UC Berkeley Foothill Research and Extension Center, Browns Valley, CA. Personal communication with Anne Wallace February 14, 2012.
- US Fish and Wildlife Service (USFWS). 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). US Fish and Wildlife Service, Portland, OR. viii + 173 pp.
- _____. 2005. Revised guidance on site assessments and field surveys for the California red-legged frog. US Fish and Wildlife Service, Sacramento, CA. 13 pp + appendix.
- _____. 2012. Federal threatened or endangered species that occur in or may be affected by projects in the Grass Valley (542A) USGS 7.5' quad. US Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento. Online database search conducted on February 8, 2012.
- Visger, G. 2009. Final survey results for NID Banner Cascade Pipeline California red-legged frog survey. Prepared by Myers Construction Solutions, Inc, Sacramento, CA. Prepared for Nevada Irrigation District, Grass Valley, CA.
- Wetland Research Associates (WRA). 2004. Biological survey report: California red-legged frog, foothill yellow-legged frog, California horned lizard, & bat roost surveys, Loma Rica Project, Grass Valley, Nevada County, California. Prepared for Carville Sierra, Inc., Grass Valley, by Wetland Research Associates, San Rafael, CA.



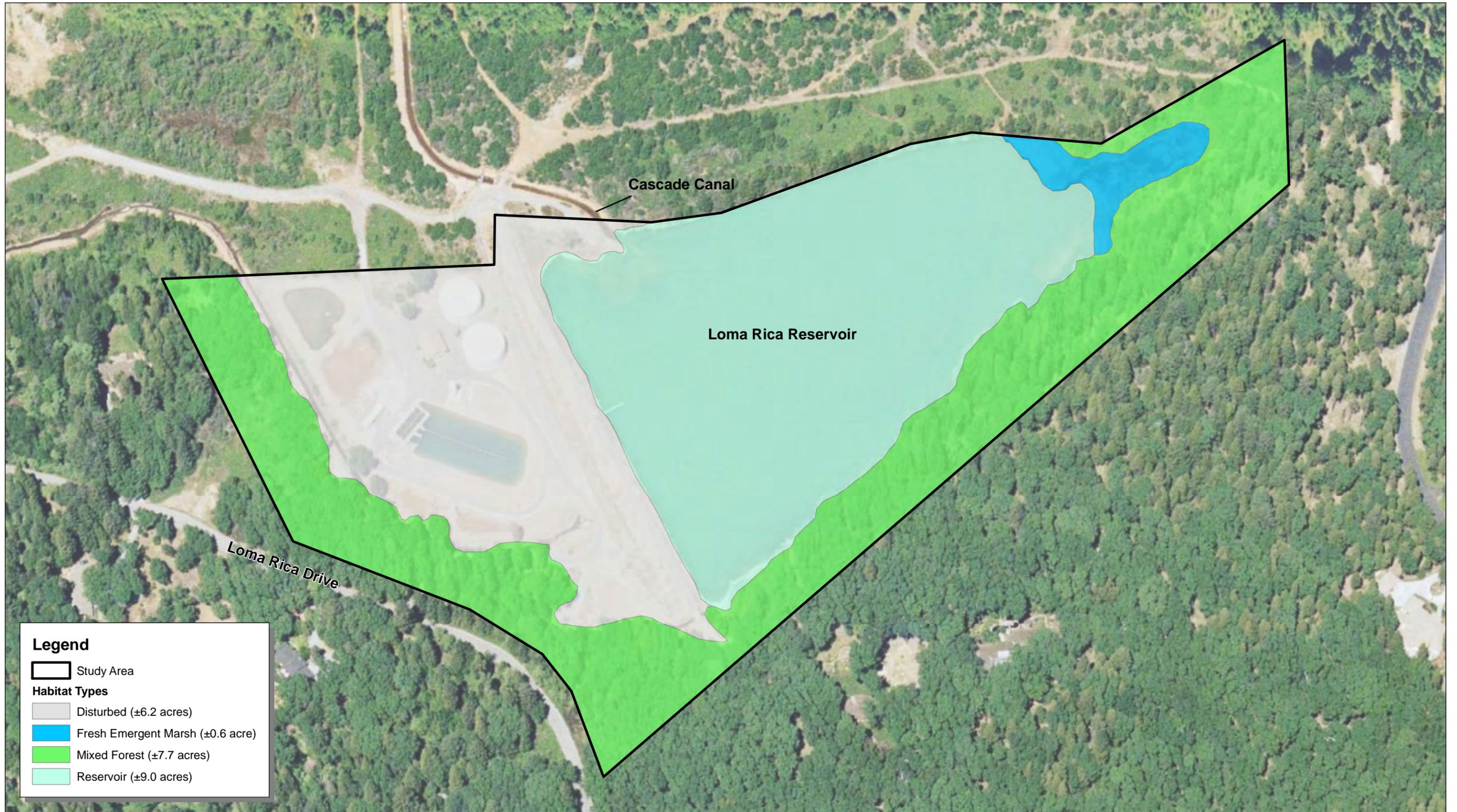




FIGURE 3

Aerial View of Reservoir and Surrounding Habitat

Aerial Photo: Bing Maps 2010.
Map Date: February 17, 2012

Loma Rica Reservoir
Nevada County, CA

Loma Rica Reservoir Plant List

January 25, 2012

Ferns and Allies

Dennstaedtiaceae

Pteridium aquilinum var. *pubescens* Bracken fern

Gymnosperms

Cupressaceae

Calocedrus decurrens Incense cedar

Pinaceae

Pinus ponderosa var. *pacifica* Pacific ponderosa pine

Pseudotsuga menziesii var. *menziesii* Douglas-fir

Angiosperms - Dicots

Apiaceae (Umbelliferae)

**Daucus carota* Queen Anne's lace

**Torilis arvensis* Field hedgeparsley

Apocynaceae

Asclepias sp. Milkweed

Asteraceae (Compositae)

Achillea millefolium Common yarrow

**Centaurea solstitialis* Yellow starthistle

Pseudognaphalium sp. Rabbit-tobacco

Betulaceae

Alnus rhombifolia White alder

Brassicaceae (Cruciferae)

**Hirschfeldia incana* Short-podded mustard

Caprifoliaceae

Symphoricarpos mollis Creeping snowberry

Ericaceae

Arbutus menziesii Madrone

Arctostaphylos viscida Whiteleaf manzanita

Fabaceae (Leguminosae)

**Cytisus scoparius* Scotch broom

Lathyrus sp. Wild pea

Fagaceae

Quercus chrysolepis Canyon live oak

Quercus kelloggii California black oak

Geraniaceae

**Erodium cicutarium* Red-stem filaree

* Indicates a non-native species

Hypericaceae

**Hypericum perforatum* subsp. *perforatum*

Klamathweed

Onagraceae

Clarkia sp.

Clarkia

Epilobium brachycarpum

Summer cottonweed

Papaveraceae

Eschscholzia californica

California poppy

Plantaginaceae

**Plantago lanceolata*

English plantain

Rhamnaceae

Ceanothus prostratus var. *prostratus*

Mahala mat

Frangula californica subsp. *tomentella*

Hoary coffeeberry

Rosaceae

Chamaebatia foliolosa

Sierra mountain misery

**Rubus armeniacus*

Himalayan blackberry

Rubus laciniatus

Cutleaf blackberry

Salicaceae

Populus fremontii subsp. *fremontii*

Fremont cottonwood

Salix lasiolepis

Arroyo willow

Angiosperms -Monocots

Juncaceae

**Juncus effusus*

Soft rush

Poaceae (Gramineae)

**Bromus madritensis* subsp. *madritensis*

Foxtail chess

Bromus sp.

Brome

**Cynosurus echinatus*

Hedgehog dogtail

Elymus glaucus

Blue wildrye

Typhaceae

Typha latifolia

Broad-leaved cattail

Table 2. Special-status wildlife known from or potentially occurring near Loma Rica Reservoir, Grass Valley, CA.¹

Common and Scientific Name	Legal Status ² (Fed/State)	Distribution	Habitat Association	Pot. Impact ³	Comments
INVERTEBRATES					
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	FT	Central Valley and surrounding foothills below 3000' from Redding to Bakersfield. Could occur in Nevada Co but has never been documented there.	Host plant is elderberry (<i>Sambucus</i> spp). Elderberry plants found in a variety of habitats but most often in riparian or savanna areas.	No	No elderberry plants found in impact area during January 2012 site visit
FISHES					
Central Valley spring-run chinook salmon <i>Oncorhynchus tshawytscha</i>	FT, ST	Spawn in tributaries to Sacramento and San Joaquin rivers. In Nevada Co, spawn in Dry Creek up to Fairy Falls, Spenceville WMA, and in South Yuba River above Hwy 20 bridge up to Engelbright Dam.	Anadromous. Require cold, clean water flowing over a gravel bottom for spawning.	No	Of concern because of potential downstream impacts to water quality; project will not affect water quality in local streams
Central Valley steelhead <i>Oncorhynchus mykiss</i>	FT, ST	Spawn in tributaries to Sacramento and San Joaquin rivers. In Nevada Co, spawn in Dry Creek up to Fairy Falls, Spenceville WMA, and in South Yuba River above Hwy 20 bridge up to Engelbright Dam.	Anadromous. Require cold, clean water flowing over a gravel bottom for spawning.	No	Of concern because of potential downstream impacts to water quality; project will not affect water quality in local streams
Delta smelt <i>Hypomesus transpacificus</i>	FT, ST	Endemic to Suisun Bay upstream of San Francisco Bay through the Delta in Contra Costa, Sacramento, San Joaquin, and Solano counties, California.	Found in fresh water to 10 ppt salinity, shallow water (<3 m), emergent and submersed vegetation, backwater/dead end areas, and slow-moving sections of rivers and sloughs.	No	Of concern because of potential downstream impacts to water quality; project will not affect water quality in local streams
Winter-run chinook <i>Oncorhynchus tshawytscha</i>	FE, SE	Spawn in tributaries to Sacramento and San Joaquin rivers. Not known to spawn in Nevada Co.	Anadromous. Require cold, clean water flowing over a gravel bottom for spawning.	No	Of concern because of potential downstream impacts to water quality; project will not affect water quality in local streams
AMPHIBIANS					
California red-legged frog <i>Rana aurora draytonii</i>	FT, CSC	Historically found from Central Valley and Sierra foothills west to Bay Area, south to southwestern CA. Currently known from 6-8 locations in Sierra, mostly in lower to mid elev (up to 5000'); small population in one location in Nevada Co.	Ideal breeding habitat is deep, still or slow-moving water with associated bulrush, willow, or cattail. Also breed in artificial impoundments, incl ponds w/o veg. Nonbreeding frogs use creeks, seeps, or other areas not suitable for breeding. Requires abundant invertebrate and small-vertebrate prey.	Yes	Could potentially use Loma Rica Reservoir but breeding unlikely; see text for additional detail
Foothill yellow-legged frog <i>Rana boylei</i>	CSC	Occurs in foothill portions of drainages of Coast ranges from Oregon to Los Angeles, east to the Cascade crest and western flank of the Sierra south to Kern Co.	Requires flowing water in small to moderate, sunny, rocky streams with at least some cobble-sized substrate, though have been found in streams without cobble.	No	No suitable habitat on or near site.
REPTILES					
California horned lizard <i>Phrynosoma coronatum frontale</i>	CSC	Found in suitable habitat from the coast to the Sierra foothills, and from northern Central Valley to Kern County. Below 4000' in northern CA. Known from Grass Valley and Nevada County.	Exposed gravelly-sandy substrate and scattered shrubs, sandy clearings in woodlands, dry uniform chamise chaparral, and annual grasslands with scattered shrubs. Use small-mammal burrows or burrow into loose soils under surface objects. Prefers gabbro soils.	No	No suitable habitats in project impact area.
Pacific (western) pond turtle <i>Actinemys (Emys) marmorata</i>	CSC	Found in suitable aquatic habitat throughout California up to ~6000 ft in Sierra. Not reported in CNDDB for Grass Valley quad but could occur at Loma Rica.	Associated with permanent or nearly permanent fresh water in a variety of ponded or riverine habitats, with basking sites in sunny openings. Nest sites found up to 0.5 km from water on sunny, typically south-facing slopes.	No	Nonbreeding turtles could use reservoir; no suitable nesting habitat nearby. Turtles could easily avoid the barge and discharge line, which will stay 25 feet from shorelines.

Table 2. Special-status wildlife known from or potentially occurring near Loma Rica Reservoir, Grass Valley, CA.¹

Common and Scientific Name	Legal Status ² (Fed/ State)	Distribution	Habitat Association	Pot. Impact ³	Comments
BIRDS					
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP	Permanent resident in certain marshes of San Francisco Bay and the Delta into Sacramento and San Joaquin counties. Also known from a number of locations in foothills of Sierra including Nevada County.	In Sierra, occurs in wetlands in oak woodland and annual grassland up to ~2600 ft; most wetlands tied to leaky irrigation canals, some to natural springs. Prefers larger permanently but shallowly flooded sites with dense vegetation.	Yes	Cattail marsh at reservoir is potential habitat; see text for more detail.
California spotted owl <i>Strix occidentalis occidentalis</i>	CSC	This subspecies inhabits the Sierra Nevada range from approximately 3,000 to 7,000 ft elevation. May move downslope in winter.	Shaded mountain slopes and canyons in dense old-growth or mixed mature and old-growth forests, often but not always dominated by firs or Douglas-fir, with uneven and multi-layered canopy. Occasionally in older second-growth forests (70-140 yrs old).	No	Could nest near Loma Rica Reservoir but project will take place outside the nesting season.
Northern goshawk (nesting) <i>Accipiter gentilis</i>	CSC	Yearlong resident of North Coast ranges through Sierra Nevada, Klamath, Cascade, and Warner mountains.	Middle to higher elevation mature, dense conifer and deciduous forest interspersed with meadows, other openings, and riparian. Near water.	No	Forest near reservoir only marginally suitable but project will take place outside nesting season.
White-tailed kite (nesting) <i>Elanus leucurus</i>	CFP	Lowland areas west of Sierra Nevada from north end of Sacramento Valley south to San Diego Co. Uncommon resident of lower foothills; confirmed nesting near Spenceville WMA. Most nesting below 2000 ft.	Agricultural lands and open stages of most herbaceous habitats, often with valley and live oaks. Also riparian habitats or near marshes.	No	Not known to nest in this area and project will take place outside nesting season.
Yellow warbler <i>Dendroica petechia brewsteri</i>	CSC	Uncommon nester over most of California; more common in high Sierra. Documented throughout Nevada Co.	Riparian habitats dominated by willow, sycamore, cottonwood, or alder, or in mature chaparral.	No	Could nest near reservoir but project will take place outside nesting season.
Yellow-breasted chat (nesting) <i>Icteria virens</i>	CSC	Uncommon migrant in California; nests in suitable habitat in a few locations in California, including Nevada County.	Nests in dense riparian habitats dominated by willows, alders, Oregon ash, tall weeds, blackberry vines, and grapevines	No	Unlikely to nest near reservoir and project will take place outside nesting season
MAMMALS					
Pacific fisher <i>Martes pennanti pacifica</i>	FC, CSC	Permanent resident of Sierra Nevada, Cascade, and Klamath mtns, and North Coast ranges, esp in NW CA and southern Sierra. May now be absent from central and northern Sierra.	Extensive areas of dense, mature, relatively undisturbed forest with snags and high canopy closure (>50%); also deciduous riparian. Historically most common in low to mid elevations.	No	Local forest not as described and local area too developed.
Sierra Nevada red fox <i>Vulpes vulpes necator</i>	ST	Rare native subspecies found in higher elevations in the Cascades in Siskiyou Co and in the Sierra Nevada from Lassen Co south to Tulare Co.	Prefers forest interspersed with meadows or alpine fell-fields. Hunts in open areas; dens and breeds in forest. Most sightings above 7000 ft but as low as 3900 ft.	No	Outside geographic range and no suitable habitat.
Townsend's big-eared bat <i>Corynorhinus townsendii townsendii</i>	CSC	Most of California including Central Valley, except highest elevations in Sierra.	Roosts in caves, tunnels, mines, and buildings; very sensitive to disturbances and may abandon roost if disturbed; forages along streams and in vegetated gullies. Association with redwood habitat.	No	No roosting habitat on site but could forage over reservoir; project would not adversely affect this species.

