LACEY MEADOWS RESTORATION PROJECT
INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Prepared for:

California Regional Water Quality Control Board, Lahontan Region
2501 Lake Tahoe Boulevard
South Lake Tahoe, California 96150

and

Truckee River Watershed Council
P.O. Box 8568
Truckee, CA 96162

Prepared by:

Stevens Consulting
1241 Larkin Way
Sacramento, CA 95818

December 2020

Table of Contents

1. ENVIRONMENTAL CHECKLIST FORM

Project Title: Lacey Meadows Restoration Project

Lead Agency:

Lahontan Regional Water Quality Control Board (Lahontan Water Board)
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Tom Gavigan (530) 542-5422; Tom.Gavigan@waterboards.ca.gov
Doug Cushman (530) 542-5417; Douglas.Cushman@waterboards.ca.gov

Project Location:

The Lacey Meadows Restoration Project (proposed project) is located in the vicinity of Webber Lake, located north of the Town of Truckee, California, on the west side of Highway 89, off of Henness Pass Road. The project site is mainly within Sierra County, with a small portion within Nevada County. Additional detail about the project location can be found in Section 3.

Landowners:

Truckee Donner Land Trust (TDLT)
10069 W River St
Truckee, CA 96161

U.S. Forest Service - Tahoe National Forest (USFS)
317 South Lincoln Street
P.O. Box 95
Sierraville, CA 96126

Project Sponsor's Name and Address:

Truckee River Watershed Council (TRWC)
P.O. Box 8568
Truckee, CA 96162
Beth Christman
(530) 550-8760

Responsible Agencies:

The following agencies are expected to be Responsible Agencies for this project:

California Department of Fish and Wildlife, North Central Region (CDFW, Region 2) – Lake or Streambed Alteration Agreement; possible California Endangered Species Act compliance

Sierra County– Grading permit

Study Area and Disturbance Area

The Study Area for this IS/MND comprises the Lacey Meadows watershed, which includes two large montane meadows, referred to as Upper Lacey Meadow and Lower Lacey Meadow (Figure 1, Figure 2). Lacey Creek flows through these two meadows and into Webber Lake, a natural lake with a dammed outlet. The Webber Lake outflow is a portion of the headwaters of the Little Truckee River, a tributary to the Truckee River. The Study Area provides the context within which the proposed project actions are located, and project impacts may occur. Thus, for some environmental resources, the environmental setting is described for the Study Area

The Disturbance Area for the proposed project includes multiple sites within the Upper Lacey Meadow and Lower Lacey Meadow at which restoration actions are proposed, as well as buffer areas around each site to account for potential construction-related effects. A 250-foot buffer was used around each project activity within meadow areas (including access routes); a 50-foot buffer was used around each project activity in forested areas (Figures 3 and 4). Field studies were limited to the Disturbance Areas within Upper and Lower Lacey Meadows. Areas outside the Disturbance Area were assessed based on limited field data, historical and false-color infrared aerial photography, maps, existing datasets, and the experience of subject-matter experts in similar forest ecosystems within the northern Sierra Nevada.

Parcels

The Disturbance Area includes all or portions of 10 parcels, as shown in Table 1 and Figures 2, 3, and 4.

Table 1. Lacey Meadows Restoration Parcel Information

Parcel	County	General Plan Designation	Zoning	Acreage	Ownership
0140900080	Sierra County	Forest	General Forest	313.00	TDLT
0141100030	Sierra County	Forest	General Forest	672.00	TDLT
0141100080	Sierra County	Forest	General Forest	156.23	USFS
0141100110	Sierra County	Forest	General Forest	312.63	TDLT
0141100120	Sierra County	Forest	General Forest	19.46	TDLT
0141100130	Sierra County	Forest	General Forest	419.91	TDLT
0141500010	Sierra County	Forest	General Forest	640.00	USFS
0141500020	Sierra County	Forest	Timber Production Zone	641.00	TDLT
0141500040	Sierra County	Forest	Timber Production Zone	93.88	TDLT
1513005	Nevada County	FOR-160	TPZ-160	523.00	TDLT

General Plan Designation and Zoning

The valley floor portions of the Study Area within Sierra County are zoned as General Forest, while the forested mountain areas surrounding Lower and Upper Lacey Meadows are zoned as Timber Production Zone. The General Plan designation for all Sierra County parcels is General Forest.

The parcel in Nevada County is zoned as TPZ-160 (Timberland Preserve with a minimum parcel size of 160 acres), and has a General Plan designation of FOR-160 (Forest with a minimum parcel size of 160 acres).

Consultation with Native American Tribes

Outreach to Native American Tribes was undertaken by Lahontan Regional Water Quality Control Board (Lahontan Water Board) pursuant to Public Resource Code Public section 21073-74, 21080.31 et seq ("AB 52 consultation"). The outreach efforts and responses from tribes are described below under Cultural Resources (Section 6.5) and Tribal Cultural Resources (Section 6.18).

DETERMINATION

On the basis of this initial evaluation:

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

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

_____ _____

Signature Date

_____ _____

Signature Date

2. LEGAL BASIS FOR THE INITIAL STUDY

Public agencies must comply with the California Environmental Quality Act (CEQA) of 1970 (as amended) prior to making a discretionary decision regarding the approval of a project. The CEQA Guidelines (CCR Title 14, Section 15000 et. seq) provides guidance regarding compliance with CEQA, and allows for the preparation of an Initial Study and adoption of either a Negative Declaration or Mitigated Negative Declaration for projects where all adverse environmental impacts can either be avoided or mitigated to a less-than-significant level. This Initial Study/Mitigated Negative Declaration has been prepared using the CEQA Guidelines.

2.1 PROJECT SPONSORS, CEQA LEAD AGENCY, AND RESPONSIBLE AGENCIES

The Lead Agency, as defined by CEQA, is the public agency that has the primary responsibility for carrying out or approving a project. (State CEQA Guidelines Section 15367.) To be a CEQA Lead Agency, the public agency must have discretionary authority over the proposed project. The Lead Agency also has the primary responsibility for determining what level of CEQA review is required for a project and for preparing and approving the appropriate document.

TDLT, the land owner and proposed project sponsor the Truckee River Watershed Council (TRWC) are both non-profit organizations, and not public agencies, and thus cannot act as a Lead Agency. The Lahontan Water Board is a California state agency that may issue a discretionary permit (Clean Water Act Section 401 Water Quality Certification), and has agreed to serve as the CEQA Lead Agency.

A Responsible Agency under CEQA is a public agency with some discretionary authority over a project or a portion of it, but which has not been designated the Lead Agency. (State CEQA Guidelines Section 15381.) When Responsible Agencies are expected to take discretionary actions regarding a project, they are also required to comply with CEQA. For efficiency, CEQA allows Responsible Agencies to rely on a CEQA document prepared by the Lead Agency to meet their CEQA compliance requirements. However, Responsible Agencies must independently review and approve the CEQA document, and not rely automatically on the Lead Agency's judgments.

Two agencies are expected to make discretionary decisions regarding the proposed project, and to act as Responsible Agencies under CEQA for the proposed project:

- CDFW is expected to issue a Streambed Alteration Agreement for the proposed project;
- Sierra County is expected to issue a grading permit for the portion of the proposed project to take place on County lands.

Nevada County determined that a grading permit would not be required for those project actions that would occur within its jurisdiction (Foss pers.comm.).

2.2 PURPOSE OF IS/MND

As a public disclosure document, an Initial Study provides local decision makers and the public with information regarding the environmental impacts associated with the proposed project. According to Section 15063 of the CEQA Guidelines, the purposes of an Initial Study are to:

1. Provide the Lead Agency with information to use as the basis for deciding whether to prepare an EIR or a Negative Declaration.
2. Enable an applicant or Lead Agency to modify a project, mitigating adverse impacts before an EIR is prepared, thereby enabling the project to qualify for a Negative Declaration.
3. Assist in the preparation of an EIR, if one is required.
4. Facilitate environmental assessment early in the design of a project.
5. Provide documentation of the factual basis for the finding in a Negative Declaration that a project will not have a significant effect on the environment.
6. Eliminate unnecessary EIRs.
7. Determine whether a previously prepared EIR could be used with the project.

Lahontan Water Board, as the CEQA Lead Agency, has determined that, based on the projects expected environmental impacts and the availability of mitigation measures to reduce these impacts, an Initial Study/Mitigated Negative Declaration (IS/MND) is the appropriate CEQA compliance document for the proposed project. The IS/MND consists of two portions, the Initial Study (which contains the environmental analysis) and the Mitigated Negative Declaration (which contains the Lead Agency's conclusions about the environmental impacts of the proposed project and the feasibility of proposed mitigation measures to reduce these impacts to a less-than-significant level, and included above as *Determination*).

3. INTRODUCTION

3.1 GENERAL PROJECT SETTING

The Study Area is located just east of the crest of the Sierra Nevada Range in the Sierra Nevada Geomorphic Province, roughly 16 miles northwest of the Town of Truckee, California (Figure 1) or identified using the Public Land Survey System as T19N, R14E, Sections 27-31, T18N, R14E, Sections 4 through 8, and T18N, R13E, Sections 1 and 12.

The Study Area experiences cold and snowy/wet winters and warm dry summers. Temperatures can range from below zero degrees Fahrenheit in the winter to above 75 degrees in the summer. Mean annual precipitation ranges from approximately 37 inches at Webber Lake to over 50 inches near the highest elevations in the watershed. Precipitation falls mostly as snow between the months of October and April, with occasional afternoon thunderstorms during the summer months. Snow depths can exceed 120 inches in most winters with high-elevation snow cover lingering well into summer months of July and August (Balance 2013).

Lacey Creek is a headwater stream that drains a 9.6 square mile watershed on the east side of the Sierra Nevada crest and is the hydrologic support for Upper and Lower Lacey Meadows. The watershed ranges between 8,336 feet elevation and 6,785 feet elevation at Webber Lake. Lacey Creek is a tributary to the Little Truckee River and the Truckee River. The Disturbance Area includes approximately 3.5 miles of Lacey Creek through both the Upper and Lower Lacey Meadows (Figure 2).

Land uses in and surrounding the project site are characterized primarily by recreational activities. TDLT operates a campground at the north end of Webber Lake (Figure 2), which provides 46 developed

campsites available by reservation from summer into early fall. Boating and fishing are popular on Webber Lake, which is stocked with trout; 6 miles of hiking trails connect Lower Lacey Meadow and Upper Lacey Meadow; and picnic tables and parking areas are available for day use. Aside from recreational activities, the project site occurs within the USFS Tahoe National Forest's (TNF's) Webber Lake grazing allotment and is grazed by sheep seasonally (roughly July through September) under a lease agreement between TDLT and a commercial sheep producer.

3.2 PROJECT PURPOSE

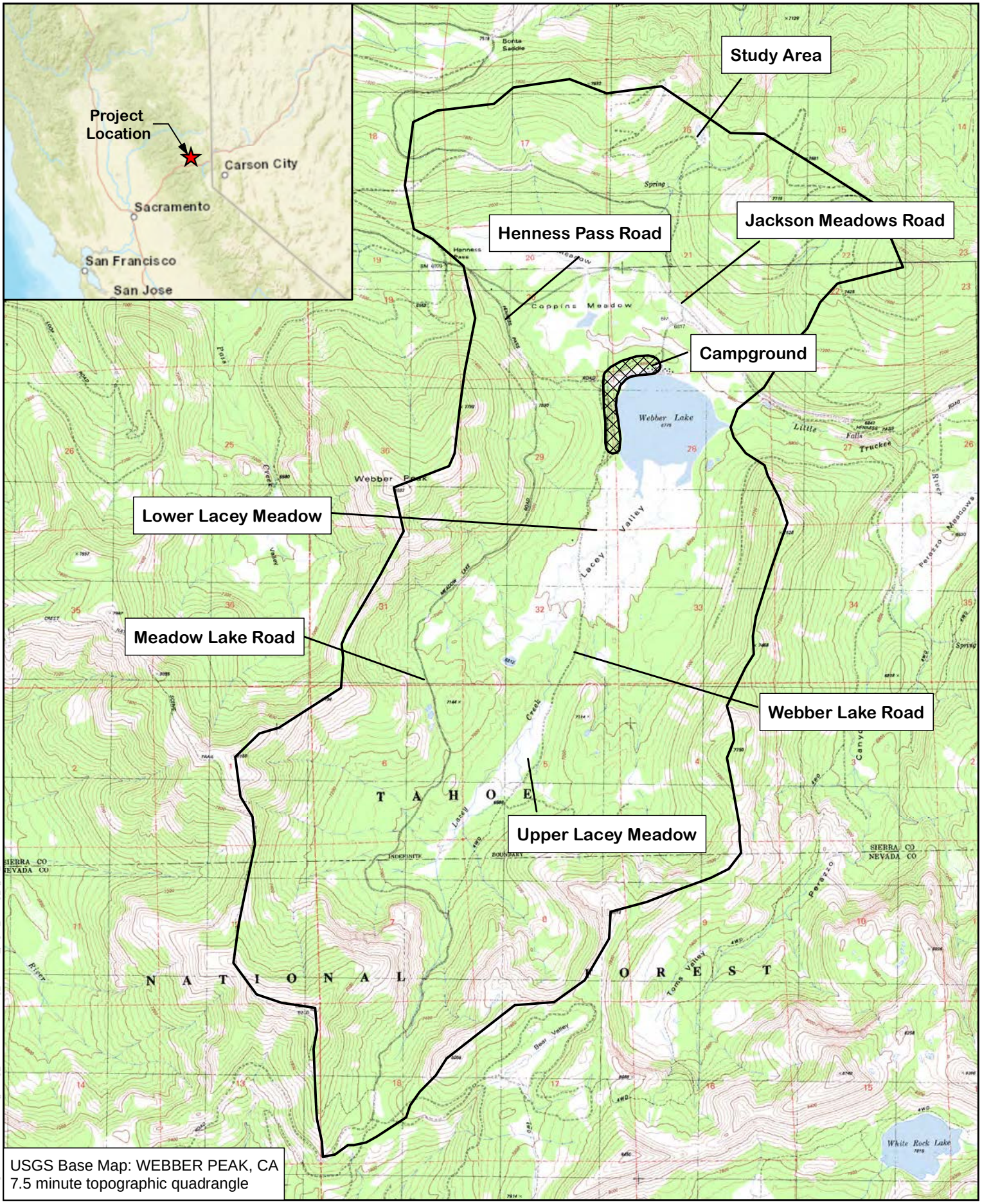
In 2012, TDLT acquired more than 3,000 acres which included the majority of Lacey Creek and the Upper and Lower Lacey Meadows. Much of the surrounding lands are managed by the TNF. At that time, TRWC, in partnership with TDLT, contracted with Balance Hydrologics (Balance) to complete a watershed assessment of the Lacey Meadows watershed above Webber Lake (Balance 2013). The assessment described channel and meadow degradation, and identified restoration opportunities in both the Upper and Lower Lacey Meadows. In 2014, UC Davis and American Rivers researchers classified the 515-acre Lower Meadow as "moderately degraded" (Balance 2020a). In 2019, TRWC contracted with Balance to develop restoration design plans for both meadows.

The Design Basis Report developed by Balance for the project (Balance 2020a) identified a number of factors leading to the degradation of ecological functioning of Lacey Creek and both Upper and Lower Lacey Meadows. Among the most important factors are:

- Stream capture by roads running through the Study Area, particularly where roads cross the streams and where culverts are inadequately sized;
- Desiccation and consequent degradation of the adjacent meadows;
- Gravel piles pushed into stream channels to divert flow from secondary channels, depriving the adjacent meadows of water;
- Incision of stream channels, leading to disconnection of the stream from its meadow floodplain and the lowering of groundwater levels, both of which lead to decreased water availability to surrounding meadows;
- Rapid and large fluctuations in the water level of Webber lake due to historical lake operations, resulting in knickpoint erosion[1] and headcut migration[2].

All of these changes have led to decreases in the quantity and quality of aquatic and meadow habitats supporting numerous special-status species.

[1] A knickpoint is part of a river or channel where there is a sharp change in channel slope.
[2] Headcuts are a type of knickpoint that occurs at the head (upstream extent) of a channel.



USGS Base Map: WEBBER PEAK, CA
7.5 minute topographic quadrangle

Source Data: USGS (2020)
Map Date: 12/22/2020

N
W E
S

0 2,500 5,000
Feet

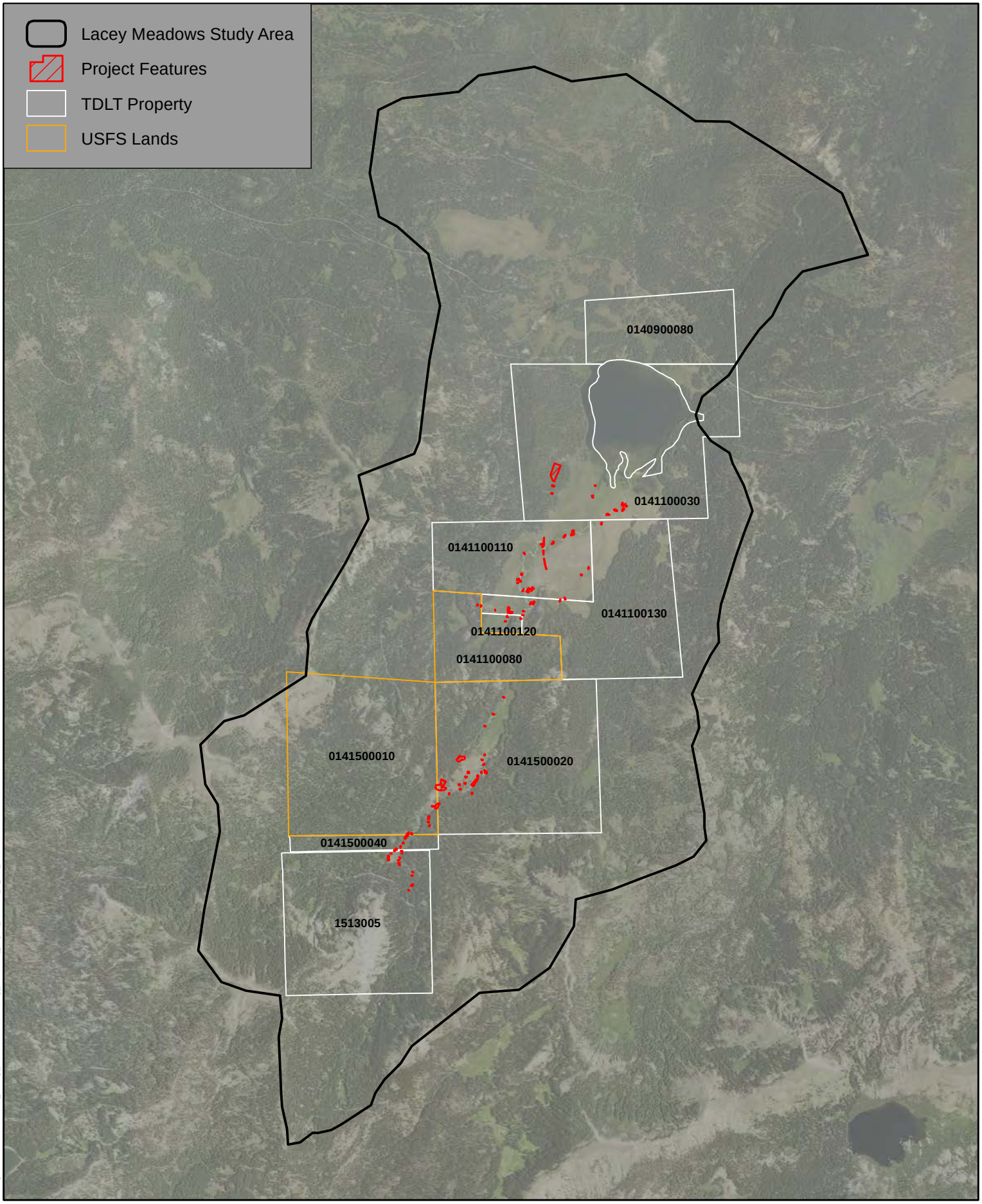
Stevens Consulting

F:\Projects\Stevens Consulting\Lacey_Meadows\MXD\lacey_meadows_project_vicinity_figure_1.mxd

Figure 1

Lacey Meadow Restoration Project - Project Vicinity

Sierra & Nevada County, CA



F:\Projects\Stevens Consulting\Lacey_Meadows\MXD\lacey_meadows_project_location_figure_2.mxd

Source Data: NAIP (2019)
Map Date: 12/08/2020

N
W E
S

0 3,350 6,700
Feet

Stevens Consulting

Figure 2

Lacey Meadow Restoration Project - Project Location

Sierra & Nevada County, CA

3.3 Relationship to Timber Harvest Plan

TDLT obtained an approved Timber Harvest Plan (THP; # 2-18-00130-SIE) from the California Department of Forestry and Fire Protection (CAL FIRE) in 2019. The "TDLT Webber THP" covers a 1,765-acre area that overlaps with the Study Area. The Timber Harvest Project is enrolled under the Lahontan Water Board's "Conditional Waiver of Waste Discharge Requirements for Waste Discharges Resulting from Timber Harvest and Vegetation Management Activities in The Lahontan Region." Lahontan Water Board staff assigned the TDLT Webber THP waste discharge identification (WDID) 6AT54818175.

The TDLT Webber THP includes:

- Aspen restoration on 88 acres,
- Meadow restoration on 178 acres,
- Wet area restoration on 137 acres, and
- Commercial thinning on 1,362 acres.

Work within aspen stands, meadows, and wet areas will all take place to the north of the Lacey Meadows Study Area. Removal of conifers within aspen stands, meadows, and other wet areas would benefit these habitats by eliminating competition from conifers and reducing evapotranspiration (i.e., increasing water availability). The commercial forest thinning activities outside of the aspen and meadow restoration areas are intended to remove insect and disease-affected trees, reduce overall stand density, increase forest health and vigor, and support wildfire resilience. Commercial thinning activities are largely outside of the project area, but do overlap with the Study Area. The project and the THP share access routes, and there is some overlap of the plans in the Upper Meadow and the Lower Meadow above Webber Lake Road.

In order to carry out these activities, some improvements to existing roads would need to be made, including improvement of erosion control (especially at locations where streams cross the roadways). The THP also includes measures prohibiting the use of logging roads during the wet season when such use would result in increased erosion, and improving road monitoring and maintenance (CAL FIRE 2019).

The THP process is the functional equivalent of an EIR under CEQA, so the THP process provides compliance with CEQA for the actions contained in the THP. However, the TDLT Webber THP only covers tree removal, tree planting, and roadway improvements, but not the other restoration actions contained in the proposed project, so additional CEQA compliance for the proposed project is required.

4. Project Description

4.1 Project Objectives

The objectives of the proposed project, as defined in the Design Basis Report (Balance 2020a) are as follows:

- Restore functioning meadow hydrology,
- Restore healthy meadow soils,
- Restore healthy meadow plant species,
- Restore healthy meadow habitats.

Each of these objectives is described in more detail below. More information is provided in the Design Basis Report.

4.1.1 Restore Functioning Meadow Hydrology

All of these elements are intended increase the residence time of snowmelt runoff in both Upper Lacey Meadows and Lower Lacey Meadows, as well as increase the summer groundwater elevation of both meadows. This is intended to create conditions that should support widespread establishment of meadow-obligate plants such as sedges (*Carex* spp.) and bulrush (*Scirpus* spp.), maintenance of base flows in Lacey Creek through the summer, and otherwise increase the ecological functions (e.g., wildlife habitat values) provided by both Upper and Lower Lacey Meadow.

The restoration actions are designed to promote groundwater recharge and encourage a high-water table by reversing channel incision to provide more frequent overbank flooding, which supports groundwater recharge and storage. If more frequent flooding and higher groundwater levels are achieved, this would result in colder and more persistent baseflow longer into the dry season, which would increase the resiliency of the system to long-term changes in climate. In addition, reversing channel incision would improve the hydrologic connectivity between the stream channel and adjacent meadows, which can help reduce stream bank erosion, and encourage the deposition of sediments carried by the stream in the meadows.

4.1.2 Restore Healthy Meadow Soils

Recent evaluations of subsurface soils found evidence that groundwater levels in the Study Area can fluctuate by as much as 9 feet. During periods when groundwater levels are well below the surface, soil health can be adversely affected, as soil moisture is needed to support the chemical and biological processes that support good soil health. Inappropriate livestock grazing can also adversely affect soil health through soil compaction and loss of vegetation cover. Finally, reduced water availability and vegetation cover may decrease the ability of the soil to sequester carbon. The project would restore groundwater levels, promoting wetland soil and vegetation development.

4.1.3 Restore Healthy Meadow Plant Species

Project biologists have found that Lacey Meadows has fair to good vegetation cover, but also found that meadow hydrology and depth to groundwater are limiting factors in the potential for passive revegetation approaches to be successful. Further, biologists found that Lower Lacey Meadow supports only limited willow riparian cover. Increasing willow growth in stream riparian areas could provide shading to reduce stream temperatures and provide cover for fish. Natural willow recruitment would be facilitated by increasing the frequency of stream flooding through implementing the proposed project. However, the planting of willow may also be needed to supplement natural recruitment.

4.1.4 Restore Healthy Meadow Habitats

Healthy meadows provide habitat for diverse terrestrial and aquatic species. The Lacey Meadows Assessment (Balance 2013) identified many special status or state-listed endangered species in urgent need of conservation action. As a result, one objective of restoration actions is to improve the health of meadow habitats that support diverse native meadow-dependent terrestrial and aquatic species, including birds, amphibians, and fish. Maintaining and developing areas with ponded slow-moving water through design elements can enhance water availability and increase meadow habitat area.

4.2 PROJECT PHASING

The proposed project would be split into two phases. Each phase will take approximately 8 weeks to complete, and with the limited construction window available at this elevation, only one phase could be completed in a single season. Thus, it would take two years to complete the work. Phase I would involve restoration actions within Upper Lacey Meadow, while Phase II would involve restoration actions within Lower Lacey Meadow. The restoration of Upper Lacey Meadow is taking priority because it is more heavily degraded due to past activities and can be completed with fewer impacts on sensitive species. Construction of Phase I of the project could occur as early as 2022, pending funding availability and issuance of regulatory permits. The timing for implementation of Phase II is undetermined at this point.

The activities to be undertaken under each phase of the proposed project is shown in Figure 2, and described below.

Table 2. Lacey Meadow Restoration Activities by Project Phase.

Restoration Action	Metric	Phase I	Phase II
Instream Wood Structures			
Bundles	# structures	10	3
Small Log Jams	# structures	22	14
Large Log Jams/Log and Boulder Structures	# structures	5	4
Miscellaneous Log Placement	# structures	15	5
Pilot Channel Excavation	CY[a]	2,900	750
Channel Fill	CY	2,900	750
Road-Related Design Elements	# of water bars	2	2
Engineered Riffles	CY	40	610
Buried Grade Control Structures	# structures	7	6

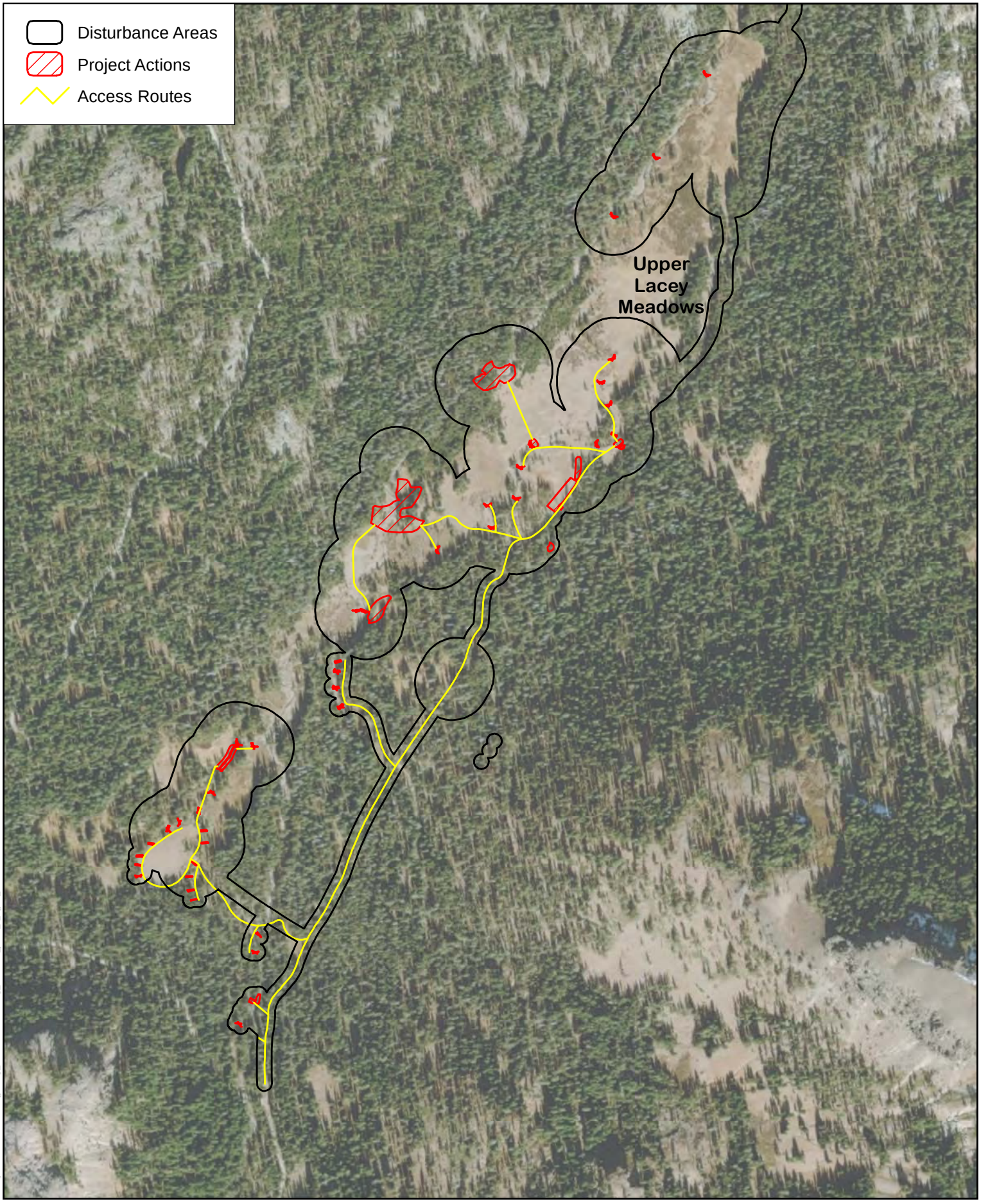
[a] Cubic yards of material

4.2.1 PHASE I: UPPER LACEY MEADOW

Phase I restoration activities within Upper Lacey Meadow are summarized in Table 2 and shown in Figure 3. As shown in Table 2, Phase I activities would include the placement of 52 instream wood structures, 7 buried grade control structures, and various other restoration actions.

4.2.2 PHASE II: LOWER LACEY MEADOW

Phase II restoration activities within Lower Lacey Meadow are summarized in Table 2 and shown in Figure 4, and would involve the placement of 26 instream wood structures, 6 buried grade control structures, and various other restoration actions.



F:\Projects\Stevens Consulting\Lacey_Meadows\MXD\lacey_meadows_phase_1_figure_3.mxd

Map Date: 10/29/2020 Aerial
Source Data: ESRI 2019

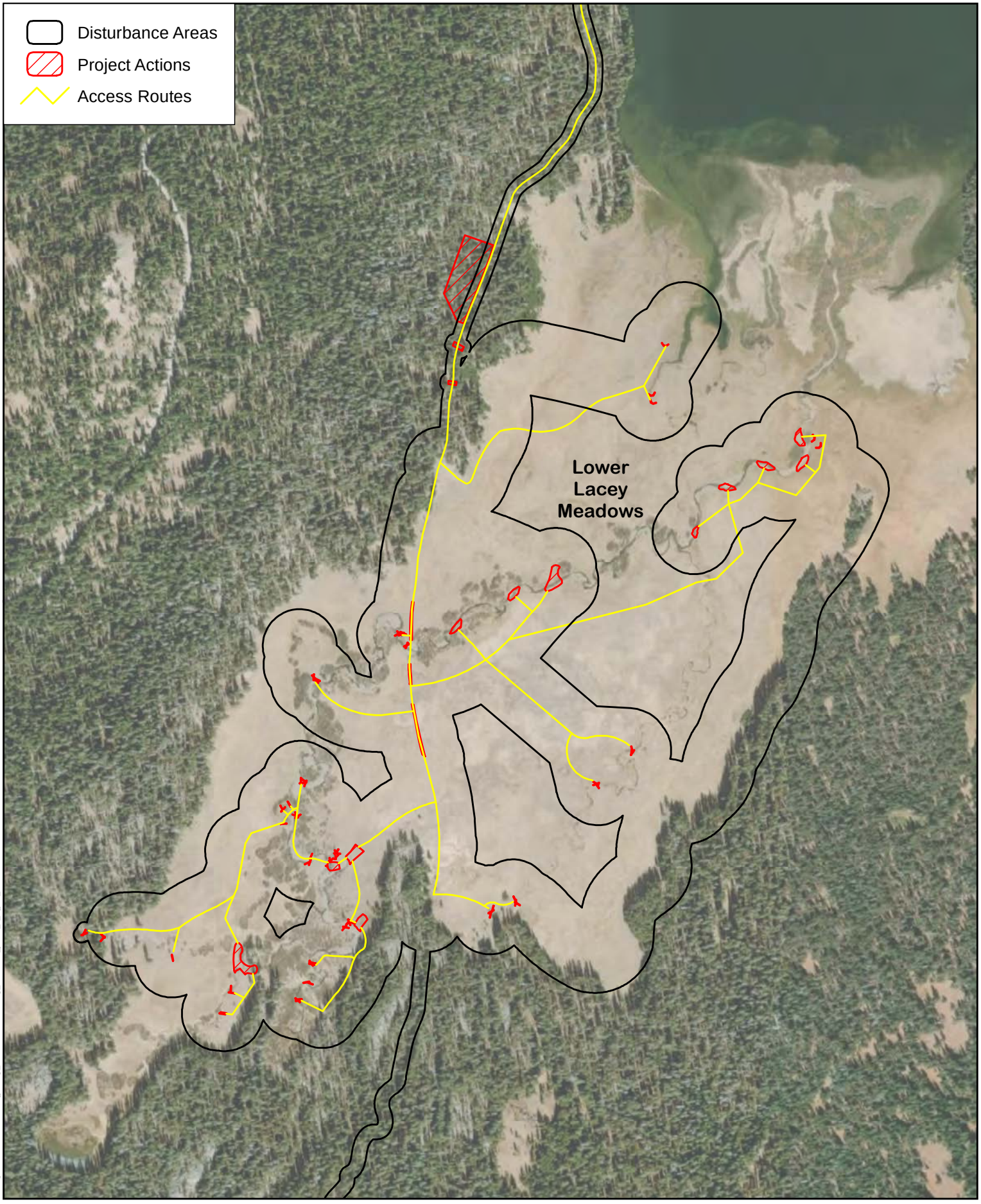
0 500 1,000
Feet

N
W E
S

Figure 3

Lacey Meadow Restoration Project – Phase I

Sierra & Nevada County, CA



F:\Projects\Stevens Consulting\Lacey_Meadows\MXD\lacey_meadows_phase_2_figure_4.mxd

Map Date: 10/29/2020 Aerial
Source Data: ESRI 2019

0 500 1,000
Feet

N
W E
S

Stevens Consulting

Figure 4

Lacey Meadow Restoration Project – Phase II

Sierra & Nevada County, CA

4.3 RESTORATION ACTIONS

Restoration efforts within the Study Area include a variety of approaches to meeting the proposed project objectives listed in Section 4.1.