¹ Species list compiled from CNDDDB and USFWS database records and personal knowledge of species potentially occurring in project area.

² Status explanations

Federal status

FE=listed as endangered under the federal Endangered Species Act.

FT=listed as threatened under the federal Endangered Species Act.

FC=Candidate for federal listing. Species for which USFWS has substantial information on biological vulnerability but which have not been formally proposed for listing.

California status

SE=listed as endangered under the California Endangered Species Act.

ST=listed as threatened under the California Endangered Species Act.

CSC=species of special concern.



Photo 1. Loma Rica Reservoir from SW to NE; wetland in distance.



Photo 2. South shore; wetland in distance.



Photo 3. North shore from SE to NW; dam in distance on far left.



Photo 4. South shore and dam.



Photo 5. Cattail edge of wetland at east end (looking south), January 2012.



Photo 6. Cattail wetland at east end (from SE to NW), September 2011.

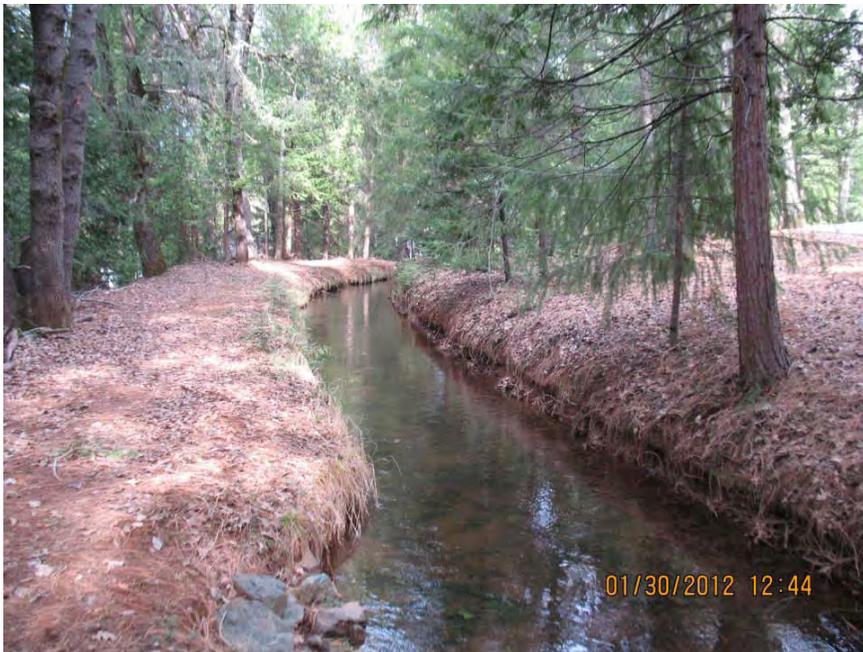


Photo 7. Cascade Canal: open waterway with little cover.



Photo 8. Ancillary facilities west of reservoir; dam on right.

Appendix C — California Red-Legged Frog Site Assessment Report

1.0 Introduction and Summary

This report was prepared to provide the US Fish and Wildlife Service (USFWS) with an assessment of potential impacts to the federally threatened California red-legged frog (CRLF—*Rana draytonii*) associated with a project called the Loma Rica Reservoir Cleaning Project. This site assessment report was prepared in accordance with the August 2005 *Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog* (USFWS 2005). Attached to this report are graphics, photos, a completed Appendix D survey form, and a resume for biologist Anne Wallace, who prepared this assessment.

In summary, Loma Rica Reservoir is believed unlikely to be supporting California red-legged frogs and avoidance and minimization measures are expected to minimize adverse impacts in the unlikely event that this species is present.

2.0 Project Location and Description

Loma Rica Reservoir is located directly east of the City of Grass Valley, Nevada County, California, at an elevation of 3,154 feet above mean sea level. It is part of the Nevada Irrigation District (NID or District) water-supply system and stores raw water delivered through the Cascade Canal. No other surface water flows into this reservoir, but a small amount flows out through an overflow spillway that drains to a small, shallow, created drainage below the reservoir that supplies a few raw-water customers just south of the project area. The main outflow from the reservoir supplies the Loma Rica Water Treatment Plant and the Chicago Park Canal, an NID supply route for raw-water customers. The reservoir is not directly connected with any local creeks. Figures 1, 2, 3, and 4 show project location and vicinity, habitat types, topography, and an aerial photograph of the reservoir and surrounding habitats.

NID proposes to dredge Loma Rica Reservoir, which would involve removing sediments that have accumulated since its construction in 1964. The reservoir has a total storage capacity of approximately 97 acre-feet. The purpose of the project is to remove sediments to regain lost storage capacity; the project would not add additional capacity.

Two dredging methods were initially considered for this project in 2012: a bucket/dragline method that would have required the reservoir to be significantly drawn down, and a suction/hydraulic method where a barge would float on the lake surface to mechanically pump sediment up through a discharge line. This CRLF site assessment was initially prepared for the latter method.

At present, NID is moving forward with a third method that best serves the purposes of the project by maximizing the amount of dredging that can be accomplished while minimizing financial and environmental costs, including reducing the potential for take of individual frogs and tadpoles.

The proposed project as it now stands has the following components:

- Draining the reservoir prior to sediment removal. This would be conducted during low flow and off-season demands, that is, in winter. The incoming water provided by the District's canal would be diverted around the reservoir using existing District piping and hydraulic structures. The reservoir would then be disconnected from incoming and outgoing water flows.
- Removing accumulated sediment from the reservoir using excavators, front-end loaders, articulated haul trucks, dozers, and water trucks (if necessary). Entry and exit routes for the reservoir would be minimized and strategically located to avoid impacts to shoreline vegetation. The estimated quantity of sediment removal is 50,000-75,000 cubic yards. The 0.6-acre wetland at the east end of the reservoir would be removed in the process; however, the reservoir would be refilled in the spring after completion of dredging.
- Placing sediment on adjacent, disturbed District-owned property for dewatering and to allow sufficient drying of the sediment for transport. The dewatered liquids would be drained back to the reservoir.
- Removing and disposing of the extracted and dewatered sediment, possibly to be used for fill material on the adjacent airport property in areas that have been previously disturbed.

Construction equipment used for similar NID projects and likely to be used for this project includes:

- Generators
- Rubber-tired backhoe
- Water truck
- Dozers
- Pickup trucks
- Excavator
- Front-end loader
- Delivery truck and trailer
- Delivery dump truck
- Small skid loader
- Fuel/oil service trucks
- Air compressor

The project is expected to begin in the fall/winter of 2013, no earlier than October 1, and would take four to six months to complete. Staging areas would be determined by the project contractor prior to construction.

3.0 Site Assessment Methods

Preparation of this site assessment started in January 2012 with a records search of the California Natural Diversity Database (CNDDDB 2012) for occurrence records of California red-legged frogs in a nine-quad area centered on the Grass Valley USGS 7.5' quadrangle (quad). Records were obtained for the Grass Valley, Nevada City, Chicago Park, Lake Combie, Colfax, North Bloomfield, French Corral, Rough and Ready, and Wolf quads. Additionally, the environmental documents for three other local projects were reviewed (WRA 2004, Jones & Stokes 2006, Visger 2009, RBF Consulting 2010, ESA 2011).

An Appendix D form for Loma Rica Reservoir was completed in January 2012 and is attached, and as many ponds, creeks, canals, and impoundments as were accessible or visible within one mile of the

project site were visited. Site visits to Loma Rica Reservoir were conducted on September 6, 2011, and January 25, 2012; visits to creeks, ponds, and other water features within one mile were conducted on January 30 and 31, and February 3 and 7, 2012.

With a new project description, an update to this report has been prepared to reassess potential impacts. A new records search of California Natural Diversity Database (CNDDDB 2013) was generated, and two additional site visits were conducted on March 28 and April 1, 2013.

4.0 CRLF Site Assessment

The following paragraphs address the questions presented in the 2005 Guidance and provide conclusions about the potential for project-related impacts to CRLFs. The site lies within the current range of the California red-legged frog; however, there are no known records of CRLFs at Loma Rica Reservoir or within a one-mile radius. The nearest known CRLF occurrence in Nevada County is on the adjacent North Bloomfield quad for a site, Sailor Flat, located roughly 6.5 miles north of Loma Rica Reservoir.

The general project vicinity has been considered potentially suitable for California red-legged frogs by biologists working on other local projects (Jones & Stokes 2006, RBF Consulting 2010, ESA 2011). In 2004 (prior to the 2005 Guidance), protocol surveys were conducted in two nearby creeks and a nearby reservoir (WRA 2004); no CRLFs were detected. In 2009, protocol surveys were conducted in the northwest corner of Loma Rica Reservoir and at two other nearby wetland areas with no CRLFs detected (Visger 2009); however, this latter survey did not include the wetland area at the east end of Loma Rica Reservoir.

4.1 California Red-legged Frog Natural History

California red-legged frogs typically occupy and breed along the margins of permanent and near-permanent ponds, lakes, and streams where water is still or slow, shoreline and emergent vegetative cover are dense and extensive, and water depth is at least two feet near the shoreline (Jennings and Hayes 1994, Barry 1999). Occupied breeding sites often have floating rooted vegetation and "grunge" (i.e., algae, particulates, or some form of turbidity – Barry 2005). Cook (1997) reported that important microhabitat features for all seasons included vegetative cover at water surface and water depth; frogs typically avoid open water. Such habitats would be considered optimal; however, CRLFs also occur in suboptimal habitats throughout their range (USFWS 2002, Barry pers. comm.).

Larvae, tadpoles, and metamorphs, which indicate breeding, have been collected from streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, and lagoons (USFWS 2002). Subadults and adults often use additional areas, including seeps, springs, riparian zones, and other areas that may not otherwise be suitable for breeding. An abundant forage base of invertebrates, macroinvertebrates, and mice is essential (Barry 2005). If the forage base is adequate, other habitat elements are less important; if the forage base is inadequate, the ideal habitats may be unoccupied (Barry pers. comm). CRLFs are aggressive feeders and often look for mouse tunnels at which to forage (Barry pers comm); the largest adult frogs occur where small-vertebrate prey (e.g., voles) are plentiful.

CRLFs may complete their entire life cycle in a particular habitat or they may seek multiple habitat types (USFWS 2002). They often disperse from breeding areas to forage, over summer, or overwinter in areas that are not suitable for breeding (USFWS 2005). They do not require corridors of appropriate habitat for dispersal or movements (Bulger 1999). They have been observed to make straight-line, long-distance, point-to-point migrations of up to 1.8 miles without apparent regard to

topography, vegetation type, or riparian corridors; however, the longest single overland segment traversed without contacting a pond or stream was 0.75 mile (Bulger 1999). While it is not necessary for breeding sites to be perennial, water must persist long enough for tadpoles to reach metamorphosis, which in the Sierra could be as late as August (USFWS 2002).

While nonnative predators such as bullfrogs (*Lithobates catesbeiana*), sunfish (Family Centrarchidae), and other fishes may reduce habitat suitability, their presence does not necessarily preclude CRLF occurrence. CRLFs often occur at sites with bullfrogs and warmwater fishes such as bass (*Micropterus* spp.) and mosquitofish (*Gambusia affinis*) (Barry pers. comm). The presence of green sunfish (*Lepomis cynellus*) may be more problematic but CRLFs do occur in ponds with this fish species (Barry pers. comm.).

4.2 Potential Habitat at Loma Rica Reservoir

Loma Rica Reservoir, situated in montane mixed coniferous forest, provides potentially suitable breeding and nonbreeding habitat for California red-legged frogs especially in or near the 0.6-acre freshwater emergent wetland at the eastern end (Figure 2 and photos below). Cattail (*Typha latifolia*) is the dominant species in this wetland, with soft rush (*Juncus effusus*) being common in the shallowest portions. The wetland has a border of a mix of willows (*Salix* sp.) and Himalayan blackberry (*Rubus discolor*).

CRLFs are not typically reservoir frogs, but they are known to occur in reservoirs in parts of their range. Loma Rica Reservoir lacks habitat features found at many occupied CRLF ponds, namely shoreline cover, egg-mass-attachment sites in the form of overhanging shoreline vegetation, and aquatic cover in the form of submersed and floating aquatic vegetation. California red-legged frogs tend to avoid open water (Cook 1997) and Loma Rica Reservoir is primarily open water. Another feature of occupied habitats is water depth of at least two feet near the shoreline for egg masses. Except where it abuts the lake directly, the wetland is shallow, ranging from mud to water less than a foot deep, with highly variable conditions (see photos 6, 7, and 8). Water depth where the cattail edge meets open water is unknown and may or may not be suitably deep for egg masses. A small portion of the upland within 300 feet of the reservoir contains relatively undisturbed montane mixed coniferous forest, but developed home sites surround all adjacent upland habitats beyond that.

The availability and abundance of suitable prey at the reservoir are not known, but Sierran treefrogs (*Pseudacris sierra*) and Sierra newts (*Taricha sierrae*) occur there (Visger 2009, pers. obs.) and are suitable prey. Nonnative bullfrogs (*Lithobates catesbeiana*) and nonnative bass (*Micropterus* spp.) and sunfish (*Lepomis* spp.) were reported to occur there by both Jones & Stokes (2006) and Visger (2009). Bullfrogs were not detected during 2011 and 2012 site visits, but were detected during one 2013 visit.

Suboptimal breeding conditions would not necessarily preclude CRLF use of the reservoir; however, CRLF breeding there is believed to be unlikely. Use of the reservoir by nonbreeding CRLFs could be possible if there were suitable and occupied breeding habitats within one or two miles and safe and relatively continuous dispersal habitat between them. Since the presence of occupied breeding ponds nearby is unlikely, and because safe and continuous dispersal habitat is absent, use of Loma Rica Reservoir by CRLFs is considered unlikely and persistence at the site is also.

We discuss potential project-related impacts to California red-legged frogs in section 7.0 below.

Photos 1 through 8 show Loma Rica Reservoir.