4.3.1 INSTREAM WOOD STRUCTURES

Lacey Creek is a dynamic channel system with multiple channels, typical of a headwater stream in a post-glacial alluvial valley. Sediment and wood transport are important processes, and fallen trees are naturally and easily transported to the meadow from upstream areas as well as from along the margins of the meadow. As such, the use of instream wood has been prioritized in the project design to encourage sedimentation and or aggradation[3] of the incised channel. Aggradation is intended to increase the frequency of overbank flow and rewet meadow habitats at strategic locations or locations where remnant channels exist. Three different concepts of instream wood structures: (1) bundles, (2) small log jams, and (3) large log jams have been included in the design. Trees used in this effort would all be harvested on site. Such harvesting is covered under the TDLT Webber THP (CAL FIRE 2019).

Each of the three types of structures is briefly described below:

Bundles

Bundles would include trees less than 12-inches in diameter, with branches remaining in place. The bundles would measure between 8- and 16-feet in length, 18-inches to 24-inches in width and secured using natural fiber twine. Bundles would be placed in the channel and secured using 3-inch diameter stakes, driven a minimum of 1.5 feet into the channel bed. Bundles would be primarily used in the smaller channels or tributaries to Lacey Creek.

Small Log Jam

Small log jams include a minimum of 2 key logs, typically characterized by a minimum diameter of 16-inches with rootwads intact. Rootwads would be embedded or partially buried in the banks to mimic channel bank tree-fall. Additional smaller trees or logs are included to create a channel-spanning structure. Finally, the structure would be packed with branches and slash harvested from smaller trees. Small log jams would be used in Lacey Creek, in combination with large log jams located upstream and downstream.

Large Log Jam/ Log and Boulder Structures

Large log jams include a minimum of 2 key logs, typically with a minimum diameter of 18-inches with rootwads intact. Additional smaller trees or logs would be included to create a channel-spanning structure. The structure would also be packed with smaller branches and slash harvested from smaller trees. Large log jams are appropriate for Lacey Creek where flow diversion is required to return flows to historical channels. These structures are beneficial when they can be anchored against existing live, bankside trees.

The Upper Meadow is bisected by a glacial moraine characterized by cobble and boulder materials. At the location where former and remnant channels cross the moraine, priority would be given to the

[3] Aggradation is a process where the accumulation of sediments transported by a stream settle in the stream bed, increasing the elevation of the stream bottom.

placement of structures composed of both instream wood and boulders. The purpose of these structures is to mimic natural roughness elements.

Miscellaneous Log Placements

Miscellaneous log placements typically involve the placement of rootwads and logs in channels to provide grade control, increase hydraulic roughness, or enhance the instream habitat.

4.3.2 Channel Planform And Channel Relocation

The proposed project would create primary and secondary channels in locations within both Upper and Lower Lacey Meadows where evidence suggests that such a planform previously existed. Such evidence includes the observation of secondary and remnant channels in the meadows observed in the field and on LiDAR-based imagery, as well as using slope-channel planform relationships in alluvial channels (Balance 2013).

In the Upper Meadow (Phase I), the current stream alignment most likely resulted from a combination of active relocation to support sheep grazing and road capture (Balance, 2020a). Relocation of the existing Lacey Creek channel would move it from its current alignment through the forest to the meadow, where moderate to high flows would be directed into multiple historical channels. Relocation and restoration of the historic planform would be achieved through the placement of channel fill (Section 4.3.3).

In the Lower Meadow (Phase II), field evidence suggests Lacey Creek and its tributaries also were modified, presumably to dewater the meadow to improve sheep grazing opportunities. The southwest tributary appears to have been diverted through bedrock to join the mainstem of Lacey Creek further upstream from its historical confluence. Design elements including instream wood structures (Section 4.3.1), some pilot channel excavation (750 cy), and channel fill (Section 4.3.3) are included in the proposed project to relocate this tributary and its historical flow path across the northwestern portion of Lower Lacey Meadow, while maintaining baseflow support to the main stem of Lacey Creek. The placement of additional instream structures including both wood structures and engineered riffles (Section 4.3.5) is planned to encourage channel aggradation and diversion of moderate to high flows into remnant channels throughout the Lower Meadow.

4.3.3 Channel Fill

The proposed project design for Phase I calls for abandoning the existing alignment of the portion of Lacey Creek that runs through the forest. Channel fill would be placed in two locations, one at the upper end of the channel segment to be abandoned, and one towards the lower end of the segment to be abandoned. Fill would be sourced from the area immediately adjacent to the channel and cut and fill quantities would balance on-site (2,700 cy, Table 2). The fill locations were selected to capture and pond runoff from the side channels/tributaries entering the existing Lacey Creek channel from the northwest, and to prevent re-capture of the existing stream alignment through the forest.

4.3.4 Road-Related Design Elements

A limited number of road-related design improvements are included in the proposed project to address some of the immediate road-related impacts adjacent to and upstream of the meadows. The proposed

project includes improvements to Webber Lake Road on TDLT property, where stream capture[4] is obvious and continues to degrade channel and meadow conditions in the Upper Meadow. The project additionally proposes improvements to Webber Lake road in the Lower Meadow to accommodate restored high flow paths and prevent future stream capture by the road.

In the Upper Meadow, proposed improvements would result in reduced hydrologic modification by road segments of concern, including: minor grading and fill to redirect runoff to former channels; removal and replacement of undersized or non-functioning culverts with ford crossings; and placement of water bars. As described previously, the TDLT Webber THP (CAL FIRE 2019) also proposes to address at least two main road-related improvements adjacent to the Upper meadow. Implementing these repairs in parallel with the THP should be beneficial for both projects. In the Lower Meadow, proposed improvements would also result in reduced hydrologic modification and would include: raising the road bed to prevent capture by restored high flow paths, and placement of water bars.

4.3.5 Engineered Riffles

Engineered riffles will be placed in both the Upper (Phase I) and Lower Meadow (Phase II). Riffles in the Upper Meadow are limited to the upper reaches and will serve to promote aggradation in downcut channels.

In the Lower Meadow (Phase II) a heavy construction footprint is discouraged by the landowner to minimize impacts to existing recreational land uses. In this portion of the project site, restoration elements were limited to selected areas to achieve restoration goals but minimize impacts to existing recreational land-uses. Engineered riffles are proposed at key locations through Lacey Creek downstream of the Webber Lake Road crossing. These features would be composed of rounded river rock slightly larger than existing rock in riffles and used to augment existing riffles (height and volume). These features are intended to be developed to maintain natural features, allow for riffle mobility, but facilitate higher water-surface elevations within the existing incised channel, leading to more frequent overbank flows. In time, the augmented riffles should also encourage instream sediment deposition and channel bed aggradation. Some riffle rock material could be sourced from the existing channel in the Upper Meadow during channel relocation. This may have a secondary benefit of improving spawning habitat for native fishes.

4.3.6 Buried Grade Control Structures

Historical operations of the Webber Lake dam have likely impacted meadow conditions in the lower portions of the Lower Meadow, including the migration of knickpoint erosion upstream in Lacey Creek and tributaries to the lake. The installation of grade control elements (i.e., buried logs) in locations where these occur are proposed to halt the migration. A Lake-Level Management Plan was drafted in 2020 (Balance 2020b) that highlights some of the issues associated with historical operations of the dam and provides some possible management actions that can be taken to improve conditions in Lower Lacey Meadow in the future.

[4] A situation where a road crosses a stream and the stream flow continues along the roadway instead of the stream channel, dewatering the stream and causing erosion of the road.

4.4 PROJECT CONSTRUCTION

The specifics of how construction of each phase of the proposed project cannot be known precisely at the present, as it would depend on how the selected contractor chooses to approach the project. However, in general, the equipment that would be used would include the standard types of equipment involved in earthwork, including excavators, dump trucks, and various tracked pieces of equipment.

It is estimated that the construction of each phase of work would require approximately 6-8 weeks. All construction would begin when snowmelt allows access to the site, and would be completed by October 15. Construction of Phase I is expected to occur in 2022. No schedule has been established for the construction of Phase II.

Note that construction access for the Phase I work areas would occur using Meadow Lake Road and would thus avoid passing through Lower Lacey Meadow (i.e., the Phase II work areas) entirely (Figure 1).

5. INTRODUCTION TO ENVIRONMENTAL ANALYSIS

5.1 INITIAL ENVIRONMENTAL CHECKLIST

The Initial Study reaches one of the following four impact determinations for each question in the checklist:

"No Impact" means that it is anticipated that the project would not result in any changes to the physical environment with respect to the specific checklist topic; no mitigation measures are required for such impacts.

"Less-than-Significant Impact" means that it is anticipated that the project would result in changes to the physical environment with respect to the specific checklist topic, but not to a significant degree; no mitigation measures are required for such impacts.

"Less than Significant with Mitigation Incorporated" means that it is anticipated that the project would result in significant changes to the physical environment with respect to the specific checklist topic, but mitigation measures are available to reduce the impact to a less-than-significant level. Details regarding the proposed mitigation measures are provided.

"Potentially Significant Impact" means that it is anticipated that the project would result in significant changes to the physical environment with respect to the specific checklist topic, but no feasible mitigation measures are available to reduce the impact to a less-than-significant level.

5.2 Environmental Factors Potentially Affected

The environmental factors checked below would potentially result in impacts that are "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

6. Evaluation of Potential Impacts

Responses to the following questions and related discussion indicate if the proposed project would have or would potentially have a significant adverse impact on the environment, either directly or indirectly, or individually or cumulatively with other projects. All phases of project planning, implementation, and operation are considered. Mandatory Findings of Significance are provided in Section 6.21 below.

6.1 AESTHETICS

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

6.1.1 ENVIRONMENTAL SETTING

The Study Area is located on private land near the crest of the Sierra Nevada mountains. Development within or near the Study Area is limited to a campground along the north and west sides of the lake, a historic hotel, and various other small buildings.

No roadways in the Study Area are designated by the California Department of Transportation (Caltrans) as State Scenic Highways (Caltrans 2020). However, the entire length of Highway 89 (except where it passes through communities) is listed as a Sierra County Scenic Road, and Henness Pass Road was listed as a Candidate Sierra County Scenic Highway in the 2012 Sierra County General Plan (Sierra County 1996). In addition, the Little Truckee River downstream of Webber Lake is listed as a Major Scenic River (Sierra County 1996).

6.1.2 ENVIRONMENTAL ANALYSIS

Questions 6.1a and 6.1c: No Impact. Although Highway 89 is a scenic highway and Henness Pass Road is a potential scenic highway, the Study Area is not visible from either of these facilities due to the presence of dense and tall tree coverage of the intervening lands. Further, none of the work associated with the proposed project would result in significant changes to the aesthetic qualities of the Study Area. All proposed project features in both Phase I and Phase II would be low to the ground and would involve natural materials common to the Study Area, such as dirt, rocks, gravel, and dead trees, or the planting of native plant species. While some tree removal would occur, it would be limited in number, and also not visible from either Highway 89 or Henness Pass Road.

Therefore, there would be no impact to scenic vistas, or the existing visual quality of the area, and no mitigation is required.

Question 6.1b: No Impact. None of the activities associated with either Phase I or Phase II of the proposed project would be visibly obtrusive, as they would involve the use of natural materials common

to the Study Area, such as dirt, rocks, gravel, and dead trees, or the planting of native plant species. Thus, implementation of the project would not adversely affect scenic resources within a designated scenic highway. There would be no impact to scenic resources, and no mitigation is required.

Question 6.1d: No Impact. Neither Phase I nor Phase II of the proposed project would include the installation of new permanent lighting. All construction would occur during daylight hours, so no construction-related lighting would be required.

6.2 AGRICULTURE AND FORESTRY RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined in Public Resources Code section 4526), or timberland zoned Timberland Production (as defined in Public Resources Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

6.2.1 ENVIRONMENTAL SETTING

The Study Area consists of multiple privately-owned parcels that are zoned as General Forest or Timber Production Zone, as well as parcels owned by the U.S. Forest Service. The majority landowner, TDLT obtained a THP from Cal Fire in 2019 for the harvesting of timber within the Study Area (CAL FIRE 2019). In particular, the TDLT Webber THP focuses on the removal of lodgepole pines that have encroached into the meadow area due to historic man-made alterations, and in support of the meadow restoration efforts that are the subject of this IS/MND. The agricultural use for lands within the Study Area is seasonal sheep grazing. No Williamson Act contracts are in place on any of the parcels. None of the parcels within the Study Area are designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (California Department of Conservation 2020a).

6.2.2 Environmental Analysis

Question 6.2a: No Impact. No aspects of either Phase I or Phase II of the proposed project would involve any changes to land uses on any of the parcels within the Study Area. Therefore, there would be no impact related to the conversion of any farmlands, and no mitigation is required.

Question 6.2b: **No Impact**: Because none of the parcels has a Williamson Act contract, there would be no impact related to conflicts with Williamson Act contracts, and no mitigation is required.

Questions 6.2c through 6.2e: No Impact. The General Forest District allows for the "Growing and harvesting of agricultural and forest products, grazing of livestock, single family residences and accessory buildings. Public utility distribution facilities but not including major transmission facilities."

The Timberland Production Zone allows for: "Timber removal, including necessary access roads, log landing and storage areas provided such are constructed and maintained in accordance with the forest practice rules adopted by the State Board of Forestry."

Neither Phase I nor Phase II of the proposed project would conflict with the zoning for any of the parcels within the Study Area, nor require the rezoning of any of the parcels. Further, the proposed project would not convert forest lands to non-forest uses, or involve changes to the environment that would result in the conversion or farmland to non-agricultural uses or the conversion of forest land to non-forest uses. Therefore, there would be no impact related to the conversion of farmland to non-farm uses, nor of forest land to non-forest uses.

6.3 Air Quality

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?		X		
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?		X		
c) Expose sensitive receptors to substantial pollutant concentrations?			X	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

6.3.1 Environmental Setting

The project site is located in Sierra County and Nevada County, both of which are within the Mountain Counties Air Basin and is under the jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD), the California Air Resources Board (CARB), and the United States Environmental Protection Agency. The NSAQMD was formed in 1986 by the merging of the Air Pollution Control Districts of Nevada, Plumas and Sierra Counties. NSAQMD is required by state law to achieve and maintain the

federal and state Ambient Air Quality Standards, which are air quality standards set at levels that will protect the public health. The climate, topography, and the growing number of people, industries, businesses, and cars within the NSAQMD collectively contribute to the formation of smog. The pollutants of greatest concern are ozone, particulate matter, and air toxins. (NSAQMD 2020).

6.3.2 REGULATORY FRAMEWORK

Criteria pollutants are those that are regulated by either the state or federal Clean Air Acts. Non-criteria pollutants are not regulated by these Acts, but are a concern as precursors to criteria pollutants and/or for their potential for harm or nuisance. Ambient air quality is described in terms of compliance with state and national standards, and the levels of air pollutant concentrations considered safe to protect the public health and welfare.

The California Clean Air Act requires CARB to evaluate air quality through the state and assign all areas of the state into one of three categories for each state standard: attainment, non-attainment, or unclassified. An "attainment" designation for an area indicates that pollutant concentrations do not violate the standard. A "non-attainment" designation indicates that pollutant concentrations violated the standard at least once. An "unclassified" designation indicates that available data does not support either an attainment or non-attainment status. Areas classified as "non-attainment" for one or more pollutants are required to prepare attainment plans describing how they will reduce pollutant levels to become "attainment". Areas are classified similarly, though not identically under the federal Clean Air Act.

Table 3 describes Sierra County designations under both State and National Ambient Air Quality Standards. As noted in Table 3, Sierra County is designated as "non-attainment" for the PM_{10} (particulate matter 10 microns[5] or less in diameter) under the State standards.

Table 4 describes Nevada County designations under both State and National Ambient Air Quality Standards. As noted in Table 4, Nevada County is designated as "non-attainment" for ozone and PM_{10} under the State standards, and for ozone under the federal standards.

The NSAQMD has adopted Rule 202, which regulates the discharge of visible pollutants. It has also adopted Rule 226, which states in part:

> No person may disturb the topsoil or remove ground cover on any real property and thereafter allow the property to remain unoccupied, unused, vacant or undeveloped unless reasonable precautions are taken to prevent generation of dust. A dust control plan must be submitted to and approved by the Air Pollution Control Officer before topsoil is disturbed on any project where more than one (1) acre of natural surface area is to be altered or where the natural ground cover is removed. In the dust control plan, the Air Pollution Control Officer may require use of palliatives, reseeding, or other means to minimize windblown dust.

[5] A unit of length equal to one millionth of a meter, or one twenty-five thousands of an inch.

Table 3. Sierra County Attainment Status for Criteria Air Pollutants

Criteria Pollutant	State Designation	Federal Designation
Ozone	Unclassified	Unclassified/Attainment
PM_{10}	**Non-attainment**	Unclassified
$PM_{2.5}$	Unclassified	Unclassified/Attainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	N/A
Sulfur Dioxide	Attainment	N/A
Sulfates	Attainment	N/A
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	Unclassified/Attainment
Visibility Reducing Particles	Unclassified	Unclassified/Attainment

Source: CARB 2020

Table 4. Nevada County Attainment Status for Criteria Air Pollutants

Criteria Pollutant	State Designation	Federal Designation
Ozone	**Non-attainment**	**Non-attainment**
PM_{10}	**Non-attainment**	Unclassified
$PM_{2.5}$	Unclassified	Unclassified/Attainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	N/A
Sulfur Dioxide	Attainment	N/A
Sulfates	Attainment	N/A
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	Unclassified/Attainment
Visibility Reducing Particles	Unclassified	Unclassified/Attainment

Source: CARB 2020

6.3.3 Environmental Analysis

Question 6.3a: Less-than-significant Impact with Mitigation. Sierra County is not in compliance with state air quality standards for PM_{10}. Nevada County is not in compliance with both the state and federal standards for ozone, and the state standards for PM_{10}. Details regarding the effects of the proposed project on each of these pollutants is provided below.

Criteria Air Pollutants

According to the NSAQMD (Longmire pers. comm.), a quantitative analysis of criteria air pollutant emissions is required if a project would result in 24 pounds of oxides of nitrogen or reactive organic gases per day. Such a level of pollutants would result from three pieces of heavy equipment eight hours a day. The construction of the proposed project is so limited that it would never require the use of three pieces of heavy equipment running eight hours a day. Therefore, a quantitative analysis of emissions is not required. However, both phases of the proposed project would result in emissions from diesel-powered equipment, and would thus contribute to emissions for which NSAQMD is not in compliance. Therefore, this impact is considered significant. NSAQMD requires all diesel equipment to meet CARB

emission standards (Longmire pers. comm.). Thus, to reduce this impact to less than significant, implement Mitigation Measure AQ-1.

> **Mitigation Measure AQ-1: Construction Equipment Must Meet CARB Emission Standards.**
>
> TRWC shall ensure that the proposed project complies with California Air Resources Board (CARB) emissions standards for diesel construction equipment. The CARB requirements can be found at: https://ww3.arb.ca.gov/diesel/diesel.htm.

Because Mitigation Measure AQ-1 requires the applicant to ensure the CARB emission standards are met, it will ensure that this impact is less than significant.

Dust Control

The construction of both Phase I and Phase II of the proposed project would disturb more than 1 acre of land. The NSAQMD requires the preparation of a dust control plan for any activities that would result in the disturbance of more than 1 acre of land. Therefore, this impact is considered significant, and mitigation is required so that the Proposed Project does not conflict with this NSAQMD requirement. To reduce this impact to less than significant, implement Mitigation Measure BIO-4 (see below under *Biology*) and Mitigation Measure AQ-2, which requires the preparation of a dust control plan for each phase of construction on the proposed project.

> **Mitigation Measure AQ-2**: **Dust and Emissions Control Plan.** TRWC shall require the contractor for the proposed project to prepare and implement a Project Dust and Emissions Control Plan that is approved by the NSAQMD prior to initiating construction of each phase of work. The following shall be included in the plan and shall be implemented throughout the construction period to limit and control dust and air emissions:
>
> - All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and/or causing a public nuisance. Watering during construction activities shall occur daily, with application to all disturbed areas (excavated areas, stockpiles, and/or graded areas until stabilized).
> - All areas with vehicle traffic shall be watered or have dust palliative applied as necessary to minimize dust emissions.
> - All on-site vehicle traffic shall be limited to a speed of 15-mph on unpaved roads within the project footprint.
> - All land clearing, grading, earth moving, or excavation activities on the project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20-mph.
> - All inactive portions of the project site shall be covered, seeded, or watered or otherwise stabilized until a suitable cover is established.
> - All material transported to or from off-site shall be either sufficiently watered or securely covered to prevent it from being entrained in the air and there must be a minimum of six-(6) inches of freeboard in the bed of the transport vehicle.
> - The nearest paved road is Jackson Meadows Road (Forest Road 07), approximately 0.6 miles north of the Webber Lake campground. Any paved roads used for transport to the project shall be maintained reasonably clean through methods such as sweeping or

washing at the end of each day when heavy equipment is brought to or from the site, or more frequently if necessary, to remove excessive accumulations or visibly raised areas of soil which may have resulted from activities transporting materials to or from the project site.

- All areas of bare soil will be stabilized, as specified in the Stormwater Pollution Prevention Plan to be prepared for the proposed project.
- The project contractor shall ensure that all construction equipment is properly maintained.
- All applicable portable engines and off-road equipment must be registered with CARB's portable engine and off-road equipment programs.

Because Mitigation Measure AQ-2 will ensure that proposed project adheres to all relevant NSAQMD requirements for minimizing construction-related dust generation, it would ensure that this impact is held to a less-than-significant level.

Question 6.3b: Less-than-significant Impact with Mitigation. As indicated above, the limited use of construction equipment on the project site would not result in emissions of criteria air pollutants above federal and state thresholds. Therefore, with adoption of Mitigation Measure AQ-1, which would minimize PM_{10} emissions, this impact is considered less than significant and no additional mitigation is required.

Questions 6.3c: Less-than-significant Impact. Sensitive receptors are defined as areas where young children, chronically ill individuals, the elderly, or people who are more sensitive than the general population reside. There are no sensitive receptors within or adjacent to the Study Area. While there is a campground along Weber Lake in the northern portion of the Study Area, construction would be short-term (lasting only 8 weeks for each phase), and would occur more than 2 miles from the campground for Phase I, and approximately ½ mile from the campground in Phase II. Therefore, this impact is considered less than significant, and no mitigation is required.

Question 6.3d: Less-than-significant Impact.

During construction, some odors could be emitted from vehicles and equipment using diesel fuels. However, these odors would be minimal, of short duration, and would be distant from the campground alongside Weber Lake. Therefore, this impact is considered less than significant, and no mitigation is required.

6.4 BIOLOGICAL RESOURCES

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

6.4.1 REGULATORY FRAMEWORK

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973, and subsequent amendments, provides regulations for the conservation of endangered and threatened species and the ecosystems on which they depend. The U.S. Fish and Wildlife Service (USFWS) (with jurisdiction over plants, wildlife, and resident fish) and National Marine Fisheries Service (NMFS) (with jurisdiction over anadromous fish and marine fish and mammals) oversee the implementation of the FESA. Section 7 mandates all federal agencies to consult with USFWS and NMFS if they determine that a proposed action or project may affect a listed species or its habitat. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence stating that the proposed project is not likely to adversely affect federally listed species.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 United States Code [USC] 668–668c) was enacted in 1940 and prohibits the "taking" of bald or golden eagles, including their parts (e.g., feathers), nests, or eggs without a permit from the Secretary of the Interior. This regulation provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests, and it prohibits the possession of all nests of protected bird species whether they are active or inactive.

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) requires authorization from the U.S. Army Corps of Engineers (USACE) for the discharge of dredged or fill material into a wetland or other navigable water of the United States. USACE may issue either an individual permit evaluated on a case-by-case basis or a nationwide permit, which covers particular dredge and fill activities and specifies the particular conditions that must be met for a nationwide permit to apply. The proposed project site is within the jurisdiction of the Sacramento USACE District. CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401. The Lahontan Water Board is the agency responsible for issuing the CWA Section 401 water quality certification.

Executive Order 11990: Protection of Wetlands

Executive Order 11990, signed May 24, 1977, directs all federal agencies to refrain from assisting in or giving financial support to proposed actions that encroach on publicly or privately owned wetlands. It also requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. A proposed action that encroaches on wetlands may not be undertaken unless the applicable federal agency has determined that: (1) there are no practicable alternatives to such construction; (2) the proposed action includes all practicable measures to minimize harm to wetlands that would be affected by its implementation; and (3) the impact would be minor.

Executive Order 13112: Prevention and Control of Invasive Species

Executive Order 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The Executive Order established the National Invasive Species Council (NISC), which is composed of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. In July 2016, NISC published an updated national invasive species management plan that recommends objectives and measures to implement the Executive Order and to prevent the introduction and spread of invasive species.

Sierra Nevada Forest Plan Amendment

A portion of the Disturbance Area is on U.S. Forest Service lands. U.S. Forest Service plans and policies therefore pertain to work to be conducted on those lands.

The 2004 Sierra Nevada Forest Plan Amendment (SNFPA) adopted by USFS prescribes management goals and objectives for a variety of resources, including old forest ecosystems and associated species such as the California spotted owl, northern goshawk, great grey owl, and Sierra marten as well as aquatic, riparian and meadow ecosystems and associated species such as the Sierra Nevada yellow-legged frog and willow flycatcher. To meet the prescribed goals and objectives, the SNFPA requires that individual forests implement specific standards and guidelines, which provide management direction for designing and implementing projects on USFS lands. Specific standards and guidelines exist to prevent and minimize invasive plant infestations as well as to protect and enhance populations of the old forest and meadow-dependent species listed above (among other forest resources).

Forest Service Manual

While the SNFPA provides specific direction for management of National Forest lands in the Sierra Nevada, the Forest Service Manual (FSM) codifies general operating practices for all Forest Service lands nationwide. The FSM provides direction and guidance on a variety of topics including the management of Threatened and Endangered Species (FSM 2670.31), Forest-designated Sensitive Species (FSM 2670.32), and Invasive Species (FSM 2900).

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code [CFGC] Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a federally or state listed species, compliance with FESA satisfies the requirements of CESA if CDFW determines that the federal incidental take authorization is consistent with CESA under CFGC Section 2080.1. If a project would result in the take of a species that is only state listed, the project proponent must apply for a Section 2081(b) take permit from CDFW.

California Fish and Game Code Section 1600 et seq.—Lake or Streambed Alteration

Under CFGC Section 1600, CDFW regulates activities that would interfere with the natural flow of, or substantially alter the channel, bed, or bank of, a lake, river, or stream, including the disturbance of riparian vegetation. Project applicants must enter into a Lake or and Streambed Alteration Agreement (LSAA) from CDFW for these activities. The conditions and requirements of an approved LSAA are focused on the protection of the integrity of biological resources and water quality. CDFW may attach terms to the agreement that require avoiding or minimizing vegetation removal, using standard erosion control measures, limiting the use of heavy equipment, limiting work periods to avoid impacts on fisheries and wildlife resources, and restoring degraded sites or compensating for permanent habitat losses.

California Fish and Game Code—Protection of Birds and Raptors (Sections 3503 and 3503.5)

Section 3503 of the CFGC prohibits the killing of birds and destruction of their nests. Section 3503.5 prohibits killing of raptor species and destruction of raptor nests. Typical violations include the

destruction of active bird and raptor nests caused by tree removal, and failure of nesting attempts (loss of eggs or young) as a result of disturbance of nesting pairs from nearby human activity.

California Fish and Game Code—Fully Protected Species (Sections 3511, 3513, 4700, and 5050)

CFGC Sections 3511, 3513, 4700, and 5050 strictly prohibit the take of fully protected wildlife species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research, the protection of livestock, or if a Natural Community Conservation Plan has been adopted. Specifically, Section 3513 prohibits any take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA), enacted in 1977, prohibits the importation of rare and endangered plants into California, the take of rare and endangered plants, and the sale of rare and endangered plants. The CESA defers to the CNPPA when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA but instead under CEQA.

Porter-Cologne Water Quality Control Act and CWA Section 401

Descriptions of the relevant provisions of the Porter-Cologne Water Quality Control Act (Porter-Cologne) and CWA Section 401 are provided below under *Hydrology and Water Quality*.

Z'berg-Nejedly Forest Practice Act

The Z'berg-Nejedly Forest Practice Act of 1973, also known as the California Forest Practice Act, ensures that logging on private lands is done in a manner that will preserve and protect wildland forest resources. The act is administered by CAL FIRE. Compliance with the California Forest Practice Act must occur through the approval of a THP by CAL FIRE, which describes the proposed logging and what measures will be taken to prevent adverse effects on the environment.

Sierra County

The Sierra County General Plan, last updated in 1996, provides a basis for local government decision making related to land use and development in unincorporated Sierra County (Sierra County 1996). It contains goals, policies, and implementation measures that are mainly focused on preserving the county's rural nature, traditional industries, and natural environment. Several policies and goals focus on protecting, and whenever possible enhancing, threatened, endangered, and special plants and animals and their habitats, species of migratory birds, and wildlife migration corridors. The general plan also contains goals and policies emphasizing watershed conservation and the protection of streams, lakes wetlands, meadows, forests, and other natural community types that occur throughout Sierra County. The general plan also prescribes specific biological resources minimization and avoidance measures for projects to implement in Sierra County; several of these measures deal with species (e.g., great grey owl, willow flycatcher, northern goshawk) that are known to occur or that could occur within the proposed Study Area.

Nevada County General Plan

The Nevada County General Plan (Nevada County 1996) contains one goal, four objectives and one policy related to biological resources that pertain to the proposed project:

- **Goal 13.1**. Identify and manage significant areas to achieve sustainable habitat.
- **Objective 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.
- **Objective 13.3.** Provide for the integrity and continuity of wildlife environments.
- **Objective 13.4**. Support the acquisition, development, maintenance and restoration, where feasible, of habitat lands for wildlife enhancement.
- **Objective 13.5**. Support, where feasible, the continued diversity and sustain ability of the habitat resource through restoration and protection.

6.4.2 Environmental Setting

The information in this impact analysis summarizes information from a biological resources assessment prepared for the proposed project (H.T. Harvey 2020). The full report is provided in **Appendix A**.

Existing biological resources in and adjacent to the proposed project site were identified based on readily-available background documents and public-domain datasets, and further informed by limited fieldwork periodically completed by H. T. Harvey & Associates biologists beginning in 2012. The specific data sources reviewed in compiling the report are:

- Lacey Meadows Assessment (Assessment)
- Preliminary Delineation of Jurisdictional Waters of the United States for the Lacey Meadows Restoration Project
- Webber Lake Livestock Grazing Plan
- United States Forest Service (USFS) vegetation and land cover data
- USFS Natural Resources Inventory System (NRIS) records, provided by TNF
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation website
- University of California, Davis Sierra Nevada meadow mapping
- Recent and historical aerial imagery
- California Natural Diversity Database
- California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants of California*
- Calflora Database

For the purposes of this analysis, information on species and habitats is provided for the Study Area (Figure 2), and the analysis of impacts focuses on the Disturbance Area, which encompasses the areas where project elements would be installed and a buffer area around each (Figures 3 and 4).

Natural Communities.

The natural communities (i.e., plant communities or habitats) occurring on the proposed project site were mapped by H. T. Harvey & Associates in 2020 (Appendix A). On the basis of this mapping, Table 5 lists the acreages of natural communities in the proposed project site, and the characteristics of each plant community are summarized briefly below.

Table 5. Natural Communities in the Project Site

Community	Acres
Dry Meadow	105.68
Lacustrine	1.03
Lodgepole Pine Forest	122.03
Seep Wetland	6.64
Wet Meadow	116.97
Willow Scrub-Shrub	37.18
Stream	30.40
Total	**419.93**

Note: The values in this table are calculated using GIS. Other numbers reported elsewhere in this report may differ slightly from these due to rounding.

Dry Meadow

Dry Meadow occurs on benches, terraces, slopes, and similar upland areas where precipitation and runoff (as opposed to shallow groundwater) are the dominant sources of hydrology. Soils in Dry Meadow communities may be wet or moist in the early portion of the growing season, typically during snowmelt and runoff, but are dry within the plant rooting zone throughout the remainder of the year.

Lacustrine

Lacustrine habitat is typically a deep to shallow, open water habitat that includes lakes, ponds, and similar habitats with less than 5% vegetation cover. Vegetation, if present, consists of sedges (e.g., *Carex utriculata*), pondweed (*Potemogeton* spp.), bulrush (*Scirpus* spp.), and similar wetland plants. Scattered willows, such as Lemmon's willow, may be present in very shallowly inundated margins of Lacustrine communities.

Lodgepole Pine Forest

Lodgepole Pine Forests are typically dominated by a single species, lodgepole pine (*Pinus contorta* spp. *murrayana*), but other conifers, such as red fir (*Abies magnifica*) may be present in small amounts through the project site.

Seep Wetland

Seep Wetlands generally are similar to Wet Meadow described below, with the exceptions that Seep Wetlands are continuously saturated or inundated at, or very near, the soil surface, often due to the presence of perennial seeps or springs nearby, and are dominated by obligate wetland plants such as sedge and bulrush, with very little to no bare ground.

Wet Meadow

Wet Meadows are dominated by plants that are adapted to saturated soil within the rooting zone (typically within the top 12–24 inches of the soil profile) ranging from seasonally to permanently, where at least 80% of the vegetation is dominated by perennial herbaceous species. Wet Meadow occurs on topographically lower landforms along active and abandoned stream channels and lake margins, as well as in areas where shallow, summer groundwater is present.

Willow Scrub-Shrub

Willow Scrub-Shrub is a diverse community typically dominated by various shrub species such as willows (*Salix* spp.) and mountain alder (*Alnus incana* ssp. *tenufolia*), with minimal tree cover. In some locations, creek dogwood (*Cornus sericea* ssp. *sericea*), wild rose (*Rosa* spp.), quaking aspen (*Populus tremuloides*), and scattered black cottonwood (*Populus trichocarpa*) and other woody riparian vegetation also can occur, but these species are less commonly encountered throughout the proposed project site.

Streams

Streams are mapped along Lacey Creek and its tributaries throughout the proposed project site. Streams typically lack vegetation but usually occur in association with one of the other natural communities described above, including: Wet Meadow, Lodgepole Pine Forest, Dry Meadow, or Willow Scrub-Shrub. The surrounding natural community typically is a function of soil depth and texture, slope and aspect, and stream hydrology (i.e., whether the stream is perennial or intermittent/ephemeral).