4.3 Potential Habitats within One Mile of Loma Rica Reservoir

A number of ponds and creeks occur within one mile as does Cascade Canal, which is the NID ditch that conveys water to Loma Rica Reservoir (Figure 3). With few exceptions, the ponds in this area appear to be impoundments along small creeks or drainages. All appear to be on private property associated with homes or other enterprises, usually beyond fences and locked gates. Not one was accessible by car or foot and many were not visible from the ground. Table 1 below provides as much detail as was available on ponds and creeks within the one-mile survey area. Wolf Creek and several other unnamed creeks arise within one mile, but all are small and most were dry during the January and February visits (Photo 19). Wolf Creek and Creek 1 provide aquatic and dispersal habitat for nonbreeding frogs; neither was visible from within the neighborhoods of the one-mile survey area, so both were photographed at points just outside the one-mile area (photos 17 and 18). Photos 9–19 are of ponds and creeks visible from public roads and are representative of what occurs in the area.

Each pond and creek was found within residential development with few or no corridors of contiguous and safe dispersal habitat. Canals provide relatively continuous aquatic corridors through the area, but they almost universally lack aquatic and shoreline cover and are often heavily used recreational trails (photos 9 and 10). Figure 4 shows the network of surface streets of the developments within one mile.

The single known CRLF population in Nevada County, Sailor Flat, occurs 6.5 miles north of Loma Rica Reservoir. Between Loma Rica Reservoir and Sailor Flat lie several miles of continuous residential development of varying density similar to what is seen on Figure 4.

5.0 Critical Habitat and Core Recovery Areas

The project site is not near critical habitat; the nearest critical-habitat boundary is roughly 4.25 miles to the north. There are no core recovery areas in Nevada County.

6.0 Avoidance and Minimization Measures

The project site is considered unlikely to support California red-legged frogs; however, in the unlikely event that red-legged frogs are present, the current project is considered the safest of the three alternatives considered because it is the least likely to take individual frogs and tadpoles.

Reservoir cleaning would take place during the fall and winter, starting no earlier than October 1. This project timing would ensure that any red-legged frog tadpoles that might be present would have metamorphosed into juveniles, with all juveniles and adults capable of moving out of the reservoir into adjacent uplands. Moreover, the project would begin by draining the reservoir, which would encourage any individuals present to migrate out of the reservoir basin and into uplands and/or surrounding canals, creeks, and ponds (Figure 3). The other two dredging methods would have maintained conditions suitable for frog occupation with the result that dredging could have taken individuals. Finally, the reservoir would be refilled four to six months later, which would allow frogs that moved into adjacent uplands and canals to return the reservoir.

7.0 Potential Impacts to CRLFs

US Fish and Wildlife Service (2002) states that while California red-legged frogs are known to occur and breed in habitats that would appear unsuitable, such as stock ponds with no shoreline vegetation, populations are most likely to persist long term where multiple breeding areas are embedded within a

matrix of habitats for dispersal, and where hydroperiod, pond structure, vegetative cover, and relative abundance of nonnative predators are conducive to long-term survival.

While that may superficially describe habitat conditions in the vicinity of Loma Rica Reservoir, Bulger (1999) states that as landscapes become increasingly developed with buildings, abnormally high predator densities (dogs, cats, and urban wildlife), roads/traffic, and related infrastructure, the connectivity between aquatic sites decreases and dispersal between aquatic habitats becomes more perilous. Low recruitment of dispersing individuals, he suggests, is likely to play an “insidious and primary role” in the extirpation of frog populations from suitable aquatic sites in developing landscapes. From that standpoint, colonization of new sites would be as perilous and increasingly less likely as development increases. Bulger (1999) also states that less than 25 percent of the adult population disperses annually, which makes the probability of successful dispersal among ponds in this area even more unlikely.

For CRLFs to be occurring in Loma Rica Reservoir now, they would presumably have been persisting there for many years because of how unlikely successful recent dispersal would be through increasingly developed surroundings. Since the reservoir and its surroundings do not provide conditions likely to be supporting a persisting population, the likelihood of CRLF occurrence at Loma Rica Reservoir is believed to be low. This is based on suboptimal breeding conditions (a relatively small cattail edge in an otherwise very shallow wetland), suboptimal cover (extensive open water with no cover in the form of submersed and floating aquatics), the intensity of surrounding developments, and the fact that two previous surveys have failed to detect red-legged frogs in the proximate vicinity. There are only six or eight known CRLF occurrences in the Sierra. While one of those known occurrences is only 6.5 miles away at Sailor Flat, several continuous miles of residences, highways, surface streets, and domestic and natural predators lie between Sailor Flat and Loma Rica Reservoir.

8.0 Conclusion

The reservoir is unlikely to support California red-legged frogs for the reasons provided in the previous paragraph; however, in the unlikely event that they do occur, impacts would be minimal. Project timing, starting no earlier than October 1 and concluding 4 to 6 months later, would ensure that no tadpoles would be taken as a result of the project, and all juveniles and adults would be capable of moving out of the reservoir into uplands and other nearby aquatic habitats during the time of reservoir drawdown. The reservoir would be refilled within four to six months. The 0.6-acre cattail marsh at the east end of the reservoir would be removed, but several other potentially suitable ponds occur within one mile of the project area.

Table 1. Habitat suitability of ponds within one mile of each proposed project site.

Pond/Creek	Details ¹	Presumed suitability for breeding ²	Presumed suitability for nonbreeding ²
P1	Impoundment on Wolf Creek. ~180 x 220 feet. Adjacent to private property w/considerable adjacent disturbance on north. Visible only from a distance; see Photo 11.	High	High
P2	Not seen. Smaller than P1 but presumed similar. ~ 40 x 175 feet. Google Earth shows more forest and less disturbance than at P1 but residences are directly adjacent.	High	High
P3	Not seen. Google Earth shows pond behind a house with no shoreline vegetation but some tree canopy. ~ 130 x 160 feet. Surroundings quite disturbed.	Low	Moderate
P4	Not found on Google Earth or during site visit. Presumed still present and potentially suitable.	Moderate	Moderate
P5	Not found on Google Earth or site visit—behind locked gate. Presumed present and potentially suitable.	Moderate	Moderate
P6	Just outside one-mile survey boundary; not visible from public road. ~170 x 435 feet. A relatively large impoundment with a large boat present on aerial image.	Moderate	Moderate
P7	Not found on Google Earth or site visit. Presumed present and potentially suitable.	Moderate	Moderate
P8	Narrow border of cattails around half of perimeter; adjacent areas cleared for residential construction. ~175 x 200 feet. Photo12.	Moderate	Moderate
P9	Just downstream of P8. ~160 x 200 feet. Visible only from a distance; some cattail and shrubby vegetation around margin. Currently at or near capacity but Aug. 2011 Google Earth image shows it was mostly dry. Photo 13.	Moderate	Moderate
P10	Not visible on Google Earth; visible from a distance from public road. ~ 100 x 125 feet. Some shoreline veg. Photo 14.	Moderate	Moderate
P11	Visible on Google Earth or during site visit. ~ 75 x 100. More apparent disturbance at than at other ponds.	Low	Low
Cascade Canal	Flows north to south into reservoir and provides aquatic habitat but no cover. See photos 9 and 10.	No	Low
Wolf Creek	Arises within one mile but was not visible from public roads within one-mile survey area. Photo 17 taken ~0.25 mi below the one-mile area. Provides good nonbreeding habitat.	No	High when flowing
Little Clipper Creek	Flows through extreme eastern end of one-mile survey area. Not seen but assumed to be similar to Wolf Creek, providing good nonbreeding habitat.	No	High when flowing
CR1	Arises within one mile. Not visible on Google Earth or within one-mile area. Photo 18 taken ~0.25 mi outside one-mile area.	No	High when flowing
CR2, CR3, CR4	Small drainages arising within one-mile survey area; all dry at the time of site visit. Photo 19 is representative of all three.	No	Low
Additional ponds	A number of small to medium ponds were found within the one-mile area that are not seen on the topographic map. Photos 15–16 show two.	Moderate	Moderate

¹ Each pond and creek is found within intensive residential development with few or no corridors of contiguous and safe dispersal habitat.

² "Suitability" is based solely on a visual assessment of features apparent on Google Earth images and from a distance during site visits. A high or medium value assumes that other things are equal, such as CRLF presence in the area, abundant prey, suitable water quality and depth, and manageable co-occurrence of nonnative predators.

8.0 Literature Cited, References, and Persons Contacted

- Barry, S. 1999. A study of the California red-legged frog (*Rana aurora draytonii*) of Butte County, California. Par Environmental Services, Inc. Sacramento, CA. 16 pp.
- _____. 2005. Special status amphibians and reptiles of northern California. Curriculum from UC Davis Extension class. Prepared by ENTRIX, Inc. 196 pp.
- Barry, Sean. Amphibian expert, UC Davis, CA. Personal communication with Anne Wallace, June 2004 and July 2005.
- Bulger, J. 1999. Terrestrial activity and conservation of California red-legged frogs (*Rana aurora draytonii*) in forested habitats of Santa Cruz County, California. Prepared for Land Trust of Santa Cruz County, Santa Cruz, CA. 37 pp.
- California Natural Diversity Database (CNDDB). 2012. Record search of nine quads conducted on February 6, 2012. California Department of Fish and Game, Sacramento, CA.
- _____. 2013. Record search of nine quads conducted on April 1, 2013. California Department of Fish and Game, Sacramento, CA
- Cook, D. 1997. Microhabitat use and reproductive success of the California red-legged frog (*Rana aurora draytonii*) and bullfrog (*Rana catesbeiana*) in an ephemeral marsh. MS Thesis, Sonoma State University. 23pp+tables and figures.
- Environmental Science Associates (ESA). 2011. NID Elizabeth George–Loma Rica Intertie Pump Station Project initial study. Prepared for Carollo Engineers by Environmental Science Associates, Sacramento. Found online at: <http://www.nid.dst.ca.us/projects.cfm>
- Federal Register. 2001. Endangered and threatened wildlife and plants; final determinations of critical habitat for the California red-legged frog; final rule. Federal Register 50 CFR Part 17, March 13, 2001: 14626-14758.
- Hines, Mike. Muck Doctor lake and pond cleaning services. Personal communication with Anne Wallace February 2012.
- Jennings, MR and MP Hayes. 1994. Amphibian and reptile species of special concern in California. Final report. California Department of Fish and Game, Inland Fisheries Division, Rancho Cordova, CA. 255 pp.
- Jones & Stokes [now ICF International]. 2006. Lower Cascade Canal–Banner/Cascade Pipeline Project EIR. Prepared for Nevada Irrigation District, Grass Valley, by Jones & Stokes Associates, Sacramento. Found online at: <http://www.nidwater.com/lower-cascade-eir.cfm>
- Rathbun, GB, NJ Scott, and TG Murphey. 1997. *Rana aurora draytonii* behavior. Herpetological Review 28(2): 85-86.
- RBF Consulting. 2010. Loma Rica Ranch Specific Plan DEIR. Prepared for City of Grass Valley by RBF Consulting, Walnut Creek, CA. Found online at: http://www.cityofgrassvalley.com/services/departments/cdd/SDA_LomaRicaRanch.php

US Fish and Wildlife Service (USFWS). 2002. Recovery plan for the California red-legged frog (*Rana aurora draytonii*). US Fish and Wildlife Service, Portland, OR. viii + 173 pp.

_____. 2005. Revised guidance on site assessments and field surveys for the California red-legged frog. US Fish and Wildlife Service, Sacramento, CA. 13 pp + appendix.

Visger, G. 2009. Final survey results for NID Banner Cascade Pipeline California red-legged frog survey. Prepared by Myers Construction Solutions, Inc, Sacramento, CA. Prepared for Nevada Irrigation District, Grass Valley, CA.

Wetland Research Associates (WRA). 2004. Biological survey report: California red-legged frog, foothill yellow-legged frog, California horned lizard, & bat roost surveys, Loma Rica Project, Grass Valley, Nevada County, California. Prepared for Carville Sierra, Inc., Grass Valley, by Wetland Research Associates, San Rafael, CA.