Sensitive Natural Communities

Sensitive Natural Communities in the project site are: Lacustrine, Seep Wetland, Wet Meadow, Willow Scrub-Shrub, and Stream. These natural communities are considered to be sensitive because they are relatively rare on the landscape and provide high ecological values; for these reasons, they are protected under various California and federal laws (see *Regulatory Setting*). Sensitive Natural Communities within the Study Area total approximately 193 acres.

Invasive Plants

The Assessment documented 21 species of invasive, terrestrial plants (i.e., weeds) that could potentially occur in the proposed project site. Of the 21 species that could occur, none of these or any other species of weeds, were observed during the fieldwork completed by H. T. Harvey & Associates biologists dating back to 2012. It is possible, if not likely, that small populations of weeds occur in some portions of the proposed project site, but larger populations (i.e., more than 10s of plants per infestation) do not appear to be present.

Fish and Wildlife Species

Mammals

The proposed project site consists of a variety of habitat types that provide foraging and denning/reproduction opportunities for mammals as well as sources of water, cover, and other habitat elements. Additionally, the project site and surrounding area are part of an extensive, undeveloped landscape relatively free from human disturbance and development. The diversity of habitat types, combined with the relative isolation and undeveloped nature of the project site and surrounding landscape, provide the potential to support a wide variety of mammal species, including species of mesocarnivores and large carnivores that require large, unfragmented, and relatively undisturbed

landscapes for habitat. Appendix A contains a list of the mammal species either known or expected to occur within the Study Area.

Amphibians and Reptiles

Amphibians are most likely to occur in close proximity to the various lakes, streams, meadows, and ponds found in and near the proposed project site. It should be noted that the presence of introduced, predatory fish such as rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), and eastern brook trout (*Salvelinus fontinalis*) throughout Webber Lake and Lacey Creek and its tributaries may reduce habitat suitability for these species; although, isolated pools (i.e., deep pools not connected by flowing surface water to the rest of the stream) may provide suitable amphibian micro-habitats due to the absence of predatory fish. Appendix A contains a list of the amphibian and reptile species either known or expected to occur within the Study Area.

Birds

Despite their relatively sparse distribution and sensitivity to disturbance, montane meadows like Lacey Meadows play a crucial role in the life-history and ecology of many Sierra bird species. The occurrence of water, herbaceous vegetation, and riparian shrubs in close proximity create valuable habitats for both aquatic and terrestrial life stages of many insect species on which meadow birds prey. In addition, Sierra meadows provide dense herbaceous cover for avian nesting, predator avoidance, and thermal cover as well as bountiful seed crops for granivorous birds in late summer and fall.

Over the last 20–30 years a relatively complete picture of the bird community in Lacey Meadows and the surrounding area, totaling 106 species, has been compiled, including a number of rare or uncommon species. Recent surveys in 2019 documented a total of 59 species of birds in the vicinity of the proposed project site. Appendix A contains a list of the bird species either known or expected to occur within the Study Area.

Fish

The Lahontan drainage, consisting of the Susan, Truckee, Carson, and Walker River drainages, is characterized by ten native fish species, which are distributed widely throughout the drainage from lowlands to elevations above 6600 feet. Despite their widespread distribution in the surrounding region, it is probable, although not certain, that these fish were absent from Webber Lake and Lacey Creek because Webber Falls, located downstream of Webber Lake on the Little Truckee River, is a natural barrier to fish movement from lower reaches of the Truckee River system.

The Lacey Creek fish population consists of fish species that have migrated upstream from Webber Lake. During site visits in summer 2012, and periodically thereafter, abundant brook trout have been observed by an H. T. Harvey & Associates biologist throughout the upper reaches of Lacey Creek in the proposed project site, and several other species including rainbow trout, brown trout, and smaller, unidentified fish (e.g., dace or sculpin) were observed in scattered locations, particularly within the lower reaches of Lacey Creek in Lower Lacey Meadow. Appendix A contains a list of the fish species either known or expected to occur within the Study Area.

Special-Status Species

For the purpose of this IS/MND, special-status species are defined as:

- Species listed as threatened or endangered (or proposed or candidate species for such listing) under CESA or FESA,
- Vascular plants and lichens included in the CNPS Inventory of Rare and Endangered Plants of California,
- California Fully Protected species or Species of Special Concern (CSSC),
- TNF-designated Sensitive Species, and
- All species of common nesting birds, including all species of raptors, because nests of these species are afforded protection under the California Fish and Game Code, and under certain circumstances also are protected by the federal Migratory Bird Treaty Act (see *Regulatory Setting* above).

The following sources were consulted during development of the Assessment, and updated for this memorandum, to develop a listing of special-status species that could potentially occur in the proposed project site or in surrounding areas:

- A query of all California Natural Diversity Database (CNDDB) records reported within 5 miles of Webber Lake,
- A query of the CNPS Inventory of Rare and Endangered Plants of California for all species potentially occurring within the Webber Peak 7.5 minute United States Geological Survey topographic quadrangle as well as the surrounding eight 7.5 minute quadrangles (Haypress Valley, Sattley, English Mountain, Sierraville, Independence Lake, Cisco Grove, Soda Springs, and Norden),
- A query of all USFS species occurrence records maintained in NRIS for the Study Area,
- A query of USFWS-Designated Critical Habitat occurring in the project site obtained from the USFWS Information for Planning and Consultation (IPaC) website,
- Personal observations or professional opinions of H. T. Harvey & Associates biologists, and
- Studies from the Institute for Bird Populations (IPB).

The species identified through these sources were assessed for their potential to occur within the proposed project site and surrounding areas as follows, and placed into the following categories:

- **Known to Occur**: Species documented by CNDDB or NRIS as occurring in the vicinity of the proposed project site and the project site provides suitable habitat for the species; this also includes species personally observed by H. T. Harvey & Associates ecologists or species noted as being observed by qualified biologists (e.g., IBP).
- **Could Occur**: Species documented as occurring outside of, but in close proximity to (e.g., within 2 miles) the proposed project site, and the proposed project site provides suitable habitat for the species.
- **Less Likely to Occur**: This category encompasses the following situations:
  - Species have been documented as occurring outside of, but in close proximity to (e.g., within 2 miles), the proposed project site, but suitable habitat is limited within the project site itself.
  - Species are known to occur or could occur, in the larger watershed, but owing to the proposed project site's smaller area and more limited habitat distribution within the watershed, they are less likely to occur within the proposed project site itself.

- Species for which the project site provides suitable habitat, but the species is not known regionally and/or the species is known to have a restricted distribution that does not include the proposed project site (typically, this applies to species of rare plants or to wildlife with restricted distributions and small population sizes).
- **Unlikely to Occur**: Any species not meeting one of the criteria above.

A total of 16 species of special-status wildlife and 4 species of special-status plants were determined as either "known to occur" or "could occur" within the Study Area. Each of these species are described in more detail below. More information about each of these species is provided in Appendix A.

Wildlife Species Known to Occur within the Project Site

Black Tern (*Chlidonias niger*); CDFW-CSSC. The black tern breeds and forages in lakes, meadows, and similar wetland habitats. The species is primarily insectivorous in California, but in some locales, fish may play an important role in its diet. Nests are built semi-colonially on floating masses of vegetation that are typically anchored to (or lodged in) emergent vegetation or beds of submerged aquatic plants.

In the Sierra Nevada, the southern-most locations documented in the literature are in the Sierra Valley and in Kyburz Flat. Black terns were observed nesting along the lake margin at Lower Lacey Meadow in 2001 and 2003 and have been observed irregularly since that time. Black terns are known to occupy some marshes intermittently, so their periodic absence since the early 2000s should not necessarily be interpreted as the result of change in habitat condition or overall species decline.

Northern Harrier (*Circus cyaneus*); CDFW-CSSC. The northern harrier breeds and forages in marshes, grasslands, meadows and other treeless habitats in northeastern California, the eastern Sierra Nevada, the Central Valley, and in California's coastal regions. Harriers nest on the ground in patches of dense, tall vegetation in undisturbed areas. In wetland and meadow areas such as Lower Lacey Meadow, primary prey species are voles and small birds.

Yellow Warbler (*Dendroica petechia*); CDFW-CSSC. The yellow warbler breeds and forages in riparian woodlands and shrublands across much of California, excepting the Central Valley, deserts, and higher elevations of the west slope of the Sierra Nevada. The species reaches some of its greatest abundances in willow-dominated wet meadows of northeastern California and the east slope of the Sierra Nevada. This species is commonly observed in Upper and Lower Lacey Meadows and is assumed to be a relatively abundant breeder in both locations.

Willow Flycatcher (*Empidonax traillii*); CDFW-SE, TNF-S. The willow flycatcher breeds and forages in riparian scrub habitats, generally associated with lake margins, wet meadows, and similar mesic-wet montane habitats primarily in the Sierra Nevada and Cascade Range. Two subspecies of willow flycatcher regularly occur in the northern Sierra Nevada. E. t. adastus and E. t. brewsterii are found along the east and west slopes (respectively) of the Sierra Nevada and southern Cascades. Analyses of DNA and song recordings from willow flycatcher breeding in Lower Lacey Meadow and the nearby vicinity indicate that these birds are considered to be intergrades between the two subspecies.

Anecdotal and demographic studies indicate a dramatic decline in the Sierra Nevada willow flycatcher populations since the 1920s when this species was considered locally common in riparian areas. Willow flycatchers have been intensively monitored around Webber Lake from 1998 through 2019. Territories numbered from 12 to 14 through 2001 and then steadily declined to three or four in 2008 and 2009 to just two territories in 2014 to no occupied territories in 2019. In 2014, two territories were located

south of Webber Lake Road; no territories occurred north of Webber Lake Road (where occupied territories were common near Webber Lake in prior years).

Greater Sandhill Crane (*Grus canadensis tabida*); CDFW-ST, TNF-S. The Greater sandhill crane winters in the Central Valley and breeds across six counties in Northeastern California, south to Nevada County. Greater sandhill cranes breed primarily in bulrush and sedge-dominated marshes or meadows adjacent to grassland or other short vegetation uplands. Nests are most frequently found in patches of rushes and in areas protected from predators by standing water. This species is very susceptible to disturbance and will sometimes abandon nests in the presence of repeated human or livestock activity. Nest predation from coyote and common raven (*Corvus corax*) is a significant factor in reproductive success, and drought conditions often lead to increased predation rates. Cranes are susceptible to draining of wetlands for agricultural or residential conversion, trampling of young and reduction in nest cover by livestock, mortality from mowing and habitat abandonment from human related disturbance. Greater sandhill cranes have been routinely documented in northeast side of Lower Lacey Meadow, near the Webber Lake shore. Fledgling cranes have been observed with adults during many years, and in 2012 one colt with two adults were observed. Greater sandhill cranes also were observed in this same general location in August 2020.

Bald Eagle (*Haliaeetus leucocephalus*); CDFW-FP, SE. California's breeding population of bald eagles is resident yearlong in areas where the climate is relatively mild. Aside from resident pairs, individuals from regions north and northeast of California will migrate into California between mid-October and December. Wintering populations remain in California through March or early April. Nesting territories are normally associated with lakes, reservoirs, rivers, or large streams; most nest territories occur in Shasta, Plumas, Siskiyou, Lassen, and Modoc Counties, but additional known breeding territories are scattered elsewhere throughout California, except the Central Valley and southwest desert regions.

Bald eagle nests are usually located in uneven-aged (multi-storied) stands with old growth components. Most nests in California are located in predominantly coniferous stands. Factors such as relative tree height, diameter, species, position on the surrounding topography, distance from water, and distance from disturbance also appear to influence nest site selection. Bald eagles are known from a number of lake and river settings within the TNF, and is routinely observed at Webber Lake. The TNF has documented a nest located in forested areas along the southwest side of the lake.

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*); CDFW-CSSC. The yellow-headed blackbird is locally common in the marshes found in large mountain valleys of northeastern California and the eastern Sierra Nevada. This species nests in tall, emergent vegetation over relatively deep water. Nests are typically found in cattails (*Typha* spp.) or bullrush, but locally (Sierra Valley), the species is documented using spikerush, as it does in Lacey Meadows. Yellow-headed blackbirds have been observed intermittently in the Study Area, and the interface between Lower Lacey Meadow and Webber Lake provides habitat for this species on at least an occasional basis.

Special-Status Wildlife Species that Could Occur within the Study Area

Pallid bat (*Antrozous pallidus*); CDFW-CSSC, TNF-S. The pallid bat occurs throughout California with the exception of the northwest corner of the state and the high Sierra Nevada. It is a colonial species with colonies ranging in size from a few individuals to over a hundred, but usually consisting of at least 20 individuals. Pallid bats are most commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting, and typically use separate day and night roosts. After mating during the late fall and winter, females and males share a common wintering

roost, usually along a canyon bottom where temperatures are relatively stable and cool, and then females leave the common winter roost in early spring to form maternity colonies, often on ridge tops or other warmer locales. Maternity colonies in California may be active from May to October. This species may occur within the Lacey Meadow system and surrounding watershed, and the larger lodgepole pine trees and snags surrounding Lacey Meadows may provide suitable roosting sites.

Sierra Nevada Snowshoe Hare (*Lepus americanus tahoensis*); CDFW-CSSC, TNF-S. In California, the Sierra Nevada snowshoe hare is primarily found in montane riparian habitats with thickets of alders and willows and in stands of young conifers interspersed with chaparral. The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges and especially near meadows. Several records of this species have been reported in the Webber Lake Watershed, and suitable habitat for the species occurs in scattered locations that have dense willow cover, primarily limited to the southern end of Lower Lacey Meadow and scattered locations in Upper Lacey Meadow. Early seral lodgepole pine stands around the lower margins of Lower Lacey Meadow also could provide suitable habitat for this species.

Sierra marten (*Martes americana sierrae*); TNF-S. The Sierra marten is a subspecies of American marten with an elevational range from 3400 to 10400 ft. It occurs throughout much of its historic range from Trinity and Siskiyou counties east to Mount Shasta, south through the Cascade and Sierra Nevada mountain ranges to Tulare County. Mesocarnivore surveys conducted in the Sierra Nevada from 1996 to 2002 reported Sierra martens in a variety of counties, including Sierra County. In the Sierra Nevada, martens prefer old growth fir forests and high elevation riparian-lodgepole pine associations. Breeding occurs in July or August. Pups typically are born in March or April. Martens will use a variety of structures for dens, including tree cavities, snags, stumps, downed logs or woody debris piles. Within its preferred habitat types (e.g., red fir forest, lodgepole pine forest), Sierra martens tend to avoid open areas, like meadows, but meadow-forest ecotones and riparian areas are preferentially used for hunting and travel. This species is known to occur within the Webber Lake watershed, and suitable den sites may occur in the lodgepole forest surrounding Lacey Meadows. The TNF also has reported multiple Sierra marten observations either within, or immediately adjacent to, the proposed project site.

Northern Goshawk (*Accipiter gentilis*); CDFW-CSSC, TNF-S. The northern goshawk is a medium-sized raptor that nests and forages primarily in mature montane coniferous forest with large diameter trees and high canopy closure. It sometimes nests and forages in mature aspen stands and will frequently forage along meadow edges or in aspen/willow shrub communities. Primary prey are songbirds and small mammals. This species is known to nest in multiple forested locations within the Webber Lake watershed based on CNDDB and TNF records, and the forested areas surrounding Lacey Meadows provide suitable nesting trees.

Short-eared Owl (*Asio flammeus*); CDFW-CSSC. The short-eared owl breeds and forages in marshes, meadows, and grasslands in northeastern California, on the eastern foothills of the Sierra Nevada south of Lake Tahoe, and in the Central Valley. This species experiences significant range expansions when wet weather conditions result in population explosions of voles, which are a primary prey species of short-eared owls. This species is a ground-nesting, twilight hunter and requires good nesting cover from grassland or marsh vegetation 12 to 20 in height. There are historical records from Sierra Valley to the north and from similar lake-side settings at Mono Lake and June Lake to the south. Short-eared owls were observed on two occasions in Lower Lacey Meadow during 2001, but have otherwise not been observed in Lacey Meadows.

American White Pelican (*Pelecanus erythrorhynchos*); CDFW-CSSC. The American white pelican breeds on protected islands and peninsulas at lakes and marshes in Northeastern California as far south as Lake Tahoe. They use ground nests or floating masses of vegetation and often nest colonially with other species from March through July. This species also travels long distances to forage during the breeding season, and some non-breeding individuals spend the entire summer at good foraging sites. American White Pelicans were routinely seen on Webber Lake and in the lacustrine shrub vegetation and mud flats along the boundary between southern Webber Lake and Lower Lacey Meadow. Some suitable and protected islands of nesting habitat exist, but they not likely extensive enough to support a breeding colony. Nonetheless, it is unknown whether the species is breeding at Webber Lake in very small numbers or simply foraging around the vicinity.

Great Gray Owl (*Strix nebulosa*); CDFW-SE, TNF-S. The Sierra Nevada population of the great grey owl is the southernmost population in North America. Although there have been a number of recent observations of great gray owl breeding in foothill oak/pine savannah settings in California, the majority of the great gray owl population in the Sierra Nevada utilizes meadows for foraging, and nest locations are almost all within 600 feet of a meadow edge. The highly restricted range of the Sierra Nevada great gray owl population and its apparent genetic differentiation from great gray owls elsewhere indicate an isolated and at-risk population. Most breeding locations are known from elevations between 2500 and 8000 feet. Evidence suggests that great grey owls need meadows at least 25 acres in size for persistent occupancy and reproduction, but meadows as small as 10 acres will support infrequent breeding. Great gray owls nest primarily in large-diameter trees with broken tops. Nest sites are almost always in close proximity to meadows, which are used intensively for foraging for voles and other small mammals.