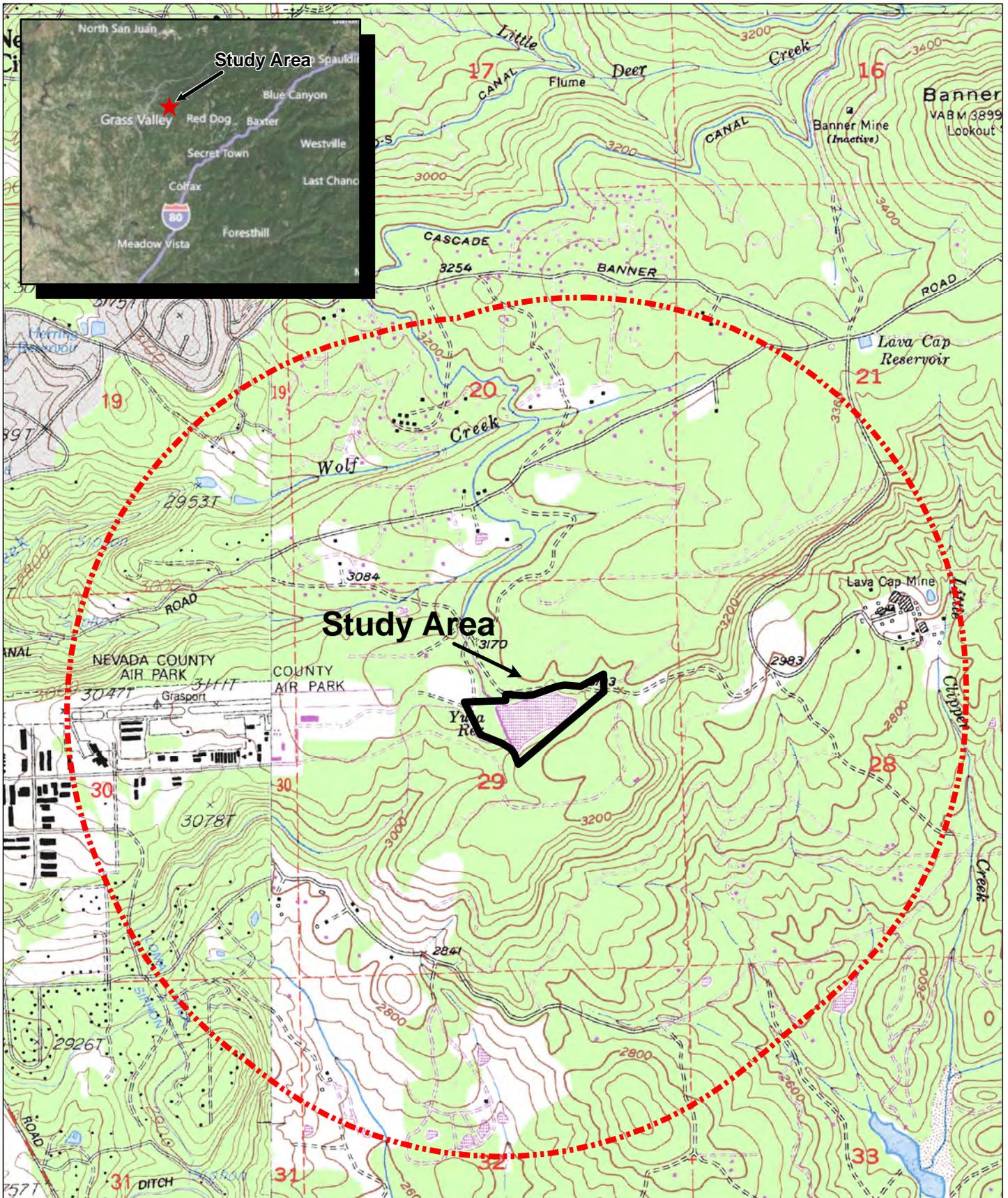
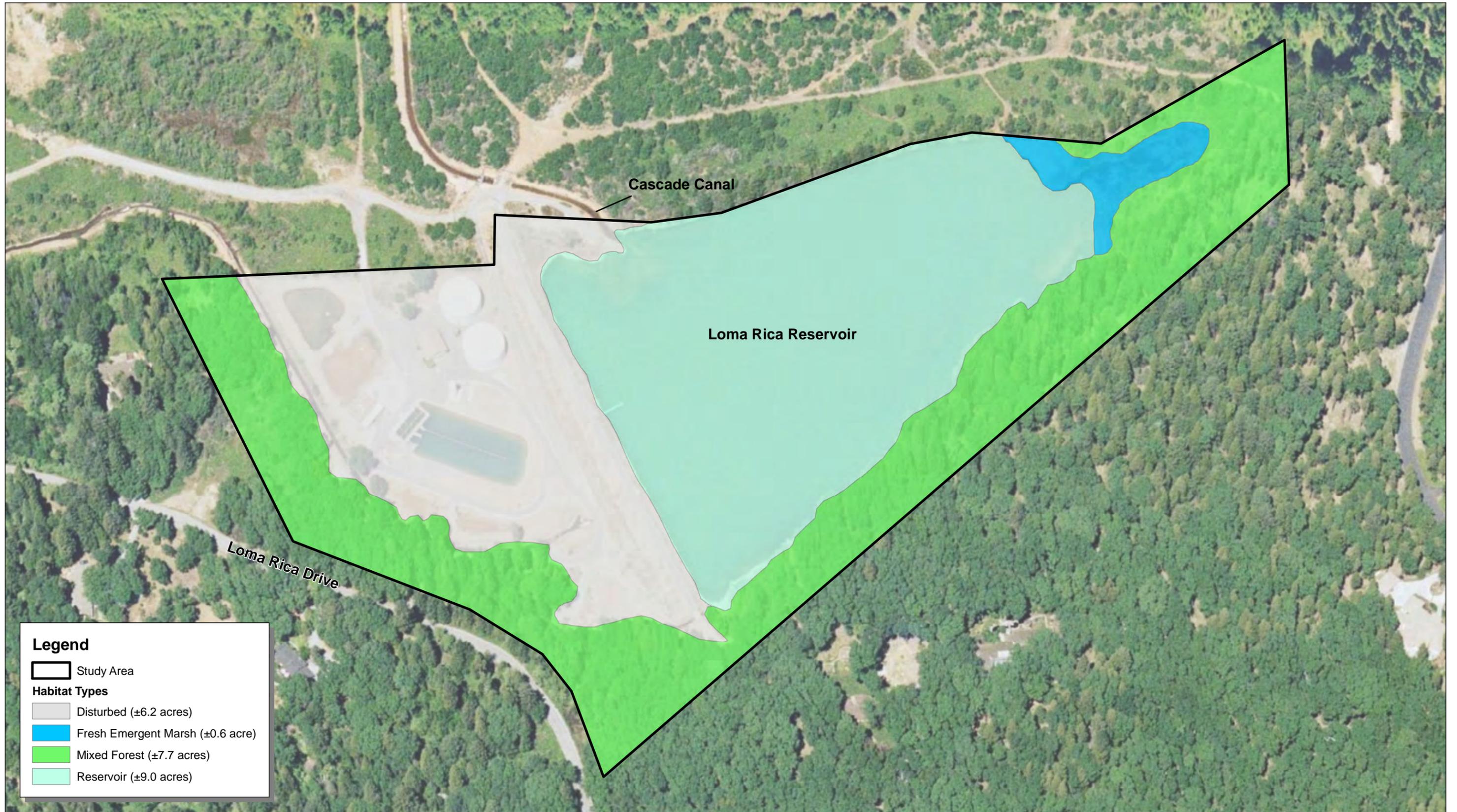


Figure 1
SITE & VICINITY MAP
Loma Rica Reservoir
Nevada County, CA



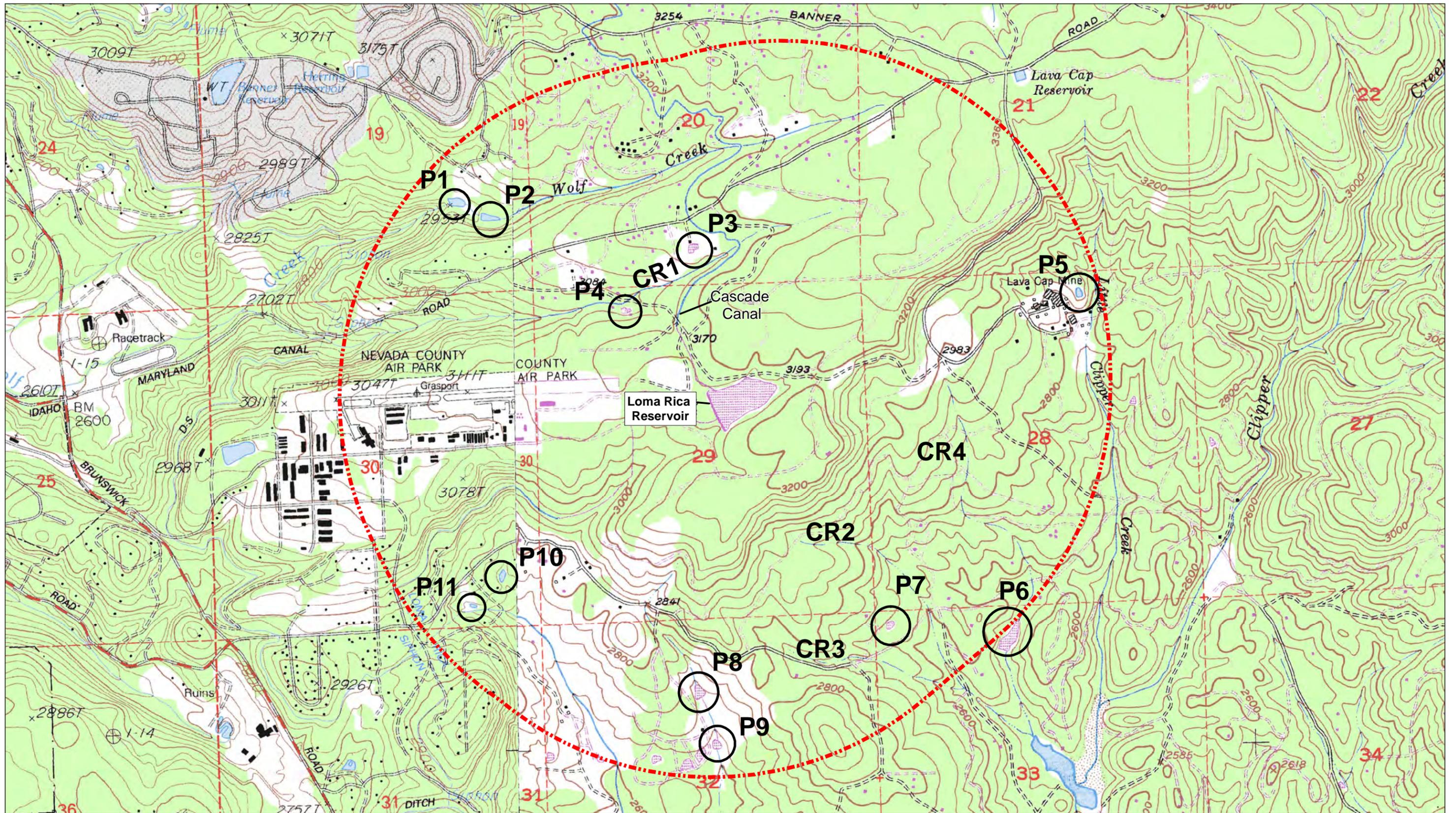


FIGURE 3

USGS Topographic Map, 2010.
Map Date: February 13, 2012

**One-mile Survey Area -
Topo Base**

Loma Rica Reservoir
Nevada County, CA



FIGURE 4

**One-mile Survey Area -
Aerial Base**

Aerial Photo: Bing Maps 2010.
Map Date: February 13, 2012

Loma Rica Reservoir
Nevada County, CA



Photo 1. Loma Rica Reservoir from SW to NE; wetland in distance.



Photo 2. South shore; wetland in distance.



Photo 3. North shore from SE to NW; dam in distance on far left.



Photo 4. South shore and dam.



Photo 5. Cattail edge of wetland (from N to S), January 2012.



Photo 6. Cattails in eastern wetland, September 2011.



Photo 7. Cattails in eastern wetland, January 2012.



Photo 8. Cattails in eastern wetland, April 2013.



Photo 9. Cascade Canal: open waterway with little cover.



Photo 10. Cascade Canal in residential area.



Photo 11. Pond 1 on Wolf Creek; fringe of cattail and blackberry; cleared area in foreground is related to homesite development.



Photo 12. Pond 8; narrow cattail fringe around ~ half of perimeter.



Photo 13. Pond 9.



Photo 14. Pond 10.



Photo 15. One of several yard ponds not found on USGS topo.



Photo 16. Another of several yard ponds not found on USGS topo.



Photo 17. Wolf Creek ~0.25 mi downstream of one-mile survey area.



Photo 18. Creek 1 ~0.25 mi downstream of one-mile survey area.



Photo 19. Creek 2; representative of creeks 3 and 4—all dry in February.

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

Site Assessment reviewed by _____
(FWS Field Office) (date) (biologist)

Date of Site Assessment: January 25, 2012
(mm/dd/yyyy)

Site Assessment Biologists: Wallace, Anne _____
(Last name) (first name) (Last name) (first name)

(Last name) (first name) (Last name) (first name)

Site Location: Loma Rica Reservoir, City of Grass Valley, Nevada County, 39.223000 deg lat, -120.988000 deg long
(County, General location name, UTM Coordinates or Lat./Long. or T-R-S).

****ATTACH A MAP** (include habitat types, important features, and species locations)**

Proposed project name: Loma Rica Reservoir Cleaning Project

Brief description of proposed action:

Project is dredging Loma Rica Reservoir to restore water storage to design capacity of approximately 97 acre-feet. An estimated 25,000–50,000 cubic yards of sediment would be removed.

- 1) Is this site within the current or historic range of the CRF (circle one)? YES NO
- 2) Are there known records of CRF within 1.6 km (1 mi) of the site (circle one)? YES NO
If yes, attach a list of all known CRF records with a map showing all locations.

GENERAL AQUATIC HABITAT CHARACTERIZATION

(if multiple ponds or streams are within the proposed action area, fill out one data sheet for each)

RESERVOIR:

Size: ~400 x 1100 feet Maximum depth: ~25 feet

Vegetation: emergent, overhanging, dominant species: shoreline mixed forest composed of ponderosa pine, Douglas-fir, incense cedar, black oak, and canyon live oak; wetland composed primarily of cattail and soft rush (*Juncus effusus*)

Substrate: sediment/silt; covered with leaf litter close to shorelines; large patch of mud within wetland

Perennial or Ephemeral (circle one). If ephemeral, date it goes dry: _____

Appendix D.
California Red-legged Frog Habitat Site Assessment Data Sheet

STREAM:

Bank full width: _____

Depth at bank full: _____

Stream gradient: _____

Are there pools (circle one)? YES NO

If yes,

Size of stream pools: _____

Maximum depth of stream pools: _____

Characterize non-pool habitat: run, riffle, glide, other: _____

Vegetation: emergent, overhanging, dominant species: _____

Substrate: _____

Bank description: _____

Perennial or Ephemeral (*circle one*). If ephemeral, date it goes dry: _____

Other aquatic habitat characteristics, species observations, drawings, or comments:

Necessary Attachments:

1. All field notes and other supporting documents
2. Site photographs

Maps with important habitat features and species location

Anne Wallace Principal/Certified Wildlife Biologist
EcoBridges Environmental, Certified UDBE/WBE

Education

MS	Wildlife Science (1988)	Utah State University	Logan, UT
BS	Fisheries and Wildlife (1984)	Utah State University	Logan, UT

Employment History

2004 >>	Principal/Senior Biologist	EcoBridges Environmental	Grass Valley, CA
1995-2004	Principal/Senior Biologist	Ibis Environmental, Inc.	Grass Valley, CA
1990-1995	Wildlife Biologist	BioSystems Analysis, Inc.	Tiburon, CA
1989-1990	Natural Resource Specialist	Spectrum Sciences and Software	Logan, UT
1988-1989	Research Technician	USFS Intermountain Research Station	Logan, UT
1986-1987	Consultant	Bio/West, Inc.	Logan, UT
1986	Wildlife Biologist	U.S. Fish and Wildlife Service	Honolulu, HI
1984-1987	Graduate Assistant	Utah State University Foundation	Logan, UT
1983-1984	Biological Technician	Utah State University	Logan, UT
1983	Biological Technician	Utah Division of Wildlife Resources	Ogden, UT

Selected Field Experience

- Nevada County projects: California red-legged frog consultation for Tribute Trail along Deer Creek; California red-legged frog consultation for gravel augmentation on Deer Creek; California red-legged frog assessment and consultation for Cascade Shores WWTP expansion; preconstruction California red-legged frog survey on Rattlesnake Creek for road repair; California red-legged frog surveys for South Hill development.
- Habitat assessment and field surveys for California red-legged frogs in support of PG&E's relicensing efforts for the Mokelumne River Project. Surveys encompassed more than 60 sites in Amador and Calaveras counties along the Mokelumne River drainage.
- Habitat assessment and field surveys for California red-legged frogs in support of PG&E's relicensing of the Rock Creek/Cresta hydroelectric project. Project area include ~100 miles of transmission line and the Feather River drainage above Lake Oroville.
- Ten years of monitoring California red-legged frogs and San Francisco garter snakes at West-of-Bayshore property, San Mateo County, San Francisco International Airport, during annual cattail management and intensive canal dredging projects. CRLFs abundant in project area.
- Evaluation of feasibility of a variety of water-supply alternatives for a coastal golf course, which included literature review and evaluation of various water-quality impacts to California red-legged frogs and San Francisco garter snakes and their amphibian prey.
- California red-legged frog surveys and impact analyses throughout Marin County; protocol surveys along Green Valley Creek in Solano County; and protocol surveys at Montezuma Wetlands Restoration Project, Suisun Bay, Solano County.