There are a number of historic observations in the TNF, but most important are multiple detections in or near Webber Lake and within the Little Truckee River watershed in the early 2010s. According to TNF records, a pair was located approximately 7.5 miles to the west of Webber Lake in 2012, and surveys in and around the Perazzo Meadows complex, approximately 1.8 miles downstream of Webber Lake, have resulted in multiple great gray owl detections. Additionally, observations of great grey owls in Lower Lacey Meadow during willow flycatcher surveys have been reported. Suitable breeding and foraging habitat for this species exists along the forested boundaries of Lower Lacey Meadow. Upper Lacey Meadow likely does not provide enough suitable meadow habitat in its current condition to support forging habitat for this species, thus nesting around the Upper Meadow is not expected to occur.

California Spotted Owl (*Strix occidentalis occidentalis*); CDFW-CSSC, TNF-S. The California spotted owl is a subspecies of the spotted owl that only occurs in California. It is found on the western side of the Sierra Nevada and very locally on the eastern slope. California spotted owls occur in a wide variety of habitats; although, individuals that occur at high elevations in the Sierra Nevada prefer habitats dominated by conifers. This subspecies is strongly associated with forests that have a complex multi-layered structure, dense canopies, and large-diameter trees. The species is sensitive to disturbance and requires several hundred acres of mature forest for breeding. The presence of large trees (>35.4 inches in diameter at breast height [dbh]) is essential for nesting and roosting habitat, while foraging habitat is more variable and includes both intermediate and old-growth forests. California spotted owls do not construct their own nests, rather they use existing nest structures or cavities in the hollows of trees. The breeding season for California spotted owls extends from mid-February to mid-October. The USFS has reported several Protected Activity Centers (PACs) and owl observations in close proximity to the proposed project site. The forested habitats surrounding Lower and Upper Lacey Meadows provide marginally suitable breeding habitat; although, overall habitat suitability is reduced by the relative lack of large, old trees and forest structure this species tends to prefer for nesting.

Special-Status Plant Species that Could Occur within the Study Area

Davy's Sedge (*Carex davyi*); CNPS-1B.3. Davy's sedge is an erect, clumped, perennial sedge (Cyperaceae family) growing approximately 10 to 15 inches in height. It is found in dry and sparsely vegetated meadows and slopes in upper montane and subalpine conifer forests from roughly 4500 feet to over 10,000 feet in elevation from the central and northern Sierra Nevada north through the Cascades into Washington. Davy's sedge is known to occur within the Lacey Creek watershed. It has been collected near the Webber Lake outlet, and several other observations have been recorded from the surrounding region. Webber Lake populations appear to mark the northern extent of known populations within the Sierra Nevada. CNPS has ranked Davy's sedge on list 1B.3, which indicates that plant is rare, threatened or endangered throughout its range, but not very rare within California.

Subalpine Fireweed (*Epilobium howellii*); CNPS-4.3, TNS-S. Subalpine fireweed (also known as Yuba Pass willowherb) is a wispy, perennial herb in the evening primrose family (Onagraceae) growing 3 to 8 inches high and spreading by short stolons. It is most commonly found growing in wet and boggy areas within the Sierra Nevada from roughly 6600 feet to nearly 9000 feet in elevation. It has since been found in numerous locations throughout the Sierra Nevada and is now known to occur in at least 23 different 7.5 minute USGS topography quadrangles ranging from Webber Peak in the north south to areas in the Sierra National Forest east of Fresno in the south. Subalpine fireweed is likely to occur within the Lacey Creek watershed with at least a dozen collections made within 5 miles of Webber Lake, and is also known from numerous collections within the surrounding region. CNPS has placed sub-alpine fireweed on list 4.3, its lowest rarity ranking, indicating that it is uncommon in California but not very endangered; subalpine fireweed also is a TNF Sensitive species.

Rayless mountain ragwort (*Packera indecora*); CNPS-2B.2. Rayless mountain ragwort is an herbaceous perennial (family: Asteraceae) that can grow up to 3 feet in in height. It is found in meadows, along seeps, and in other mesic to wet areas throughout the Sierra Nevada from approximately 5250 feet to 6560 feet in elevation. Within California, the species is known from only six locations scattered in the Cascade Range and the Sierra Nevada. Rayless mountain ragwort was recorded near Webber Lake in 1912; although, the current status of this observation is unknown, suitable mesic to wet meadow habitat occurs within the Study Area. Rayless mountain ragwort has a California Rare Plant Rank of 2B.2, which indicates that the plant is rare or endangered in California but more common elsewhere, and is fairly endangered in California.

Alder buckthorn (*Rhamnus alnifolia*); CNPS-2B.2. Alder buckthorn is a perennial deciduous shrub (Rhamnaceae family) that can grow up to 6.5 feet in height. It is found along stream sides, in seeps, and edges of wet meadows in montane coniferous forests from approximately 4,490 feet to 6,980 feet in elevation. In California, it occurs in the northern high Sierra Nevada. Alder buckthorn is not known to occur within the Lacey Creek watershed, but there are records within 5 miles of the watershed. Alder buckthorn has a California Rare Plant Rank of 2B.2, which indicates that the plant is moderately threatened in California but more common elsewhere.

6.4.3 ENVIRONMENTAL ANALYSIS

Question 6.4a: Have a Substantial Direct or Indirect impact on Special-Status Species? *Less than Significant with Mitigation Incorporated*

Numerous special-status species of wildlife and plants have the potential to occur within or in the vicinity of the Study Area, due to the relatively undisturbed nature of the landscape. However, the

project purpose is to enhance and restore native habitats, which would benefit sensitive species in the long run. In the short term, the project would have short-term construction-related impacts would be relatively minor and temporary (approximately 2 months for each phase).

The following analyzes the proposed project's potential to have a substantial, adverse effect on those special-status species with a potential to occur within the Study Area. Where the magnitude of an impact would differ for different groups of species, either owing to their biology, the ecology of their habitats, or their likelihood of being present, those impacts are described separately.

Direct and Indirect Impacts on Special-status Species

Direct and indirect impacts on species may include: killing or injuring special status wildlife; directly disturbing populations of special-status plants; or altering wildlife behavior in ways that indirectly lead to death or injury. Killing or injuring wildlife species and directly disturbing populations of special-status plants would primarily occur through vegetation removal or ground disturbance during project construction. The operation of heavy equipment also can lead to direct death or injury of wildlife. The presence of construction personnel, construction site refuse, and construction related noise and vibration can alter wildlife behaviors in ways that indirectly lead to death or injury. These and other activities can also attract predators, cause harassment of wildlife, and alter wildlife behaviors in ways that adversely affect sheltering, feeding, and other behaviors that can ultimately lead to injury or death of individuals, including abandonment or predation of dependent young. The magnitude of this impact can vary for different species groups. Thus, the impacts on each group are summarized below.

Meadow and Riparian Dependent Wildlife.

This species group includes the following special-status wildlife species, all of which have either been documented in the immediate vicinity of the project site or are likely to use the project site for breeding and foraging: the black tern, northern harrier, yellow warbler, willow flycatcher, greater sandhill crane, yellow-headed blackbird, short-eared owl, American white pelican, species of common nesting birds, and Sierra Nevada snowshoe hare.

While no occupied willow flycatcher breeding territories were found in either the Phase II or Phase II portion of the Study Area in 2019, suitable breeding habitat remains in the Phase II portion of the Study Area (Lower Lacey Meadow). Further, the areas south of Webber Lake Road in Lower Lacey Meadow, where various elements of Phase II of the proposed project would be constructed (access routes, riffles, log structures), historically supported the largest concentration of willow flycatcher breeding territories in the proposed project vicinity. Although no elements of the proposed project would be directly constructed in the areas potentially being used for greater sandhill crane breeding, Phase II of the proposed project would encroach within approximately 500 feet of this general area. Aside from willow flycatchers and greater sandhill cranes, it is likely, if not certain, that the northern harrier, yellow warbler, and other species of common nesting birds use the willow scrub-shrub and meadow habitats in Lower Lacey Meadow (Phase II), and to a lesser extent in Upper Lacey Meadow (Phase I), for breeding.

The breeding status of other meadow and riparian dependent wildlife species within the Study Area is less certain. Many recorded observations of these other species in the vicinity of the project site are of individual animals; it is unknown whether these animals were breeding in and around the Study Area or simply foraging or traversing through the area. Many of these species generally require wet meadow habitats for breeding, and forage in wet meadows and surrounding habitats. Historically, Webber Lake was operated such that a significant portion of the lake backwatered into wet meadow and willow

scrub-shrub habitats in the northern portion of Lower Lacey Meadow, creating ideal habitat conditions for these species. Within the last 5 to 10 years, these backwater conditions from Webber Lake have become less common, and when they occur, they last for a shorter duration of time. This change in Webber Lake operation may have reduced habitat suitability for many of these species in the Lower Meadow. Further, the Phase I work locations, where disturbance would be more extensive (greater excavation and vegetation disturbance, more extensive use of equipment), are in Upper Lacey Meadow where these species are much less likely to occur or do not occur, because suitable meadow and riparian habitat is more limited.

Implementation of the proposed project could directly affect individual meadow and riparian dependent wildlife species by disturbing and removing meadow and riparian vegetation, thereby injuring or killing individuals and particularly dependent young in nests or dens. In the case of ground-nesting animals, such as the northern harrier and Sierra Nevada snowshoe hare, breeding sites that contain eggs or dependent offspring also could be crushed by heavy equipment, leading to death or injury. The magnitude of these impacts is limited by the relatively small extent of meadow habitat in the areas where ground disturbance would occur and by the limited extent of willow stands and other riparian vegetation that would need to be trimmed or removed as part of the proposed project. Within Upper Lacey Meadow (Phase I), the magnitude of this impact would be less due to the relatively more limited extent of meadow and riparian habitat in Upper Lacey Meadow, compared to Lower Lacey Meadow (Phase II).

Project construction activities would also involve a greater level of human activity, compared to the current levels of disturbance associated with recreation and livestock grazing use of the project site. In addition, the presence of construction equipment would create noise, vibrations, and similar disturbances to which wildlife in the project site are not habituated, which could lead to breeding site abandonment, failure, or forced fledging of dependent young. Trash and refuse associated with construction personnel could attract predators (such as common ravens and crows) to the project site, and the increased presence of these predators could indirectly increase predation of eggs and young of special-status wildlife. The direct impacts described above, are likely to occur within both Upper and Lower Lacey Meadow, but the potential magnitude of this impact is greater for Phase II (Lower Lacey Meadow), particularly for species like the greater sandhill crane that are more sensitive to disturbances during breeding.

For the reasons described above, impacts on riparian and meadow dependent wildlife species would be considered **Significant** for both Phase I and Phase II of the proposed project. Implementation of **Mitigation Measures BIO-1**, **BIO-2**, **BIO-6**, **BIO-7**, and **BIO-8** would reduce this impact to a less-than-significant level by increasing awareness among project construction personnel of these species and their habitat needs. In addition, by altering the timing of work, conducting pre-construction surveys, and establishing appropriate avoidance buffers, these measures would minimize, or in most cases avoid, direct and indirect impacts of the proposed project on meadow and riparian dependent wildlife.

Forest Dependent Wildlife.

This species group includes the following special-status wildlife species: bald eagle, great grey owl, California spotted owl, northern goshawk, Sierra marten, and pallid bat. All of these species use larger trees in old forests for nesting or denning. Recent observations of the bald eagle have been recorded in close proximity to the Phase I impact areas, and Sierra marten have been recorded in, or immediately adjacent to, both the Phase I and Phase II impact areas. Additionally, numerous observations of the northern goshawk and California spotted owl PACs have been recorded in the Webber Lake watershed,

surrounding both the Phase I and Phase II impact areas. Further, the project site supports larger trees that could provide suitable nesting habitat for these species. Similarly, both the pallid bat and great grey owl are known to occur in the vicinity of the Study Area, and the presence of both wet meadow habitat and adjacent forests with larger trees provides ideal nesting/roosting and foraging habitat for these two species. Common migratory birds also would be expected to nest throughout forested habitats within and surrounding the impact areas.

The proposed project would involve the removal of some trees for use in creating log structures in Lacey Creek. Additional trees and shrubs would be removed, particularly in the Phase I Disturbance Area (Figure 3), to construct temporary access roads. It should be noted that all tree removal would be covered under the THP obtained by TDLT, including the CEQA compliance provided by the THP. Trees and shrubs that are removed could support dens, nests or roosts of various wildlife species, and tree and shrub removal could result in the death of, or injury to, individuals occupying these dens, nests, or roosts. Similarly, as described above for meadow and riparian wildlife species, the presence of construction personnel and construction equipment as well as the noise, vibrations, and refuse associated with construction activity also may lead, indirectly, to the death or injury of forest dependent wildlife species, including dependent young, through nest abandonment, forced fledging, increased predation, and similar factors. Species nesting or denning in close proximity to the Phase I and Phase II impact areas (i.e., within several hundred feet) are particularly susceptible to these impacts.

For the reasons summarized above, this impact on forest dependent wildlife species is considered **Significant** for both Phase I and Phase II of the proposed project. Implementation of mitigation measures **BIO-1**, **BIO-2**, **BIO-6**, **BIO-7**, and **BIO-8** would reduce this impact on forest dependent wildlife, including special-status species, to a less-than-significant level by increasing awareness among project construction personnel of these species, their habitat needs, and protection measures as well as by minimizing, or in most cases avoiding, the potential for forest dependent wildlife to be directly (e.g., killed, injured) or indirectly (e.g., through modification of behaviors in ways that result in injury or mortality) adversely affected by the proposed project through work timing or surveys and appropriate avoidance buffers.

Rare Plants.

The rare plants most likely to occur within the proposed Phase I and Phase II impact areas are Davy's, Subalpine fireweed, rayless mountain ragwort, and alder buckthorn. Excavation, grading, construction of temporary access roads, and other construction activities could cause the death of individual plants, or the loss of populations within work areas through crushing, excavation, and similar impacts. This impact is considered **Significant** for both Phase I and Phase II of the proposed project. Implementation of Mitigation Measures **BIO-1**, **BIO-9** and **BIO-10** would reduce this impact to a less than significant level by increasing awareness among project construction personnel of these species, their habitat needs, and protection measures and by ensuring that any individuals or populations occurring in work areas are fully avoided or relocated and successfully established in suitable nearby habitats not impacted by the proposed project.

Adverse Modification of Special-Status Species Habitat.

While the long-term net effect of the proposed project on habitat for special-status species would be beneficial, some amount of vegetation removal and ground disturbance would occur during construction of access roads, excavation of pilot channels, installation of log structures, and during the construction of other proposed project elements. Depending on the magnitude of these disturbances,

the habitat values of the affected areas could be significantly reduced, or eliminated, at least in the short term until habitat is naturally regenerated or restored through active planting and subsequent maintenance to ensure that plants become successfully established and self-sustaining.

In addition, ground disturbance and vegetation removal could create areas of bare ground that could be colonized by invasive plants, and the use of heavy equipment within the proposed project site could result in, or exacerbate, the introduction and spread of invasive plants on bare, disturbed areas. Few species of invasive plants currently occur in the proposed project site, but the introduction and spread of these species through construction activities could reduce or eliminate habitat values for special-status species, particularly species of rare plants, through competition for space, light, and soil nutrients.

For these reasons, this impact is considered **Significant** for both Phase I and Phase II of the proposed project. Implementation of mitigation measures **BIO-3**, **BIO-4**, and **BIO-5** would reduce this impact to a less than significant level by minimizing areas of habitat disturbance and preventing the introduction and spread of invasive plants on the project site as well as by ensuring that disturbed areas are revegetated with native species.

Destruction or Adverse Modification of USFWS-Designated Critical Habitat

No designated critical habitat for the Sierra Nevada yellow-legged frog or any other USFWS-listed species exists within the Study Area; therefore, there would be **No Impact** to designated critical habitat and no mitigation is required.

Question 6.4b: Have a Substantial Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community and Question c) Have a Substantial Adverse Effect on State or Federally Protected Wetlands? *Less than Significant with Mitigation Incorporated*

The proposed project is intended to restore the historic riparian, aquatic, and wetland functions of Lacey Creek and Upper and Lower Lacey meadows. Although the long-term, net impacts of the proposed project would be beneficial for the creek and associated meadows, temporary disturbances to the bed and bank of Lacey Creek would occur under both Phase I and Phase II. For example, impacts would occur when installing log structures or constructing riffles, and areas of riparian willow scrub-shrub and meadow habitat may need to be removed to construct temporary access roads, excavate pilot channels, and during construction of other elements of both Phase I and Phase II of the proposed project. Additionally, short-term alteration of the timing and quantity of water flowing through Lacey Creek would occur, and temporary degradation of water quality through increased sedimentation and other mechanisms, would occur in some locations throughout the proposed project site during construction. Aside from these temporary impacts and disturbances during construction, permanent fill, in the form of constructed riffles within the Lacey Creek channel, would be placed in a few isolated locations. Under Phase I, additional permanent fill would be placed in Lacey Creek in Upper Lacey Meadow to divert the creek from its current, modified channel back into its historic, natural channel.

The bed and bank of Lacey Creek and riparian areas are subject to regulation by CDFW under Section 1600 et seq. of the California Fish and Game Code and by the Lahontan RWQCB under both Section 401 of the CWA and under Porter-Cologne. Additionally, Lacey Creek and associated wet meadow and riparian wetlands may be determined to be waters of the United States and protected under Section 404 of the CWA. Both temporary and permanent impacts on streams, riparian areas, and wetlands are regulated under these various laws. Therefore, this impact is considered **Significant** under both Phase I and Phase II.