Appendix D — Archaeological Inventory Survey

**RECORDS CHECK AND NATIVE
AMERICAN CONSULTATION FOR THE
LOMA RICA RESERVOIR CLEANING PROJECT,
NEVADA COUNTY, CALIFORNIA**

Prepared by

Peak & Associates, Inc.
3161 Godman Avenue, Suite A
Chico, California 95973
(530) 342-2800

Prepared for

Matt Fremont
HELIX Environmental Planning, Inc.
110 Maple Street
Auburn, CA 95603

March 21, 2012
(Job # 11-092)

INTRODUCTION

Project Description

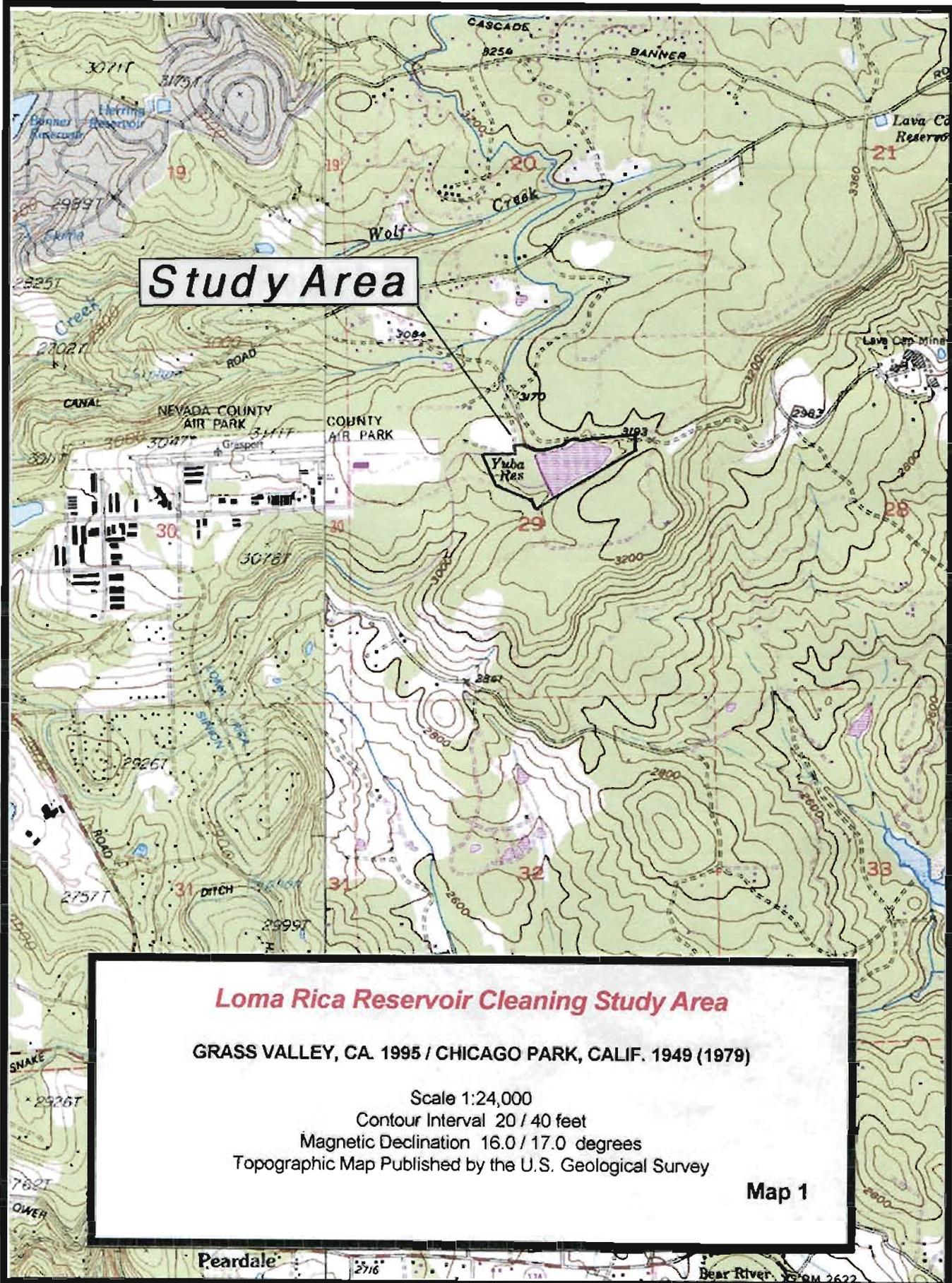
Loma Rica Reservoir is located east of the City of Grass Valley in an unincorporated portion of western Nevada County at an elevation of 3154 feet above mean sea level, in Section 29, Township 16 North, Range 9 East. The project area comprises the reservoir itself plus ancillary facilities directly west of the reservoir; ancillary facilities include two water-storage tanks, three settling ponds, surface roads, incoming and outgoing canals, and a small building. Map 1 shows the study area on a copy of the United States Geological Survey (USGS) Chicago Park, 7.5 minute series topographic quadrangle.

Nevada Irrigation District (NID) proposes to remove sediments from the reservoir that have accumulated since its construction in 1964. The reservoir has a total design capacity of 97 acre-feet. The purpose of the project is to restore as much lost reservoir capacity as possible. An estimated 25,000–50,000 cubic yards of sediment will be removed over a period of three to four months. Two dredging methods were initially being considered for this effort: a bucket/dragline method that would require the reservoir to be significantly drawn down, and a suction/hydraulic method where a barge would float on the lake surface to mechanically pump sediment through a discharge line. The latter method has been selected because it will be less environmentally disturbing.

Using the hydraulic method, a barge will be launched at the sandbar in the northwest corner of the reservoir. The barge will be maneuvered across the lake surface along pull wires affixed to opposite shores. Pull wires will not be affixed within or run through the wetland; there will be no direct or indirect impacts to the wetland. The barge will be kept at least 15 feet from south, west, and north shorelines, and at least 50 feet from the cattail edge of the wetland.

Dredged material will be brought to the surface using a suction device that pumps sediments to a disturbed area next to the reservoir for dewatering. The intake end of the suction line disturbs an area approximately six inches around its mouth, which means that impacts to water quality and water currents should be minimal from use of this method. Dewatering will be accomplished either with a centrifuge or by gravity through temporary settling basins. Water from dewatered sediments will be routed back to the reservoir. Dewatered sediment will be hauled off site for appropriate disposal. The staging area for equipment will be directly adjacent to the reservoir in previously graded/disturbed areas. Access to the site will be via existing paved and/or fully graded dirt roads.

The reservoir will remain at operational level and will not be drawn down. Reservoir cleaning will begin after September 15, 2012, and will be completed before March 15, 2013.



Study Area

Loma Rica Reservoir Cleaning Study Area

GRASS VALLEY, CA. 1995 / CHICAGO PARK, CALIF. 1949 (1979)

Scale 1:24,000

Contour Interval 20 / 40 feet

Magnetic Declination 16.0 / 17.0 degrees

Topographic Map Published by the U.S. Geological Survey

Map 1

Peardale

Bear River

CULTURAL HISTORY

Prehistory

Until relatively recent years, the study of Sierran archeology lagged far behind the central valley and coastal areas in terms of developing regional chronologies and other basic aspects of systematic study of the prehistory of the area. The first effective synthesis of Sierran archeology was produced by Heizer and Elsasser (1953), and further refined by Elsasser (1960). Since that time, major archeological projects in the Sierra have proliferated, largely due to work on water projects and other cultural resources management-based research efforts. For the northern Sierra alone, archeological sequences, based on excavation of stratified sites and other data, are available for the Lake Tahoe vicinity (Elston 1979, 1972; Elston and Davis 1972; Elston et al. 1977), the Lake Oroville locality (Jewell 1964; Olsen and Riddell 1963; Ritter 1968, 1970a), and for the proposed Auburn Reservoir area. The latter, being of most relevance to the current project area, will be discussed briefly.

There have been several archeological reconnaissances conducted in the Auburn Reservoir area, but the great majority of prehistoric sites recorded (i.e., milling stations, surface lithic scatters, small, single-component sites) are relatively uninformative in terms of larger regional research goals. Sites that have been excavated include a chert quarry (Crew 1970) and five midden sites, all reported during Phases II and III of the Auburn Reservoir Project (Ritter, ed. 1970). The most informative of these is the Spring Garden Ravine site (CA-Pla-101), which contained three well-defined strata (Ritter 1970b).

The lowest stratum (C) has been radiocarbon dated at about 1400 B.C., and contains an assemblage similar to the Martis Complex, as defined at high-elevation sites in the Sierra. The artifacts include large projectile points (mostly of basalt and slate), atlatl (dart-thrower) weights, numerous core tools, and several varieties of grinding implements. The collection would not look out of place had it been found in Martis Valley. The next stratum (B) is less easily defined, and appears to represent a transition between cultures represented by the upper and lower strata. Some of this transitional appearance may be attributable to simple physical mixing of deposits, but the basic stratigraphic integrity of the site is indicated by consistency of the two radiocarbon dates from stratum B (A.D. 1039 \pm 80 and 976 \pm 90). The upper stratum contains small projectile points (arrowheads), hopper mortars, and other artifacts comparable to recent archeological collections elsewhere in the northern foothills. Stratum A is, therefore, probably a manifestation of the ancestral Nisenan, the Indian group inhabiting the area at the time of Euro-American contact.

Ethnology

Loma Rica Reservoir lies within the ethnographically known Nisenan territory. The Nisenan, or Southern Maidu, occupied the upper drainages and the adjacent ridges of the Yuba, the north, middle, and south forks of the American, and at least the upper north side of the Cosumnes River. The eastern limit of the territory is conventionally believed to

extend to the crest of the Sierra. As well, the Nisenan in the valley proper occupied some area west of the lower reaches of the Feather River (Wilson and Towne 1978).

The Nisenan linguistically are grouped with the Northern Maidu and Konkow within the Penutian family (Riddell 1978:387). Kroeber distinguished three dialects within the larger territory occupied by the Nisenan, but Riddell indicated more distinctions are possible. Wilson and Towne (1978) distinguished several "centers," presumably linguistic and social groupings.

The Nisenan were socially integrated at the village or community group level (Wilson and Towne 1978), with the group participating in the decision-making process. The villages would range in size from 15 to 25 people to, at least in the Valley Nisenan, villages over 500 people (Kroeber 1925:821). A very large settlement consisted of a major village and associated smaller camps, whether general or specialized in nature. A headman, respected by all, residing in the major village had the authority to call upon the smaller associated groups in times of need, although the smaller groups did not have to always obey.

The villages for the Hill Nisenan were located on ridges and flats along the major streams and rivers within their territory. The satellite encampments and villages were probably located on the smaller water courses surrounding or nearby the major village. A main village with reported dance house, Tuyi, was located in the general vicinity of the project area, although the exact location has not been matched to a known archeological site (Wilson and Towne 1978:388, Fig. 1).

The Nisenan, as with other Sierran groups, moved into the higher elevations during the hot summer months. The main activity was the collecting of pine nuts and numerous other species of nuts, roots, and berries. This was done primarily by women and children. The foraging groups in a locale could range from small, extended family groups, composed of a woman, her immediate female kin, and their adolescent children to whole villages (Wilson and Towne 1978:389). The men spent most of their time hunting or fishing for a wide variety of fish and animals. Hunting was noted as often involving communal drives, with the best archers of the village posted to do the killing (Wilson and Towne 1978:389). Individual hunters made extensive use of decoys and imitative sounds.

Most Nisenan never left the territory used by their own village group. However, there were, in most large villages, at least some individuals who engaged in rather extensive trade with several valley groups as well as Sierra groups, such as the Washoe. The Hill Nisenan probably acquired obsidian and basketry from the east, in exchange for acorns from the Washoe (Davis 1974:38; Freed 1966:78), but it is presently unclear whether they were visited by the Washoe or they visited the Washoe or both. Presumably, the exchange network functioned in the summer and fall.

History

Loma Rica Reservoir lies within one of the major early mining districts of the state, the Grass Valley Mining District. Placer mining began in this region soon after the discovery of gold at Sutter's Mill. In the same year, 1848, gold was discovered on Wolf Creek near Grass Valley. Although the placer mines were soon exhausted, quartz lodes were discovered that would support a very active mining industry for the next century (Clark 1970:53-60).

The Gold Hill and Allison Ranch mines were the top producers in the early days, but others soon eclipsed them, particularly the Idaho-Maryland, Empire, North Star, Pennsylvania and W.Y.O.D. Nearly four thousand miners were employed in the Grass Valley District during the Depression era and early World War II. The mines were closed during the war, but most of the larger mines in the district, in contrast to most gold mines in California, reopened after the war. The Idaho-Maryland group did not stop gold mining until 1956 and the gold mining era finally ended the following year when the Empire-Star group ceased production.

Estimates of total production are not very accurate, but Clark (1975:54) claims that the lode mines of the Grass Valley District produced "at least" three hundred million dollars, with placer mines adding a few million more. The estimated production for the Coe Mine, the lode mine nearest the APE was \$500,000. This was at the far northern edge of the Grass Valley District, but the vein worked by this mine was just south of the project area.

RESEARCH

A records search was conducted by the North Central Information Center (NCIC) of the California Historical Resources Information System on January 31, 2012 (Appendix A). According to the NCIC, the project area has not been formally inspected by archeologists. An archeological inspection of portions of the Nevada County Air Park, adjacent to the western edge of the project area, was conducted by Susan Lindstrom in 1993 (Lindstrom 1993). An inspection was also conducted to the immediate east of the eastern edge of the project area by Andrew D. Frank, Registered Professional Forester, for the Sache Timber Harvest Plan (Frank 2001).

Loma Rica Reservoir, although constructed in 1964, was included as an element of a larger water conveyance system by Lindstrom (Lindstrom 1993) and was assigned the trinomial CA-NEV-1404H by NCIC (Appendix A). Lindstrom also identified and recorded two other historic period mining-related resources, and a water conveyance feature, close to the boundaries of the project area (Lindstrom 1993).

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission (NAHC) replied to a Peak & Associates request for a Sacred Lands file check on February 8, 2012 (Appendix B). According to the NAHC, no cultural resources are known in the APE or immediate area. A list of individuals and organizations who may have knowledge of cultural resources in or near the APE were also provided by the NAHC. Letters requesting information and/or comment concerning the proposed project, and a copy of Map 1, were sent by Peak & Associates on February 18, 2012 to: Jill Harvey; David Keyser, Chairperson, United Auburn Indian Community of the Auburn Rancheria (UAIC); Marcos Guerrero, Tribal Preservation Committee, UAIC; Gregory S. Baker, Tribal Administrator, UAIC; Eileen Moon, Vice Chairperson, T'si-Akim Maidu; Grayson Coney, Cultural Director, T'si-Akim Maidu; and, April Wallace Moore (Appendix B).

On March 4, 2012, Grayson Coney, Cultural Director, T' si-Akim Maidu, called Peak & Associates to report that he had visited the study area and only observed isolated cultural material outside of the study area. Mr Coney asked about where the recovered sediment was going to be disposed of (response, "off site") and said therefore, if NID stays on existing roads, the T' si-Akim Maidu has no concerns about the proposed project.

Gregory S. Baker, Tribal Administrator, United Auburn Indian Community of the Auburn Rancheria (UAIC), sent a letter on March 6, 2012 to Peak & Associates requesting copies of any archaeological reports and other environmental studies generated as a result of the project so that UAIC could comment on potential impacts and proposed mitigation measures related to cultural resources (Appendix B).

As of March 21, 2012, no other replies have been received.

RECOMMENDATIONS

There is no record of a formal archeological inspection of the project area. NID proposes to use existing roads for site access and use previously graded areas adjacent to the reservoir for the staging area and dewatering activities. The recovered sediment will be hauled off site.