Implementation of Mitigation Measures **BIO-3**, **BIO-4, BIO-5**, and **BIO-11** would reduce this impact to a less than significant level by revegetating bare areas (e.g., to discourage erosion and sediment input to Lacey Creek), minimizing the introduction and spread of invasive plants, and ensuring that the loss of wetland, stream, and other aquatic habitats is fully mitigated pursuant to relevant California and federal laws. Additionally, other mitigation measures to minimize soil erosion and protect water quality in Lacey Creek during project construction, described below under *Hydrology and Water Quality*, would further reduce the significance of this impact.

Question 6.4d: Interfere substantially with the movement of any native resident or migratory fish or wildlife species, established wildlife corridors, or impede the use of native wildlife nursery sites? *Less than Significant with Mitigation Incorporated*

Wildlife movement corridors consist of areas of undisturbed vegetation that interconnect separate areas of habitat. Riparian areas, in particular, are important for maintaining terrestrial wildlife movement, as these areas provide cover, water, and other wildlife habitat elements, and owing to their linear nature along creeks and streams, provide natural interconnections among non-adjacent areas of wildlife habitats. The proposed project site includes creeks and riparian areas as well as open meadows and adjacent forested areas that are part of an extensive, unfragmented and undeveloped semi-wilderness landscape, with only limited human presence and disturbance. Construction of the proposed project would cause temporary disturbance to riparian vegetation in limited locations. In addition, the presence of construction workers and equipment, and the resultant construction-related noise and vibration and temporary vegetation disturbance, could temporarily deter wildlife movement through the Study Area. However, wildlife would have ample opportunities to traverse through adjacent, undisturbed areas outside the impact areas. The magnitude of temporary loss or reduction of wildlife movement through the impact areas, compared to the movement opportunities remaining in the surrounding landscape, would be very small. Therefore, the impact of both Phase I and Phase II of the proposed project on terrestrial wildlife movement corridors is considered **Less than Significant** and no mitigation is required.

Streams and creeks also provide migration corridors for native fishes. Although nonnative game fish, such as brook trout and rainbow trout, are commonly observed in Lacey Creek throughout the proposed project site, it is possible that native fishes, such as Lahontan speckled dace (*Rhinichthys osculus robustus*) or Paiute sculpin (*Cottus beldingii*), also could occur in stream channels within the Study Area. Construction of Phase I of the proposed project would include rerouting Lacey Creek in Upper Lacey Meadow out of its current channel and into its historic channel. Rerouting the channel would require abandonment of portions of existing Lacey Creek in the upper meadow, potentially stranding any native fishes downstream in the dewatered reach, and disrupting or eliminating migration corridors for stranded individuals. Because Lacey Creek, particularly in Lower Lacey Meadow, can become ephemeral during the period when project work would be undertaken, with water persisting only in isolated pools, extensive channel dewatering is unlikely to be required for construction of the proposed project in the Lower Meadow; however, small areas of Lacey Creek may need to be dewatered in Lower Lacey Meadow (i.e., during Phase II), potentially stranding any native fishes that occur downstream of dewatered reaches. Where stream dewatering or channel abandonment would occur, this impact would be **Significant** in both Phase I and Phase II of the proposed project. Implementation of Mitigation Measure **BIO-12** would reduce this impact to a less than significant level by capturing and translocating native fishes from dewatered stream reaches into nearby stream reaches that would not be affected by the proposed project.

Regarding wildlife nursery sites, as described above under *Question a)*, the proposed project could directly or indirectly alter habitat suitability and wildlife behaviors in ways that either could permanently eliminate nursery sites (e.g., by removing trees used as bat maternity roosts or Sierra marten dens) or could cause adverse effects on nursery sites through premature abandonment or other factors (e.g., for nests of common raptors or other, common migratory birds). This impact is considered **Significant** under both Phase I and Phase II of the proposed project. Implementation of Mitigation Measures **BIO-6** through **BIO-8** would reduce this impact to less than significant levels by preventing the elimination of, and disruption to, native wildlife nursery sites.

Question 6.4e: Conflict with any Local Policies or Ordinances Protecting Biological Resources? *No impact*

The proposed project would be consistent with all local Nevada County and Sierra County ordinances related to the protection of biological resources, because in the long term, implementation of the proposed project would be beneficial for biological resources in the Study Area by enhancing stream, riparian, and meadow habitats. Therefore, there would be **No Impact** related to conflicts with local policies or ordinances under either Phase I or Phase II of the proposed project, and no mitigation is required.

Question 6.4f: Conflict with the Provisions of an Adopted Habitat Conservation Plan, Natural Community Conservation Plan, or Other Habitat Conservation Plan? *No Impact*

There are no adopted habitat conservation plans or natural community conservation plans that include the Study Area. Also, for the small portion of the proposed Study Area that is located on USFS land, the proposed project is consistent with the standards and guidelines of SNFPA and, ultimately, would positively contribute toward attainment of the SNFPA's riparian conservation objectives. Therefore, there would be **No Impact** related to conflicts with adopted conservation plans under either Phase I or Phase II of the proposed project, and no mitigation is required.

Recommended Mitigation Measures

The following mitigation measures shall be implemented for both Phase I and Phase II of the proposed project.

Mitigation Measure BIO-1: Provide Worker Environmental Awareness Training

TRWC shall ensure that a qualified biologist develops and provides a comprehensive worker environmental awareness training for the project. The training shall describe the biology and ecology of the special-status species that are known to occur, or that could occur, in the Study Area; describe ways to identify these species and their habitats; depict known or potential locations of these species and their habitats within the Study Area; and describe the actions to be implemented by the project to minimize or avoid impacts on these species during project construction. Additionally, the training shall describe procedures to halt work and provide immediate notification to a qualified biologist in the event that special-status species are unexpectedly observed by construction personnel during project activities; the qualified biologist, working with TRWC, and in coordination with CDFW and/or USFWS as appropriate, shall determine the appropriate course of action to avoid impacts on special-status species. All project personnel shall complete the environmental awareness training prior to beginning work on the project site, and TRWC shall maintain a training log or similar proof that all appropriate personnel have completed the training as described above.

Mitigation Measure BIO-2: Collect and Remove Refuse

To avoid attracting predators on special-status species to the project site, TRWC shall ensure that all construction refuse, food wrappers, disposable beverage containers, and similar trash and refuse is immediately disposed of at designated locations; that onsite refuse disposal containers be wildlife and bear proof, and remain covered and protected prior to removal from the project site; and that all refuse is removed from the project site and disposed of at an approved landfill or similar authorized disposal site on a daily basis throughout project construction.

Mitigation Measure BIO-3: Minimize Vegetation Disturbance

TRWC shall ensure that areas of ground and vegetation disturbance are minimized during project construction. Access routes shall be sited and constructed to minimize vegetation disturbance and removal; particularly for large trees and snags equal to or greater than approximately 18 inches diameter at breast height, shrubs, and wet meadow vegetation. If access routes are required through wet meadows, meadow mats or similar protective measures shall be implemented by TRWC to minimize ground disturbance, compaction, rutting, and similar impacts on wet meadow vegetation and soils.

Mitigation Measure BIO-4: Revegetate Areas of Ground Disturbance

Immediately following completion of project construction, TRWC shall ensure that all areas of ground disturbance are temporarily stabilized (per the requirements of the SWPPP to be obtained) and revegetated with native species adapted to growing conditions on the project site. Mulch or similar erosion control materials that are free of invasive plant propagules shall be used to protect revegetation sites and minimize erosion. Revegetation requirements shall be incorporated into the final engineer's construction plans and specifications for project construction, and TRWC shall ensure that all measures are implemented as described on the plans at the conclusion of project construction.

Mitigation Measure BIO-5: Inspect and Clean Construction Equipment

TRWC shall ensure that all construction equipment is inspected when first brought onto the project site and cleaned to remove soil or other materials potentially containing weed propagules. Areas where construction equipment is inspected and cleaned shall be located and maintained to prevent runoff, erosion, and similar impacts on surrounding, undisturbed areas. These measures shall be incorporated into the final engineer's construction plans and specifications for project construction, and TRWC shall ensure that all measures are implemented as described on the plans throughout project construction.

Mitigation Measure BIO-6: Observe Special-status Wildlife Work Windows

TRWC shall time all project activities, to the maximum extent practical, to occur during periods when special-status wildlife would not be adversely affected. If project activities are timed to occur outside the periods of time listed below for each species, implementation of Mitigation Measures BIO-7and BIO-8 shall not be required for that (those) species. However, if project activities cannot be so timed, TRWC shall implement Mitigation Measures BIO-7 and BIO-8 described below for those species. Additionally, TRWC shall implement Mitigation Measures BIO-7 and BIO-8 for the Sierra marten and pallid bat, as there are no work windows within which dens or roosts of these species are feasibly avoided.

- Bald Eagle: Feb 15 – August 15
- Northern Goshawk: February 15 – September 15
- California Spotted Owl: March 1- August 15
- Willow Flycatcher: June 1 – August 31
- All Other Species of Birds: March 1 – August 31
- Sierra Nevada Snowshoe Hare: March 1 – July 15

Mitigation Measure BIO-7: Conduct Special-status Wildlife Pre-construction Surveys

Prior to initiation of project construction, TRWC shall ensure that a qualified biologist completes pre-construction surveys for those special-status species that may occur in or around the areas within which each phase of the proposed project would occur and that would have the potential, based on their breeding phenology and planned work schedule, to be adversely affected. Surveys shall follow the guidelines and requirements of CDFW, USWFS, and/or USFS, in terms of survey methods, area, timing, and frequency. If formal survey guidelines do not exist for any species, the qualified biologist shall coordinate with CDFW, USFWS, and/or USFS (as appropriate), to determine survey methods and guidelines. Surveys shall occur in suitable habitats for each species throughout the Study Area and in surrounding areas. The distance surrounding the project site to be surveyed, if not included in formal agency guidance, shall be determined by the qualified biologist based on the nature of planned project activities, the magnitude of disturbance associated with those activities, and each species' sensitivity to disturbance. In determining sensitivity to disturbance, the qualified biologist shall evaluate the presence of surrounding vegetation, topography, and other factors to act as visual or auditory barriers to disturbances from project activities. Following the surveys, the qualified biologist shall prepare a concise summary report describing survey methods, findings, and recommendations, which TRWC shall provide to the Lahontan RWQCB, CDFW, USFWS, and USFS (as appropriate) at least 7 days prior to construction initiation. TRWC shall provide the survey memo to other public agencies upon request.

Mitigation Measure BIO-8: Establish and Observe Special-status Wildlife Avoidance Buffers

TRWC shall ensure that a qualified biologist establishes appropriately-sized avoidance buffers as needed to protect special-status wildlife found within or near the areas within which each phase of the proposed project would occur. The size of the buffer shall be determined by the qualified biologist, in consultation with CDFW, USFWS and/or USFS (as appropriate), based on the nature and magnitude of project activities, each species' sensitivity to disturbance, presence of visual or auditory buffers between the project site and the species location, and other relevant factors. Buffer boundaries shall be delineated on the project site by TRWC using stakes, poly rope, flagging, silt fencing, or similar means (excepting plastic monofilament netting, which shall not be used) and shall be maintained to deter inadvertent access by construction equipment and construction workers at all times throughout project construction. A qualified biologist, in consultation with CDFW, USFWS, and/or USFS as appropriate, shall be solely responsible for determining when buffers may be removed and project construction equipment or personnel may be allowed inside the buffer.

If buffers cannot be observed, and work cannot be timed to occur when adverse effects on special-status wildlife would be avoided fully, TRWC shall consult with CDFW, USFWS, and/or USFS (as

appropriate) to develop and implement avoidance measures. Examples of these measures include:

- Passively or actively relocating individuals outside the Disturbance Area, where construction-related impacts would not occur, pursuant to a relocation plan developed by a qualified biologist and reviewed and approved by CDFW prior to implementation;
- Allowing work to occur inside the buffer only with a qualified biological monitor present – the biological monitor shall have the authority to halt project activities at any time when the biologist determines that the activities have the potential to adversely affect special-status wildlife;
- Obtaining incidental take authorization under the federal Endangered Species Act or California Endangered Species Act, as appropriate, and implementing the mitigation and conservation measures required by those authorizations.

Mitigation Measure BIO-9: Conduct Surveys for Special-status Plants

TWRC shall ensure that a qualified biologist conducts a focused survey for special-status plants within the Disturbance Area prior to the initiation of construction activities. The surveys shall follow appropriate survey guidelines from CDFW and CNPS and shall occur at the appropriate time of year (i.e., during peak blooming period) to positively identify all species of special-status plants potentially occurring within the Disturbance Area. Following the surveys, the qualified biologist shall prepare a concise summary report describing survey methods, findings, and recommendations, which TRWC shall provide to the Lahontan RWQCB and to CDFW, USFS, or other public agencies upon request.

Mitigation Measure BIO-10: Avoid Special-status Plant Populations

If special-status plants are discovered within the Disturbance Area, the TRWC shall develop a protection and implementation plan and undertake one or more of the following actions:

- Relocate construction actions to fully avoid special-status plant populations;
- Protect special-status plant populations by flagging or delineating the population with construction flagging or fencing and excluding construction activities where total avoidance is feasible;
- Implement protective measures such as access route padding (where appropriate protective mats are placed for temporary construction access in avoidance areas) or other construction methods designed to prevent impacts on special-status plants; or
- Relocate plants to suitable habitat that would not be impacted by the project. If relocation is proposed, TRWC shall ensure that a qualified biologist prepares a detailed relocation plan, in coordination with CNPS, CDWF, USFS, or species experts, describing methods of plant or propagule (e.g., seed) collection, planting techniques, and relocation site maintenance, annual monitoring, and annual reporting requirements to assess relocation success. The plan also shall describe adaptive management measures (e.g., additional relocation site maintenance, supplemental planting of propagules) that TRWC shall implement in the event that the initial relocation effort is not successful (i.e., in the event that the target species of rare plants are not successfully established at the relocation site, as determined through monitoring conducted by a qualified botanist). The relocation plan and copies of all annual

monitoring reports shall be provided by TRWC to the Lahontan RWQCB, and to other public agencies upon request.

Mitigation Measure BIO-11: Obtain All Required Environmental Permits

Because avoidance of the wetlands/waters of the U.S./waters of the state or riparian areas is not practicable, TRWC shall apply for and obtain a CWA Section 404 Nationwide Permit and comply with the current U.S. Army Corps of Engineers (USACE) compensation schedule for any loss of waters of the U.S. TRWC shall work with USACE to ensure that the local, state, and federal "no net loss" of wetlands is properly upheld. In addition, for work within a stream or lake bed, riparian zone, or floodplain, TRWC shall apply for, obtain and comply with a CDFW Lake and Streambed Alteration Agreement. For all activities that trigger a USACE CWA 404 permit, the TRWC shall also apply for, obtain and comply with a Clean Water Act Section 401 Water Quality Certification from the Lahontan Water Board. TRWC shall be responsible for ensuring compliance with each permit, including any permit-required compensatory mitigation, monitoring, and reporting.

Mitigation Measure BIO-12: Relocate Native Fishes

Within dewatered reaches of Lacey Creek, TRWC shall ensure that a qualified biologist captures and relocates all native fishes using electrofishing, beach seines, or similar methods to capture fish without injury or mortality. Captured fish will be placed in large buckets or large coolers containing cool, oxygenated water and immediately transported and released into the nearest suitable waterbody not affected by the proposed project, which will have been identified and reviewed by a qualified biologist to verify habitat suitability prior to fish capture. Following completion of the relocation effort, the qualified biologist will prepare a brief memo summarizing relocation methods, number and species of native fishes relocated, and the disposition of relocated fish. Representative photographs of the relocation effort, including individual fish captured, the capture site(s), and relocation site(s) along with a map showing the capture and location sites, will be included with the memorandum. The relocation memo will be provided by TRWC to the Lahontan Water Board and may be provided to other public agencies upon request.

6.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

The information contained in this section is taken from a Phase I Archaeological Inventory Report prepared for the proposed project prepared by DZC Archaeology and Cultural Resource Management (DZC), which is provided in **Appendix B** (except for information about the location of cultural resources, which is not revealed to the public to protect the resources).

6.5.1 REGULATORY FRAMEWORK

Federal Laws and Regulations

Prehistoric and historical cultural resources, as well as areas of traditional religious and cultural importance to Native Americans, are protected during federal undertakings under Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended (36 Code of Federal Regulations [CFR] 800), as well as Section 101(d)(6)(A) of the NHPA and through the National Environmental Policy Act (NEPA).

Section 106 requires Federal agencies to consider the impact that any federal undertakings may have on historic properties, and to provide the Advisory Council on Historic Preservation a reasonable opportunity to comment on these potential impacts. Historic properties are defined as any district, site, building, structure, or object that is included or eligible for inclusion in the National Register of Historic Places (NRHP). Eligibility for inclusion in the NRHP is determined based on the following criteria:

> "The quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:
>
> 1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
> 2. That are associated with the lives of persons significant in our past; or
> 3. That embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

4. That have yielded, or may be likely to yield, information important in prehistory or history. (National Register Bulletin, Section II, 1995)"

Cultural resources are considered significant if they are eligible for listing in the NRHP. Project impacts that physically damage or destroy all or part of a significant resource; impacts that that change the character or use of a significant resource; impacts to physical features within a significant resource which contribute to its significance, or introduces visual, atmospheric, or audible elements that diminish the integrity of a significant resource are considered significant impacts to the environment, and steps to mitigate these impacts must be taken.