There is a possibility that the existing roads and graded areas adjacent to the reservoir may possess disturbed cultural resources, that, although impacted, may still be eligible historic properties under the California Register of Historic Resources. Peak & Associates recommends that the unpaved portions of the access road, and staging area adjacent to the reservoir, be inspected by a qualified archeologist prior to the commencement of project-related activities.

REFERENCES CITED

- Clark, William B.
1970 Gold Districts of California. California Division of Mines and Geology, Bulletin 193. Sacramento.
- Crew, Harvey L.
1970 Preliminary Report: 4-Pla-36. In Archaeological Investigations in the Auburn Reservoir Area, Phase II-III, edited by E. W. Ritter, pp. 275-280. Ms. on file, National Park Service, San Francisco.
- Davis, James T.
1974 Trade routes and economic exchange among the Indians of California, edited by Robert F. Heizer. Ballena Press Publications in Archaeology, Ethnology and History 3. Ramona.
- Elsasser, Albert B.
1960 The Archaeology of the Sierra Nevada in California and Nevada. *University of California Archaeological Survey Reports* 51:1-93. Berkeley.
- Elston, Robert G.
1972 The Steamboat Assemblage and its Relationship to the Martis Complex. Paper presented at the Annual Meeting of the Society for California Archaeology and the Southwestern Anthropological Association, Long Beach.

1979 The Archeology of U.S. 395 Right-of-Way Between Stead, Nevada and Hallelujah Junction, California. Ms. on file, Anthropology Department, University of Nevada, Reno.
- Elston, Robert G., and Jonathan O. Davis
1972 An Archeological Investigation of the Steamboat Springs Locality, Washoe County, Nevada. *Nevada Archeological Reporter* 6(1):9-14. Reno.
- Elston, Robert G., Jonathan O. Davis, Alan Levanthal, and Cameron Covington
1977 The Archeology of the Tahoe Reach of the Truckee River. A Report to the Tahoe-Truckee Sanitation Agency. Ms. on file, University of Nevada Northern Division of the Nevada Archaeological Survey, Reno.
- Frank, Andrew D.
2001 Archeological and Historical Resources Survey and Impact Assessment, Sache Timber Harvest Plan. Ms. on file, North Central Information Center, California Historical Resources Information System, California State University, Sacramento.

- Freed, Stanley A.
1966 Washo habitation sites in the Lake Tahoe area. In *Notes on western Nevada archaeology and ethnology*. University of California Archaeological Survey 66(3). Berkeley.
- Heizer, Robert F., and Albert B. Elsasser
1953 *Some Archaeological Sites and Cultures of the Central Sierra Nevada*. *University of California Archaeological Survey Reports* 21:1-42. Berkeley.
- Jewell, Donald P.
1964 *Archaeology of the Oroville Dam Spillway*. *Department of Parks and Recreation Archaeological Reports* 10(1). Sacramento.
- Kroeber, Alfred L.
1925 *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Smithsonian Institution, Washington, D.C..
- Lindstrom, Susan G.
1993 *A Cultural Resource Inventory of the Nevada County Airpark Expansion Project, Grass Valley, California, Nevada County*. Ms. on file, North Central Information Center, California Historical Resources Information System, California State University, Sacramento.
- Olsen, William H., and Francis A. Riddell
1963 *The Archeology of the Western Pacific Railroad Relocation: Oroville project, Butte County, California*. *California State Department of Parks and Recreation, Archaeological Resources Section Report 7*. Sacramento.
- Riddell, Francis A.
1978 *Maidu and Konkow*. In *Handbook of North American Indians* (vol. 8), edited by Robert F. Heizer. Smithsonian Institution, Washington, D.C..
- Ritter, Eric W., ed.
1970 *Archaeological Investigations in the Auburn Reservoir Area, Phase II-III*. Ms. on file, National Park Service, San Francisco.
- Ritter, Eric W.
1968 *Culture History of "Tie Wiah" (4-But-84), Oroville Locality, California*. Unpublished Master's thesis, Department of Anthropology, University of California, Davis.

1970a *Northern Sierra Foothill Archaeology*. In *Papers on California and Great Basin Prehistory*, edited by Eric W. Ritter, Peter D. Schulz, and Robert Kautz, pp. 171-184. *University of California, Center for Archaeological Research Publications* 2. Davis.

1970b The Archaeology of 4-Pla-101, the Spring Garden Ravine Site. In Archaeological Investigations in the Auburn Reservoir Area, Phase II-III, edited by Eric W. Ritter, pp. 270-538. Ms. on file, National Park Service San Francisco.

Wilson, Norman L., and Arlean Towne

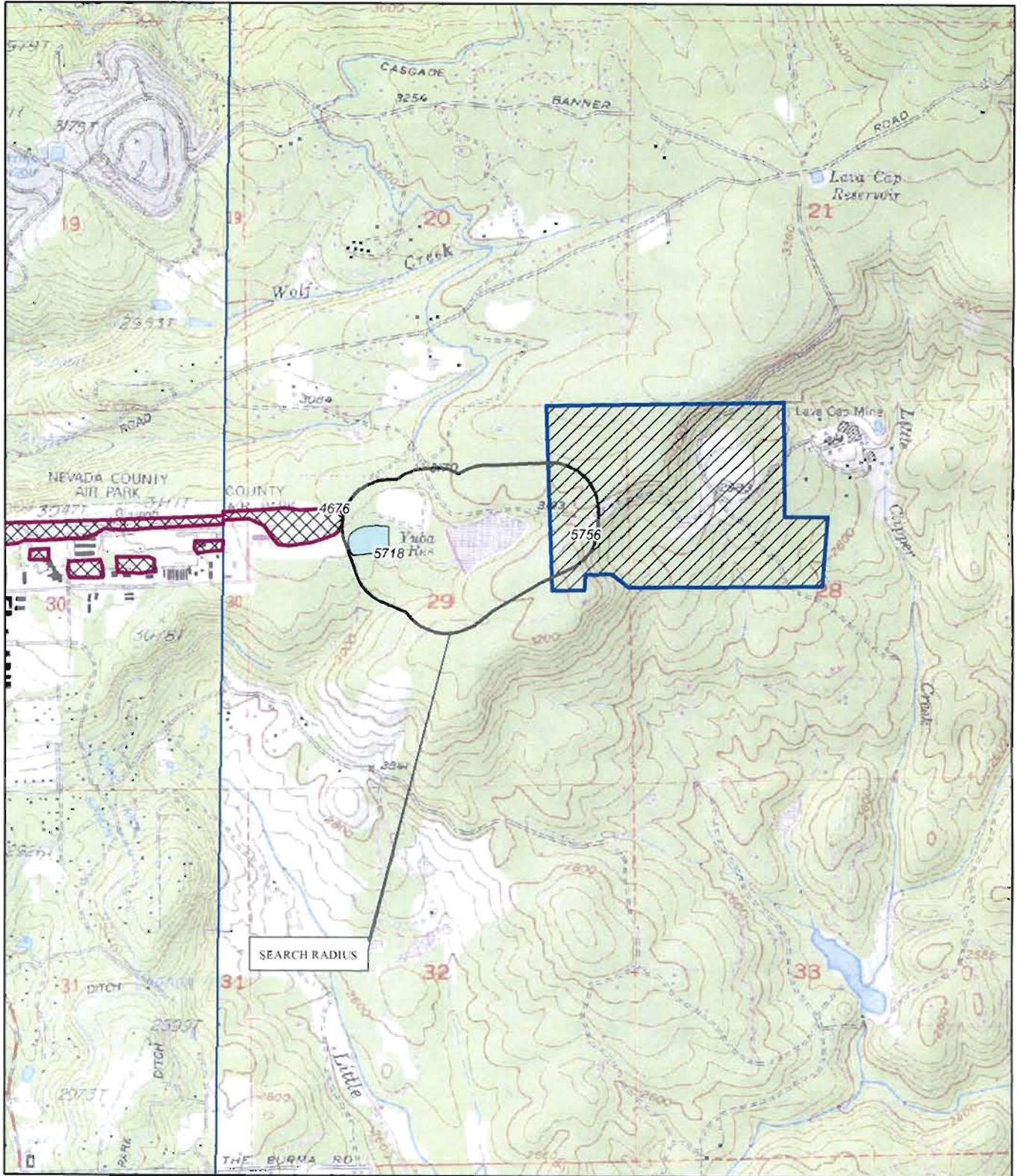
1978 Nisenan. In Handbook of North American Indians (vol. 8), edited by Robert F. Heizer. Smithsonian Institution, Washington, D.C..

APPENDIX A

North Central Information Center, CHRIS

Record Search

LOMA RICA RESERVOIR CLEANING PROJECT



NORTH CENTRAL INFORMATION CENTER

RECORDS SEARCH RESULTS

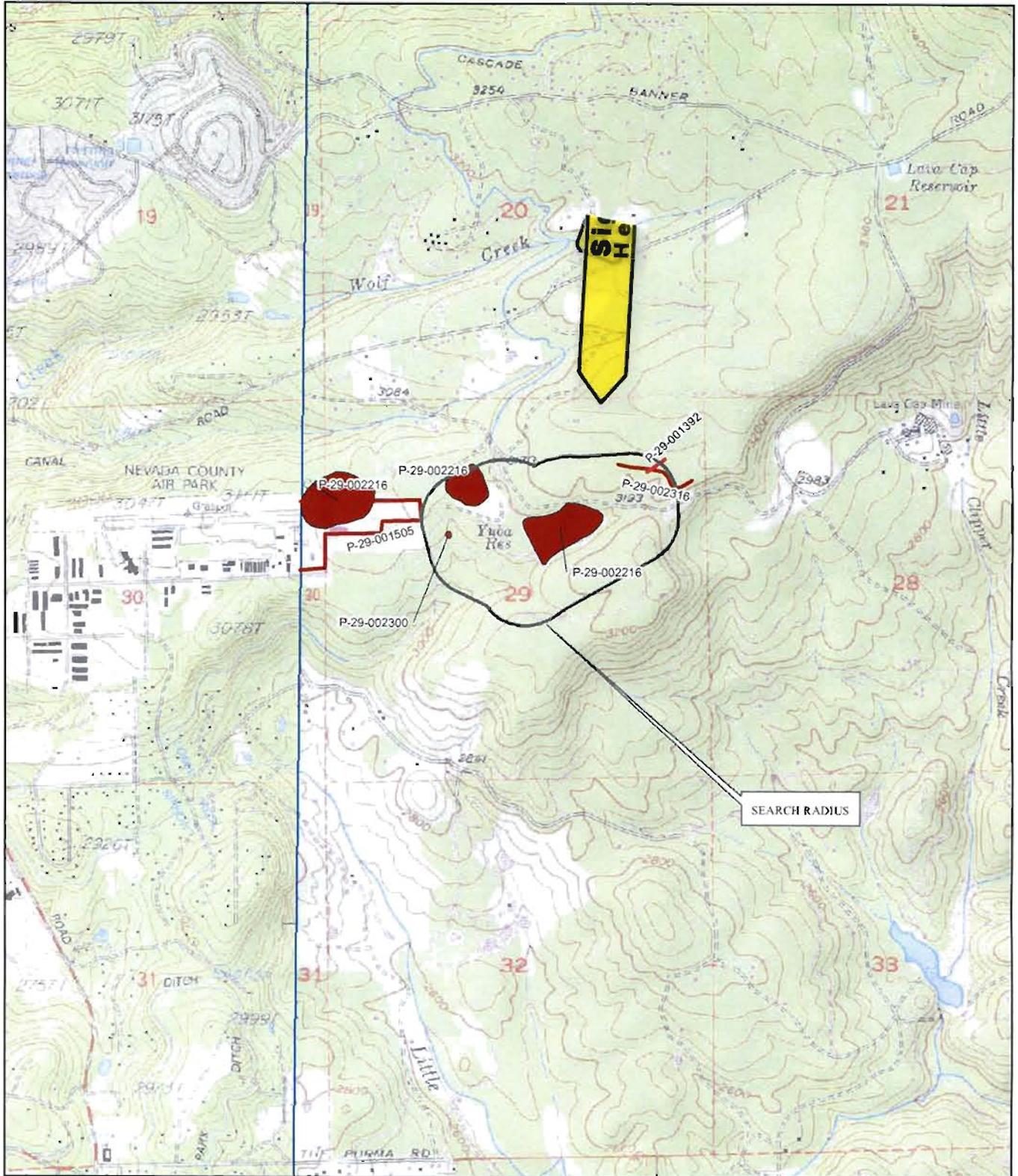
[CHICAGO PARK QUADRANGLE]

May depict confidential cultural resource locations
Do not redistribute.

REPORTS

-  4676
-  5718
-  5756

LOMA RICA RESERVOIR CLEANING PROJECT



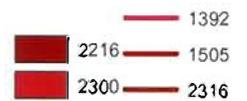
NORTH CENTRAL INFORMATION CENTER

RECORDS SEARCH RESULTS

[CHICAGO PARK QUADRANGLE]

May depict confidential cultural resource locations
Do not redistribute.

RESOURCES



P-29-2216-H
CA-MEU-1404-H

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHAEOLOGICAL SITE RECORD

Page 1 of 7

Permanent Trinomial:
Temporary Number: NCAP-1

Other Designations: Water
Conveyance System

1. County: Nevada

2. USGS Quad: Grass Valley/Chicago Park edition 1949 (pv 1973/79)

3. UTM Coordinates: Zone 10 m Easting m Northing

SW corner = SW corner of unnamed reservoir
NW corner = NW corner of Idaho-Maryland Reservoir
NE corner = north point of historic South Yuba Canal Co. Reservoir
SE corner = east end of Loma Rica Reservoir (Yuba Reservoir)

SW: 671,250mE/4342,940mN
NW: 671,890mE/4343,240mN
NE: 673,310mE/4343,510mN
S E : 6 7 3 , 9 2 0 m E / 4 3 4 3 , 3 8 0 m N

4. Township 16N Range 9E of Section Base MDM

SW: SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 30
NW: NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 30
NE: SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$, Sec. 29
SE: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 29

5. Map Coordinates: mmS mmE (from NW corner of map)

SW: 133mmS/392mmE
NW: 122mmS/413mmE
NE: 112mmS/28mmE
SE: 119mmS/54mmE

6. Elevation:

SW: 2930'
NW: 3130'
NE: 3160'
SE: 3140'

4676

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial:
Temporary Number: NCAP-1

ARCHAEOLOGICAL SITE RECORD

Other Designations: Water
Conveyance System

Page 2 of 7

7. Location: water system is located on the ridge containing the Nevada County Air Park, two miles west of Grass Valley

8. Prehistoric Historic X Protohistoric

9. Site Description: historic water conveyance system for Idaho-Maryland Mine and Loma Rica Ranch and modern Nevada Irrigation District (NID) water supply

10. Area: approx. two miles east-west by 1/2 mile north-south
Method of Determination: map

11. Depth: unk Method of Determination: n/a

12. Features:

Five reservoirs are (were) located on the ridge occupied by the Nevada County Air Park. These are: (1) the historic South Yuba Canal Company Reservoir (as named on Figure 8), also known as the South Yuba Reservoir (as named on Figure 10) or the Yuba Reservoir and located slightly northwest of the center of Section 29 but not depicted on Figure 2; (2) the Idaho Reservoir (as named on Figures 8 and 10 and named as the Idaho-Maryland Reservoir on Figure 2), which is located just north of the center of Section 30; (3) the historic Empire Reservoir, named on Figure 10 as the G.V. Water Co.'s Reservoir and located in the northeast corner of Section 30; (4) the recent Loma Rica Reservoir (misnamed on Figure 2 as the Yuba Reservoir) and located slightly northeast of the center of Section 29; and (5) a recent unnamed reservoir which appears on Figure 2 in the western edge of Section 30 near the 25/30 section line. At least two reservoirs had been built on the air park ridge during the time period between 1883 and 1890, when a third reservoir appears. However, there is some discrepancy between maps in the reservoir locations; in 1890 two reservoirs are shown in Section 29 and one in Section 30, in 1897 two reservoirs are shown in Section 30 and only one in Section 29. Differences could be due to map errors and/or problems of scale.

1. The South Yuba Canal Company Reservoir (also known as the

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Permanent Trinomial:
Temporary Number: NCAP-1

ARCHAEOLOGICAL SITE RECORD

Other Designations: Water
Conveyance System

Page 3 of 7

Yuba Reservoir) is no longer in use but is marked by the large depression northeast of the existing runway. The South Yuba Canal Company Reservoir is not shown on the 1867 Geographical Land Office Survey Plat (Figure 5), on Doolittle's 1868 map (Figure 6), or the 1880 Map of Nevada County (Figure 7); but it is shown on the 1883 map of the South Yuba Water and Mining Company (Mayfield, personal communication 1993), on the 1884 and 1897 maps of Grass Valley and Nevada City (Figures 8 and 10), and on the 1890 Metzker's Map (Figure 9). In the 13th Report of the State Mineralogist of the California State Mining Bureau (1895:96:545) reference is made to the South Yuba Water and Mining Company Ditch which empties into two reservoirs, one owned by the Maryland Company (Idaho Reservoir on Figure 10?) and the other by the Grass Valley Water Company (G.V. Water Co.'s Reservoir on Figure 10?, or Empire Reservoir). These reservoirs were characterized as covering about five acres each. The Maryland Company had 1 1/2 mile of 22-inch pipe with a head of 525 feet at its works.

2. The Idaho-Maryland Reservoir is located along the southern periphery of the existing runway. Remnants of its northern berm are adjacent to the air strip and have been used as a recent dump and stock-piling area. At one time it fed an underground pipe which supplied the Idaho-Maryland Mine operations (Mayfield, personal communication 1993).

3. The Empire Reservoir was once near the section 29/30 line (Mayfield, personal communication 1993) and in the vicinity of the present CDF Air Attack Base (Carson, personal communication 1993). Water was held on the surface by an earthen berm, rather than in an excavated basin. The East Apron Based Aircraft area, which constitutes a mounded area, may be a remnant of the Empire Reservoir (Mayfield, personal communication 1993). The runway extension in 1965 necessitated the grading of the Empire Reservoir (then operated by NID) and necessitated the building of the new Loma Rica Reservoir (Union 6/12/1965:3).

4. The Loma Rica Reservoir was designed to store water formerly stored in the Empire and Yuba Reservoirs (Union 6/12/1965:3). The Loma Rica Reservoir (shown on the USGS Quad as "Yuba Reservoir"), is located southeast of the project area and was build in 1965 and is actively operated by NID. It is fed by the Cascade Canal and the reservoir, in turn, feeds the Rattlesnake/Chicago Park Ditch. The headworks of the Cascade Canal was built in 1868 but construction of the connecting reservoir

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHAEOLOGICAL SITE RECORD

Page 4 of 7

Permanent Trinomial:
Temporary Number: NCAP-1

Other Designations: Water
Conveyance System

ditch segment is contemporaneous with Loma Rica Reservoir (Mayfield, personal communication 1993). The Rattlesnake/Chicago Park Ditch was built in 1928 (Mayfield, personal communication 1993). An underground pipeline leads from Loma Rica Reservoir, along the southern border of the air park and services residences and air port facilities. The D-S Canal, located west of the project area, is also currently maintained by NID.

5. An active, unnamed reservoir is located southwest of the landing strip. It does not appear on historic maps and its date of construction is unknown. Mayfield (personal communication 1993) believes that it provided irrigation water for orchards on Errol Mac Boyle's Loma Rica Ranch.

In addition, two remnant ditches were observed south of the project area. One 525-foot segment runs through the southern periphery of Roger Stark County Park. It contains six sections of rusted riveted iron pipe (36-inch diameter). The ditch has some antiquity, as 2 1/2-foot diameter pines are growing within its alignment. The ditch terminates on the east at the main airport entrance and on the west at Apron C. Another 375-foot segment of this same ditch is also evident along the undeveloped hillside south of Apron A. Its western end terminates in the unpaved parking lot and its eastern end terminates in the vicinity of the east FBO. Both segments of this same ditch are approximately three feet deep and six feet wide. They may have connected the Idaho-Maryland Reservoir with the Empire Reservoir and/or the South Yuba Canal Company Reservoir.

A heavy gauge, five-inch diameter iron pipe, observed outside the project area and northwest of Apron E, may be associated with the Idaho-Maryland Reservoir.

13. Artifacts: (see #12)

14. Non-Artifactual Constituents and Faunal Remains: none observed

15. Date Recorded: 1/25/93

16. Recorded by: S.G. Lindström

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHAEOLOGICAL SITE RECORD

Page 5 of 7

Permanent Trinomial:
Temporary Number: NCAP-1

Other Designations: Water
Conveyance System

17. Affiliation and Address: Box 3324 Truckee CA 96160

18. Human Remains: none observed

19. Site Disturbances: water system has been radically disturbed by construction of Nevada County Air Park

20. Nearest Water (type, distance and direction): Wolf Creek $\frac{1}{2}$ mile north

21. Vegetation Community (site vicinity): Transition Zone

22. Vegetation (on site): pine/oak/shrub

23. Site Soil: volcanic residual

24. Surrounding Soil: same

25. Geology: volcanic

26. Landform: outlying ridge of Banner Mountain

27. Slope: variable

28. Exposure: variable

29. Landowner(s) (and/or tenants) and Address: Nevada County and NID, Grass Valley.

30. Remarks: none

31. References: (see #32)

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

ARCHAEOLOGICAL SITE RECORD

Page 6 of 7

Permanent Trinomial:
Temporary Number: NCAP-1

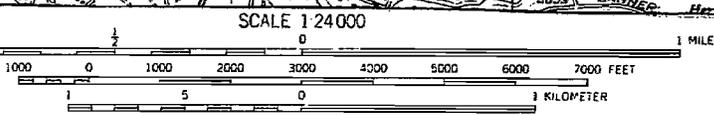
Other Designations: Water
Conveyance System

32. Name of Project: Cultural Resource Inventory of the Nevada
County Air Park Expansion Project by S.G. Lindström, 1993

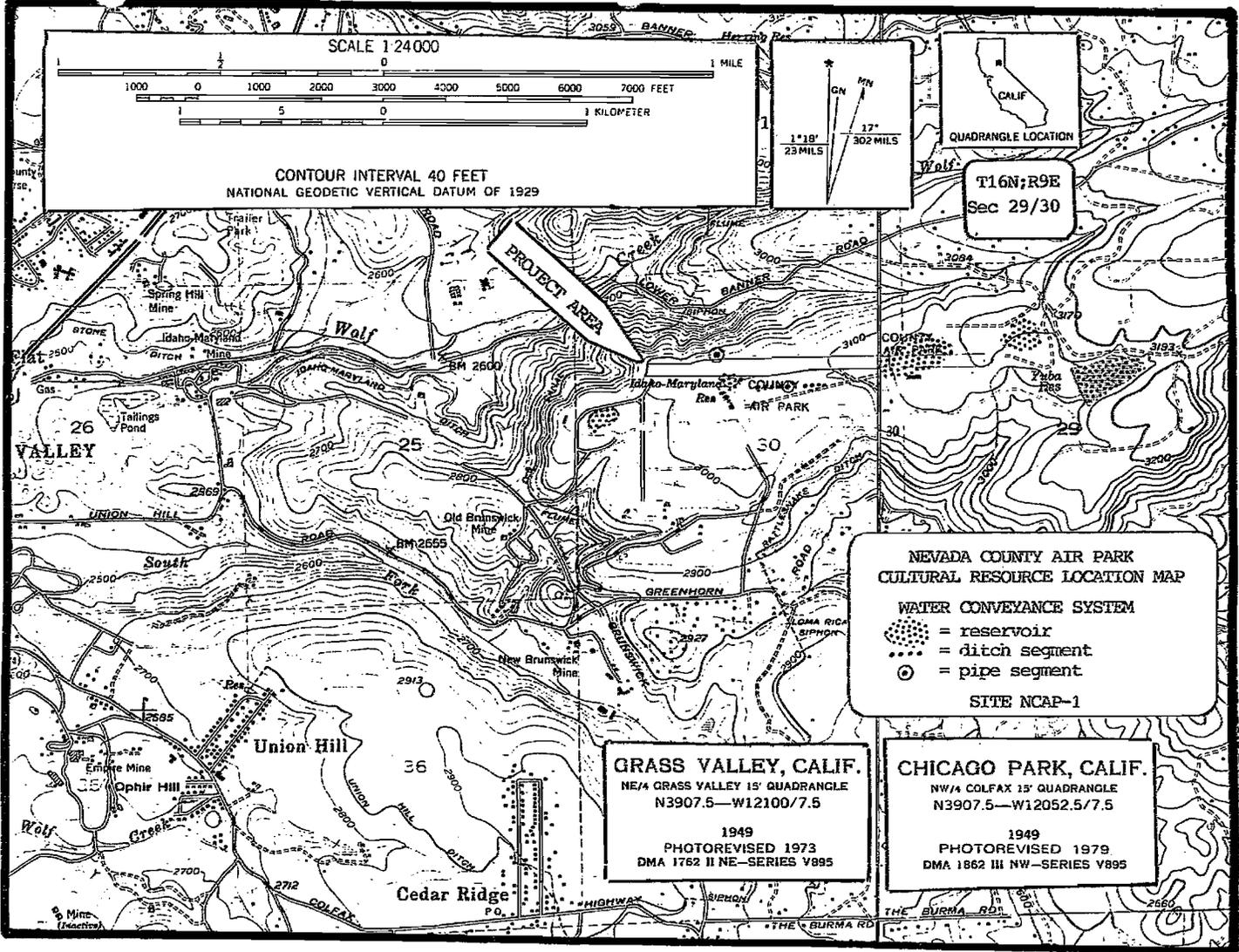
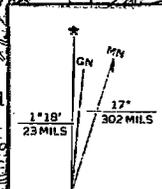
33. Type of Investigation: surface survey

34. Site Accession Number: No material was collected.
Curated at: N/A

35. Photos: attached



CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929



NEVADA COUNTY AIR PARK
CULTURAL RESOURCE LOCATION MAP

WATER CONVEYANCE SYSTEM

- = reservoir
- - - - - = ditch segment
- ⊙ = pipe segment

SITE NCAP-1

GRASS VALLEY, CALIF.
NE/4 GRASS VALLEY 15' QUADRANGLE
N3907.5—W12100/7.5

1949
PHOTOREVISED 1973
DMA 1762 II NE—SERIES V895

CHICAGO PARK, CALIF.
NW/4 COLFAX 15' QUADRANGLE
N3907.5—W12052.5/7.5

1949
PHOTOREVISED 1979
DMA 1862 III NW—SERIES V895

P-24-2216-H
CA-N.G.V.-12104-14

APPENDIX B

Native American Heritage Commission

Sacred Lands File review

Correspondence

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
Fax (916) 657-5390
Web Site www.nahc.ca.gov



February 8, 2012

Neal Neuenschwander
Peak & Associates, Inc.
3161 Godman Avenue, Suite A
Chico, CA 95973

Sent by Fax: 530-342-0273
of Pages: 3

Re: Loma Rica Reservoir Project, Nevada County

Dear Mr. Neuenschwander:

A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area. The absence of specific site information in the sacred lands file does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Enclosed is a list of Native Americans individuals/organizations who may have knowledge of cultural resources in the project area. The Commission makes no recommendation or preference of a single individual, or group over another. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated, if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe or group. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at (916) 653-4040.

Sincerely,

A handwritten signature in cursive script that reads "Katy Sanchez".

Katy Sanchez
Program Analyst

**Native American Contact List
Nevada County
February 8, 2012**

Jill Harvey
11799 McCourtney Road Maidu
Grass Valley , CA 95949 Miwok
(530) 273-1749

Washoe Tribe of Nevada and California THPO
Darrel Cruz, Cultural Resources Coordinator
919 Highway 395 South Washoe
Gardnerville , NV 89410
darrel.cruz@washoetribe.
(775) 265-4191 ext 1212
(775) 546-3421 - cell
(775) 265-2254 FAX

United Auburn Indian Community of the Auburn Rancheria
David Keyser, Chairperson
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
530-883-2390
530-883-2380 - Fax

T'Si-akim Maidu
Grayson Coney, Cultural Director
P.O. Box 1316 Maidu
Colfax , CA 95713
akimmaidu@att.net
(530) 383-7234

T si-Akim Maidu
Eileen Moon, Vice Chairperson
1239 East Main St. Maidu
Grass Valley , CA 95945
(530) 477-0711

United Auburn Indian Community of the Auburn Rancheria
Marcos Guerrero, Tribal Preservation Committee
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
mguerrero@auburnrancheria.com
530-883-2364
530-883-2320 - Fax

Washoe Tribe of Nevada and California
Waldo Walker, Chairperson
919 Highway 395 South Washoe
Gardnerville , NV 89410
waldo.walker@washoetribe.
775-265-4191
775-265-6240 Fax

April Wallace Moore
19630 Placer Hills Road Nisenan - So Maidu
Colfax , CA 95713 Konkow
530-637-4279 Washoe

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Loma Rica Reservoir Project; Nevada County.

Native American Contact List
Nevada County
February 8, 2012

United Auburn Indian Community of the Auburn Rancheria
Gregory S. Baker, Tribal Administrator
10720 Indian Hill Road Maidu
Auburn , CA 95603 Miwok
gbaker@auburnrancheria.
530-883-2390
530-883-2380 - Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Loma Rica Reservoir Project; Nevada County.



PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

February 18, 2012

David Keyser, Chairperson
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, California 95603

RE: Nevada Irrigation District (NID) Loma Rica Reservoir Project, Nevada County

Dear Chairperson Keyser,

The Nevada Irrigation District (NID) is proposing to remove sediment from an existing reservoir that was constructed in 1965. The Loma Rica Reservoir, called Union Reservoir on the USGS topographic map, is located about one-quarter mile east of the Nevada County Air Park (please see the attached topographic map).

If you have any information about cultural resources in this area or have any comments concerning the proposed project, please contact me, Neal Neuenschwander, Staff Archeologist at (530) 342-2800, by mail at Peak & Associates, 3161 Godman Avenue, Chico, CA 95973, or by e-mail at peakinc@yahoo.com.

Thank you for taking the time reviewing this request and helping ensure protection of Nevada County's cultural heritage.

Sincerely,

Neal Neuenschwander
Staff Archeologist

Attachment: USGS topographic map with the Project Area.



PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

February 18, 2012

Marcos Guerrero, Tribal Preservation Committee
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, California 95603

RE: Nevada Irrigation District (NID) Loma Rica Reservoir Project, Nevada County

Hey Marcos,

The Nevada Irrigation District (NID) is proposing to remove sediment from an existing reservoir that was constructed in 1965. The Loma Rica Reservoir, called Union Reservoir on the USGS topographic map, is located about one-quarter mile east of the Nevada County Air Park (please see the attached topographic map).

If you have any information about cultural resources in this area or have any comments concerning the proposed project, please contact me, Neal Neuenschwander, Staff Archeologist at (530) 342-2800, by mail at Peak & Associates, 3161 Godman Avenue, Chico, CA 95973, or by e-mail at peakinc@yahoo.com.

Thank you for taking the time reviewing this request and helping ensure protection of Nevada County's cultural heritage. Thanks for checking out the Amazing Facts project the other day. Really helps to have that kind of involvement, and it was a great day!

Sincerely,

Neal Neuenschwander
Staff Archeologist

Attachment: USGS topographic map with the Project Area.



PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

February 18, 2012

Gregory Baker, Tribal Administrator
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, California 95603

RE: Nevada Irrigation District (NID) Loma Rica Reservoir Project, Nevada County

Dear Mr. Baker,

The Nevada Irrigation District (NID) is proposing to remove sediment from an existing reservoir that was constructed in 1965. The Loma Rica Reservoir, called Union Reservoir on the USGS topographic map, is located about one-quarter mile east of the Nevada County Air Park (please see the attached topographic map).

If you have any information about cultural resources in this area or have any comments concerning the proposed project, please contact me, Neal Neuenschwander, Staff Archeologist at (530) 342-2800, by mail at Peak & Associates, 3161 Godman Avenue, Chico, CA 95973, or by e-mail at peakinc@yahoo.com.

Thank you for taking the time reviewing this request and helping ensure protection of Nevada County's cultural heritage.

Sincerely,

Neal Neuenschwander
Staff Archeologist

Attachment: USGS topographic map with the Project Area.



PEAK & ASSOCIATES, INC.
CONSULTING ARCHEOLOGY

February 18, 2012

Grayson Coney, Cultural Director
T si-Akim Maidu
P.O. Box 1316
Colfax, California 95713

RE: Nevada Irrigation District (NID) Loma Rica Reservoir Project, Nevada County

Dear Mr. Coney,

The Nevada Irrigation District (NID) is proposing to remove sediment from an existing reservoir that was constructed in 1965. The Loma Rica Reservoir, called Union Reservoir on the USGS topographic map, is located about one-quarter mile east of the Nevada County Air Park (please see the attached topographic map).

If you have any information about cultural resources in this area or have any comments concerning the proposed project, please contact me, Neal Neuenschwander, Staff Archeologist at (530) 342-2800, by mail at Peak & Associates, 3161 Godman Avenue, Chico, CA 95973, or by e-mail at peakinc@yahoo.com.

Thank you for taking the time reviewing this request and helping ensure protection of Nevada County's cultural heritage.

Sincerely,

Neal Neuenschwander
Staff Archeologist

Attachment: USGS topographic map with the Project Area.



MIWOK
MAIDU

United Auburn Indian Community
of the Auburn Rancheria

David Keyser
Chairman

Kimberly DuBach
Vice Chair

Gene Whitehouse
Secretary

Brenda Conway
Treasurer

Calvin Moman
Council Member

March 6, 2012

Neal Neuenschwander
Peak & Associates, Inc.
3161 Godman Avenue, Suite A
Chico, CA 95973

Subject: NID Loma Rica Reservoir Project, Nevada County

Dear Mr. Neuenschwander,

Thank you for requesting information regarding the above referenced project. The United Auburn Indian Community (UAIC) of the Auburn Rancheria is comprised of Miwok and Southern Maidu (Nisenan) people whose tribal lands are within Placer County and ancestral territory spans into El Dorado, Nevada, Sacramento, Sutter, and Yuba counties. The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects in your jurisdiction.

In order to ascertain whether or not the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that have been, or will be, completed for the project. We also request copies of future environmental documents for the proposed project so that we have the opportunity to comment on potential impacts and proposed mitigation measures related to cultural resources. The information gathered will provide us with a better understanding of the project and cultural resources on site and is invaluable for consultation purposes. Please contact us if any Native American cultural resources are in, or found to be within, your project area.

Thank you again for taking these matters into consideration, and for involving the UAIC early in the planning process. We look forward to reviewing the aforementioned documents as requested. Please contact Marcos Guerrero, Tribal Historic Preservation Officer, at (530) 883-2364 or email at mguerrero@auburnrancheria.com if you have any questions.

Sincerely,

Gregory S. Baker,
Tribal Administrator

CC: Marcos Guerrero, THPO

Appendix E — Mitigation Monitoring Plan

Loma Rica Reservoir Cleaning Project

MMRP's

Initial Study / Mitigated Negative Declaration

1.0 INITIAL STUDY CHECKLIST

1.1 AESTHETICS

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

Mitigation Measures

No mitigation is warranted.

1.2 AGRICULTURAL RESOURCES AND FORESTRY RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p><i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by California Air Resources Board.</i></p> <p>Would the project:</p>				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to 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, or 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"/>

No Impact. There would be no other changes expected that would result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, there would be no impacts from development of the project.

1.3 AIR QUALITY

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

Mitigation Measures

Mitigation Measure AQ – 1: The following NSAQMD control measures shall be implemented to control pollutant emissions during construction of the project:

- Adequate dust control measures shall be implemented in a timely and effective manner during all phases of the project.
- All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.
- All onsite vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
- All material transported offsite shall be either sufficiently watered or securely covered to prevent public nuisance, and there must be a minimum of six inches of freeboard in the bed of the transport vehicle.
- The active/open travel lanes of paved streets on or adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary to remove excessive or visibly raised accumulations of silt and/or mud which may have resulted from activities at the project site.

- Sediment transportation shall be suspended if fugitive dust exceeds NSAQMD Rule 226 Dust Control limitations. This consists of visible dust of such opacity as to obscure an observer's view to a degree equal to or greater than opacity of 20%, for a period or periods aggregating more than three (3) minutes in any one (1) hour.
- If necessary, temporary traffic control shall be provided during all phases of the project to improve traffic flow as deemed appropriate by the Nevada County Department of Public Works and/or Caltrans.
- Project activities should be scheduled to direct traffic flow to off-peak hours as much as practicable.

Mitigation Measure AQ – 2: The following measures shall be implemented to control diesel exhaust emissions:

- The prime contractor shall ensure that diesel equipment is tuned and maintained per manufacturers' specifications.
- Diesel equipment standing idle for more than five minutes shall be turned off unless staged away from residences. This would include trucks waiting to deliver or receive materials (sediment).

1.4 BIOLOGICAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

Mitigation Measures

Mitigation Measure BIO – 1: A rare plant survey will be conducted by a qualified biologist/arborist in May or June to determine plant species that may be affected by the project. If rare plants are identified in the project area, the District will either:

- 1) Adjust construction activity away from sensitive plants to the degree feasible in keeping with Project objectives.
- 2) Relocate plants to suitable habitat outside of the Project area, whether within applicant-owned land or off-site.

- 3) Monitor affected populations or relocated populations to document potential Project-related impacts.
- 4) Restore or enhance occupied habitat on-site or at another location; and/or
- 5) Protect occupied habitat for the species on-site or at another regional location

Mitigation Measure BIO – 2: A preconstruction black rail survey will be conducted by a qualified biologist 14 days before the project start date. A taped-call playback method at the eastern emergent marsh area will be used for black rails; if black rails are detected, California Fish and Game will be contacted for further guidance.

Mitigation Measure BIO – 3: Since the reservoir cleaning is expected to occur during fall to spring months, a pre-construction raptor survey within suitable nest trees shall be conducted if construction activities are scheduled to begin during the raptor nesting season (January 1 – September 31). A qualified biologist shall conduct the survey no more than 30 days prior to the onset of construction activities. If active nests are found on or within 500 feet of the site, CDFG shall be consulted and most likely CDFG will require that an appropriate buffer be established around the nest until the young have fledged or until the biologist has determined that the nest is no longer active. If the construction activities are scheduled to begin during the non-breeding season (October 1- December 31), a survey is not required, and no further mitigation measures are expected to be necessary. If tree removal is determined necessary, timing tree removal to occur during this time frame would also reduce the potential for raptors to nest within the construction limits of the site during the nesting season.

Mitigation Measure BIO – 4: The Loma Rica Reservoir represents potential habitat for foothill yellow-legged frog and California red-legged frog. While neither species was observed during a study conducted in 2009 (Visger, 2009) foothill yellow-legged frog and California red-legged frog could use the canal as migratory or dispersal habitat. Additionally, the study concluded that no breeding habitat for foothill yellow-legged frog occurs on the site and that the reservoir is not likely to provide breeding habitat for California red-legged frog. Since work within the reservoir is expected to begin during late winter or spring months (January – June), a pre-construction survey for these frog species shall be performed. The survey(s) only needs to be conducted in the frog's associated aquatic and bank habitats. The surveys shall be conducted no more than 15 days prior to the onset of construction. Surveys shall be conducted by a qualified biologist, in accordance with CDFG (for foothill yellow-legged frog) or USFWS (for California red-legged frog) guidelines.

If neither of these species are found on the project site during the focused pre-construction survey, no further mitigation would be required. However, if either of these species is found during pre-construction surveys, then construction would be postponed until a detailed mitigation plan is prepared. In preparation of the mitigation plan, the CDFG and/or USFWS (as applicable) shall be consulted to best determine suitable mitigation measures, which may include measures to minimize adverse effects of construction on these

species and its associated habitat. The mitigation plan would include a monitoring plan for these species during the period of construction.

Mitigation Measure BIO – 5: Preconstruction clearance surveys shall be conducted to ensure the project area does not contain western pond turtle. Should any western pond turtles be seen, the California Department of Fish and Game should be contacted to inform of their presence and to provide guidance on any relocation measures required.

Mitigation Measure BIO – 6: Reduce the Introduction and Spread of Invasive/Noxious Weeds
The District shall determine if Scotch Broom or other invasive/noxious weeds will be encountered in the project and will adopt approved measures to avoid widespread dispersal of these species.

If deemed necessary by the Nevada County agricultural commissions and management agencies, the Contractor shall establish wash stations at locations designated and approved by the land management agencies and the District.

If deemed necessary by land management agencies, equipment will be cleaned at designated locations after leaving invasive/noxious weed infestation areas.

All equipment coming onto the project area from weed-infested areas or areas of unknown weed status shall be cleaned of all attached soil or plant parts.

The District shall remediate any areas where a post-construction survey, conducted by a qualified biologist, employed by the District, determines noxious weeds have been introduced. If new occurrences are detected, remedial measures such as hand removal of the noxious weed infestations will be implemented by the District or its contractor. No herbicides shall be used.

1.5 CULTURAL RESOURCES

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

Mitigation Measures

Mitigation Measure CR – 1:

An inspection by a qualified archeologist of the unpaved portions of the access road, and staging areas used for the project, shall be conducted prior to the start of project related activities. Any findings of cultural resources shall be properly documented. Once project activities begin, and in the event of discovery of cultural resources, such as structural features or unusual amounts of bone or shell, artifacts, human remains, architectural artifacts, or historic archaeological artifacts, work shall be suspended and the NID project manager shall be contacted. NID shall retain a qualified cultural resource specialist to conduct necessary investigations to determine the significance of the find. NID shall then implement any mitigation required for the recordation and/or protection of the cultural resources. In the event of discovery of human remains, pursuant to Sections 5097.97 and 5097.98 of the California Public Resources Code and Section 7050.5 of the California Health and Safety Code, all work shall be halted and the County Coroner shall be notified immediately. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

1.6 GEOLOGY AND SOILS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death, involving:				
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Mitigation Measures

Mitigation Measure GEO – 1: Prior to commencement of ground disturbing activities, NID shall file an NOI to obtain coverage under the NPDES Construction General Permit with the Central Valley Regional Water Quality Control Board. Pursuant to the terms of the General Permit, NID shall prepare a Storm Water Pollution Prevention Plan (SWPPP) identifying site-specific BMPs to effectively control erosion and sediment loss. Should the project impacts related to areas not associated with the reservoir be less than one acre, and NOI and coverage under the NPDES will not be required.

Mitigation Measure GEO – 2: During the project, BMPs for erosion and sediment control identified by the project SWPPP shall be implemented by the project contractor.

Mitigation Measure GEO – 3: Post-project restoration of all disturbed areas shall include soil and bank stabilization through seeding and/or revegetation utilizing native plant species.

Mitigation Measure GEO – 4: Sediment that is temporarily stockpiled for dewatering shall be protected from erosion by maintaining effective controls and BMPs designed to effectively control erosion and sediment loss.

1.7 GREENHOUSE GAS EMISSIONS

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
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"/>

Mitigation Measures

No mitigation is warranted.

1.8 HAZARDS AND HAZARDOUS MATERIALS

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

Mitigation Measures

Mitigation Measure HAZ – 1: Contractors shall ensure that vehicles and all equipment (heavy equipment and hand-held equipment) that typically include a spark arrester are equipped with a spark arrester in good working condition during the duration of the project.

1.9 HYDROLOGY AND WATER QUALITY

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

Mitigation Measures

Please see **Mitigation Measures GEO – 1** through **GEO – 4** in the Geology and Soils section (**Section 1.6**) of this Initial Study for mitigation that addresses the impacts listed under a), c), and f) above.

1.10 LAND USE PLANNING

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

No Impact. The project site is not located within a designated Habitat Conservation Plan (HCP) area or within a designated Natural Community Conservation Plan (NCCP) area. There are no conflicts with any conservation plans and therefore no impact.

1.11 MINERAL RESOURCES

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
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"/>

Mitigation Measures

No mitigation is warranted.

1.12 NOISE

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

Mitigation Measures

Noise – 1:

The following measures shall be implemented to reduce construction related noise impacts:

- The hours for the project shall be limited to 7 am to 7 pm Monday through Friday. Activities on weekends, holidays recognized by NID, and outside of the 7 am to 7 pm hours shall be avoided to the extent practicable. If the contractor needs to work on the weekend, the contractor will notify the landowners 48 hours in advance.
- Construction equipment shall have sound control devices that meet or exceed original equipment specifications.
- Nearby residents shall be notified 48 hours in advance of the start of any construction in areas not previously subject to construction.

1.13 POPULATION AND HOUSING

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

Mitigation Measures

No mitigation is warranted.

1.14 PUBLIC SERVICES

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

Mitigation Measures

No mitigation is warranted.

1.15 RECREATION

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Would the project:</i>				
a) 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) 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"/>

Mitigation Measures

No mitigation is warranted.

1.16 TRANSPORTATION/TRAFFIC

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

Mitigation Measures

No mitigation is warranted.

1.17 UTILITIES AND SERVICE SYSTEMS

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

Mitigation Measures

No mitigation is warranted.

1.18 MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<i>Does the Project:</i>				
a) Have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of rare or endangered plants or animals, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>