State of California Laws and Regulations

California Environmental Quality Act (CEQA)

The Lead Agency for this project is the Lahontan Regional Water Quality Control Board (Lahontan). CEQA requires a Lead Agency to determine whether a project may have a significant effect on cultural or historical resources, pursuant to California Public Resources Code (PRC) sections 21083.2 and 21084.1. If it can be demonstrated that a project will cause damage to resources eligible for or listed in the California Register of Historical Resources (CRHR), Tribal Cultural Resources (TCRs), other resources on local County or other local lists, or those determined by the lead agency to be significant, the Lead Agency may require reasonable efforts be made to permit any or all of the resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

Section 21083.2 (g) defines a unique archaeological resource as an archaeological artifact, object, or site about which 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:

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

A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a Lead Agency determines to be historically significant (Section 15064.5[a][3]).

PRC Sections 5024.1, 21083.2, and 21084.1, and Section 15064.5 of the CEQA Guidelines were used as the basic for this cultural resource study. PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below.

According to PRC Section 5024.1 (c) (1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed on or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines, Section 15064.5 [b] [1], 2000). Material impairment is defined as demolition or alteration "in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register…" (CEQA Guidelines Section 15064.5[b] [2] [A]).

Assembly Bill 52 (AB 52) Native American Consultation under CEQA

In 2016, AB 52 amended CEQA to define a new set of resources to be evaluated, Tribal Cultural Resources. AB 52 also requires a consultation process with all California Native American Tribes, including both federally and non-federally recognized tribes that are historically connected and culturally affiliated with the project location for any project that must comply with CEQA. This bill has established the TCR classification and requires consideration of Tribal Cultural Resources in determination of project impacts and mitigation, requires notification of tribes, and requires meaningful consultation.

In accordance with PRC Section 21080.3.2 (b), consultation ends when either or both parties agree to mitigation measures, other agreements to avoid a significant effect on TCR's, or, when a party, acting in good faith and after reasonable effort concludes that mutual agreement cannot be reached. TCR's are discussed in more detail below under Section 6.18: *Tribal Cultural Resources*.

6.5.2 METHODOLOGY

Delineation of the Area of Direct Impacts (ADI), Area of Potential Effects (APE), and Environmental Study Limits (ESL)

To determine the history of past use of the project site, assess what resources are present, and assess the potential for impacts to those resources, three distinct spatial areas have been developed, as described below and shown in **Appendix B**.

Area of Direct Impacts. Physical locations involving any ground disturbing activities are delineated as the Area of Direct Impacts (ADI). The ADI includes areas identified for log placement, riffle installation, grading, water-bar installation, and proposed (but temporary) access roads (Figures 3-4).

Area of Potential Effects. The zone within which impacts to archaeological or historical resources could occur is designated as the Area of Potential Effects (APE). An APE varies depending on the potential impacts of the project, the type of environmental clearance required, and the specific requirements of the Lead Agency. The APE for the proposed project was collaboratively established by the Truckee River

Watershed Council and H. T. Harvey & Associates. It completely encompasses the ADI, plus a 50-foot buffer around the ADI, including all existing access roads (both USFS and privately owned). The horizontal APE measures approximately 2 miles long (north to south) and varies from 40 ft wide to 330 ft wide (east to west). The vertical APE is associated with the engineering and visual elements of the proposed project. The vertical APE for this project is 6 feet above grade and ranges from to 12 inches to 18 inches below grade in most non-paved areas, but extends up to 4 feet below grade in selected areas where excavation would occur.

Environmental Study Limits. A larger zone is defined to encompass some neighboring properties for the purposes of archival and database research efforts. The Environmental Study Limits (ESL) was established by DZC and constitutes a ¼ mile 100-foot radius around the APE to capture resources in the vicinity of the proposed project which may be indirectly affected by the proposed project.

Archival and Database Research

To obtain historical and archaeological background information, archival research was conducted, which included an examination of multiple sources concerning known archaeological sites, historic properties, and historic activities within and/or adjacent to the APE.

It must be noted that key archives were not available at the time of this report due to Covid-19 limitations. Specifically, the Truckee Historical Society and the Old Jail Museum (Truckee, CA.) were inaccessible at this time. DZC contends that additional background information and records, especially regarding historical individuals, may contribute further to this study when again available to the public.

The following repositories and agencies were consulted:

- The California Historical Resources Information System (CHRIS) accessible at the Northeast (NEIC) and North Central (NCIC) Information Centers;
- The Native American Heritage Commission;
- The Washoe Tribe of California and Nevada;
- The Humboldt County Assessor's Office; and
- Tahoe National Forest.

CHRIS Research

A Record Search request was sent to the NEIC and the NCIC of the CHRIS on September 19th, 2020. The search for previously recorded archaeological sites and previous surveys included a ¼ mile ESL around the APE. All correspondence is included in Appendix B.

The following CHRIS resources were evaluated:

- National Register of Historic Places – Listed and Determined eligible Properties (2012)
- California Register of Historical Resources (2012)
- California Points of Historical Interest (2012)
- California Historical Landmarks (2012)
- Directory of Properties in the Historic Property Data Files for Sierra County and Nevada County (2012)
- Handbook of North American Indians, Vol. 8, California (1970)

- Gold Districts of California (2005)

The record and literature search via CHRIS and the NEIC and the NCIC revealed the following recorded cultural resources within the ESL. No resources were identified within the APE.

P-46-000165 (Webber Lake Ranger Station). Originally recorded on 9-20-1976 and described as a "historic log cabin ruin." There is a hand-written note on the site record mentioning that this cabin was "built by the USFS in 1909 as an administrative site and abandoned in 1915." The site consists of the remains of a log cabin, several small trash scatters, three modified Lodgepole pines, a possible privy pit, a cast-iron wood stove in pieces, a possible boiler, and one red chert core. The log cabin construction is of hand-hewn and necked logs of local Lodgepole pines, with shingles used as siding to cover the spaces between the logs, held in place with wire cut nails. A historic refuse deposit is associated with this site.

P-46-000166 (Lacey Valley Petroglyphs). This resource is an extensive prehistoric basecamp and petroglyph site. Twenty petroglyph panels containing a total of approximately 88 elements have been recorded here. The petroglyph panels are distributed over heavily fractured outcrops of glaciated bedrock on the north slope of the rocky knoll. The site also contains a bedrock mortar feature, a sparse lithic scatter of basalt and chert flakes, and formed tool artifacts. The bedrock mortar is situated in a forested saddle to the southwest of the petroglyph outcrop. Lithic materials occur in the vicinity of the bedrock mortar, in a forest opening to the north of the petroglyph outcrop, and a small concentration on the east edge of the rocky knoll. The site area is bordered by meadows and is near a small pond.

P-46-000167 (Bedrock Mortar). This resource is an isolated incipient bedrock mortar situated in a bedrock outcrop near the edge of the meadow.

P-29-000427 (Bedrock Grinding Slick). Small milling slick (24 cm x 19 cm) within a bedrock outcrop at the edge of the meadow and no associated artifacts.

P-46-00714 (Ridenger Dairy). This resource is a small wooden structure in a state of partial decay (broken window, partially missing floors and walls). Originally utilized to supply milk to Webber Lake Hotel guests during 1920's and 1930's and in more recent times by sheepherders. Spatial patterning of artifacts reflects activity areas, site is important satellite to Webber Lake hotel and provides archaeological data pertaining to history of the area.

NPS-SG100003281-0000 (The Webber Lake Hotel; CA BERD 685387). The Webber Lake Hotel was built around 1860 by Dr. David Gould Webber in Lacey Valley. The hotel was built off the trail and became a frequent stopping point for travelers and vacationers alike, being advertised in newspapers. There are several buildings noted in the area built by Dr. Webber including a blacksmith shop, warehouse, waystation for taxes for the road, barns, and stables by 1864. In recent years there have been plans to renovate the hotel.

California Historic Landmark No. 421 Henness Pass Road. This winding mountain road extends 107 miles and rises to an elevation of 6,920 feet through scenic mountains, Henness Pass Road is the lowest pass through the Sierra. Henness Pass Road was the primary emigrant trail from Virginia City, Nevada as early as 1849 and the only mountain pass that existed for Henness Pass at the time. During the Gold Rush, this highway served as a supply road for the Comstock silver mines in Nevada. In 1852, Henness Pass Road was a wagon toll road from Nevada to the gold field of California. Between 1860 and 1868, traffic was so heavy at times during its heyday that freight wagons traveled by day and stagecoaches

drove at night. The road continued to be used until the completion of the transcontinental railway in 1868.

Prior Cultural Resource Studies Within the APE And ESL

The record and literature search revealed four previous cultural resource studies having been conducted within the APE:

NEIC-004496. Archaeological and Historical Resources Survey and Impact Assessment for the Webber Lake Sale Timber Harvest Plan, Sierra County, 1992, Drews, M.P.

NEIC-002457. Confidential Archaeological and Historical Resources Survey and Impact Assessment: Coppins Meadow THP, 1996, Timothy J. Livingston.

NEIC-002612. RPF Survey Report for the Coppins Meadow Timber Harvest Plan #2-96-330-SIE (3), Sierra County, California (Incomplete), 1999, Timothy J. Livingston.

NEIC-002716. Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California: Lakewood Timber Harvest Plan, 1999, Dario Davidson.

NEIC-005615. Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale: An Addendum Report to The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality, Tahoe National Forest, 1982, Turner, Arnie L. and Laurel Crittenden.

NEIC-010148. Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties California, 1993, B. Gunderson, TNF.

NEIC-001161; TNF 05-17-764. An Archaeological Reconnaissance of Potential Land Exchanges in the Sierra Valley, Lacey Valley and Independence Lake Areas, Sierra County, California, 1976,L. Payen, TNF.

NEIC-014264. Archaeological Survey Report for the "Webber Campground" Forest Fire Prevention Exemption, Sierra County, California, 2017, Bradfield, D.; North Valley Resource Management.

Previous Cultural Resource Studies within the APE

NCIC-8243. Johnson THP Sec. 7, 2001, David Early.

NCIC-8250. Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties (Number 05-17-764), 1983, Brandy Gunderson.

Cultural Resource Survey Results

The results of archival research, the Sacred Lands Search, previous surveys adjacent to and within the study area, and the environmental context all contribute to an assessment of the sensitivity level for a given project area. Based on the geomorphological and topographic characteristics of the project area, the results of the records and literature search, the age of the soils mapped in the area, and the level of historical disturbance, the APE is considered to have a high potential for buried prehistoric resources and a high potential for prehistoric and historical resources at the surface.

DZC conducted an archaeological survey on August 12, 2020. Transects were executed at intervals of 10 m or less throughout the APE, except for the flood plains where 20 m transects were conducted. Archaeological visibility was good (80%). Constraints to surface visibility varied by location and included occasional poor visibility due to dense vegetation, duff, or leaf litter. Several small areas were inaccessible due to inundation by water. Where visibility was poor the ground surface was scraped clear of to expose the mineral surface and search for cultural resources. Additional observations included contemporary roadside refuse including bottles, cans, and indeterminate metal fragments. None of these items met the threshold of a contextualized historical era artifact and as such were not recorded.

Survey efforts resulted in complete and intensive coverage over 72 of the 77 acres of the APE. Photos characterizing the survey area are included in Appendix B. The survey confirmed that no cultural resources are present within the APE nor the ADI. However, resources are present adjacent to the APE. Based on a spatial analysis, these sites do not appear at risk for inadvertent impacts from project Activities.

Native American Coordination

In accordance with PRC § 5097.91-5097-94, the Native American Heritage Commission (NAHC) maintains a catalog pertaining to places of special religious or social significance to Native Americans. In order to identify if places of religious or social significance exist within the APE, the NAHC was contacted on September 22, 2020 to request a review of their Sacred Lands Files. The NAHC responded by email on October 13, 2020 stating that the Sacred Lands File search indicated the presence of sacred lands within or near the Study Area, and provided a list of individuals to be contacted regarding the proposed project.

PRC § 21080.3.1, subd. (b), declares that California Native American Tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources. As such, persons on the designated contact list maintained by the NAHC were contacted, providing each with a project description, location map, a request to respond with any relevant information, and a request to respond to the Lead Agency within 30 days, should the tribe wish to engage in formal government-to-government Consultation. A Request for Comments was emailed to all parties listed on the NAHC list on October 23, 2020, including:

- Grayson Coney, Cultural Director Tsi Akim Maidu
- Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Darrel Cruz, Cultural Resources Department, Washoe Tribe of Nevada and California

Tribal Historic Preservation Officer (THPO) Cruz replied by email on October 26, 2020, requesting a copy of the archaeologist technical report and, stating that, based on the report findings and review, the Washoe Tribe may request a site visit.

Mr. Cruz stated he was unaware of any sacred resources within the APE but did provide the Washoe name for Lacey Valley, which is dat-sasta da-aw.

Formal government-to-government Consultation, as defined by PRC § 21080.3.1 (a), is the purview of the CEQA Lead Agency. All correspondence regarding Native American coordination is included in Appendix B.

6.5.3 ENVIRONMENTAL SETTING

Prehistoric Overview

The Study Area lies within the ethnographic territory of the Washoe, and adjacent to the Maidu and Sierra Miwok. The following description provides a brief overview of Washoe culture and territory.

The Washoe belong to the family of Hokan speakers, which is a loose family of languages that is found in California, Arizona, and Baja California. As defined by Sapir, the Hokan family includes 3 subgroups: Northern, Californian, and Esselen-Yuman.

The Washoe share their borders with the Mountain Maidu to the northwest, Paiute to the east, Nisenan to the west, and the Miwok to the southwest. Variable estimates have been given about the population of the Washoe at the time of Euro-American contact which range in number from 1,500 to 1,000 individuals. By the 1910 census, a population of only 819 individuals remained.

Modern researchers acknowledge the southern shores of Honey Lake as the northern extent of the Washoe territory, the west fork of the Walker River drainage as the southern edge, the Pine Nut Mountains as the eastern edge, and the western shores of Lake Tahoe as the western edge. They also ranged as far as Mono Lake, the Lower Truckee River, Pyramid Lake, and the foothills of the western Sierra Nevada Mountains.

The primary social structure of the Washoe was the local group, or tribelet, which was headed by a chief and, generally, consisted of 15 households. Households were comprised of seven to ten family members, most often consisting of a husband, wife, children, and extended family members. The Washoe practiced a seasonal subsistence strategy. In the winter, the Washoe occupied lower mountain valleys and subsisted on food that had been dried and stored in previous seasons. In the warmer months, the Washoe would move into the upper Sierra Nevada Mountain valleys. During mild winters, it is possible that the Washoe would remain in their summer villages.

The economy of the Washoe is like that of other California tribes. Their diet was dependent on riverine resources, primarily fish. Fish were caught and consumed year-round in places like Lake Tahoe, Walker Lake, Pyramid Lake, and Honey Lake and their surrounding tributaries.

The onset of Euro-American settlement was devastating to the Washoe way of life. For the first half of the 19th century, the Washoe avoided Euro-American interactions, often retreating into the mountains when they received word of strangers in the region.

Historic Overview

The development of highways, trails, and railroads significantly contributed to settling the west and conveying miners to the gold fields. It also laid the foundation for the economic development of timber and ranching in the Truckee River region and its connection to national and international communities and markets. The following section highlights those themes of economic development within the region which relate to activities and developments in the Lacey Valley.

Trails and Roads

One of the primary roads developed near Lacey Valley area was a wagon road that connected Henness Pass Road (north of Study Area) with Truckee (south of the Study Area). Around 1848 and 1849 the

Henness Pass route was mapped as an easier wagon road that bypassed the Truckee River canyon and was an important route connecting the Comstock mines with the Sierra Nevada mines.

Logging in the Truckee Basin

Historic use of the Truckee region included a thriving logging industry. As the nearest large city, Truckee was the center of logging commerce for production and distribution of wood products, particularly with the Truckee Lumber Company manufacturing furniture, sash and doors, and boxes while still making large shipments of lumber by the 1880s. Products were shipped to southern California, Utah, Texas, and Central America. Lumber companies expanded their businesses to include finished products, such as boxes and doors, which were marketed to communities in the Truckee and Lake Tahoe area, as well as those in Nevada, California, and further abroad. By 1910, most of the timber in the Truckee Basin was stripped except for a few holdings.

Dairies

Large scale dairy ranches in the Truckee Basin flourished from about 1860 until about 1930. Livestock enterprises developed around the stream meadows and logged tracts that provided temporary feed. Many dairy businesses produced and shipped products, especially butter, well beyond the Truckee basin. Mining camps, and later lumber camps and sawmills, were a ready market for milk, cheese, and butter. When the summer pasture and water began drying up, foothill ranchers drove their stock up a variety of mountain trails, one of which was the "Colfax grade" (which became Highway 40/I-80) to the alpine meadows. In October, stock was driven back down.

Ranching and Agriculture

By 1866, thirty-two ranches, including way stations, were in Smith's Neck, Dog Valley, Sardine Valley, and along the Henness Pass and Dutch Flat and Donner Lake wagon roads. Several thousand head of sheep and cattle were grazed on private and railroad-owned lands in the vicinity of Truckee around that time. These mountain ranch lands (of both dairy and beef/sheep operations) were also cultivated, and produced primarily hay, barley, oats, and wheat from about the 1860s through the early 1900s. Sheep grazing was a major operation in the 1850s, when more than 500,000 sheep crossed Nevada on their way to California markets. By the 1860s the trend had reversed, as millions of California sheep were driven to the mining camps of the Great Basin and railheads in the plains. Most of the herding was done by Basque shepherds. Many young Basque men from Spain and France had emigrated in search of better job opportunities and found work as herders in the sheep industry in the western United States; some eventually acquired herds of their own.

Dr. David Gould Webber

Dr. David Gould Webber was born in Livingstone County, New York on September 12, 1809 to Scottish Irish parents William Webber and Susanna Gold. In 1843, his wife passed away and by 1849 with gold being discovered by John Marshall at Sutter's Fort the previous year Dr. Webber left to the frontier with his children.

Dr. Webber was known as a frontier doctor, often mending broken bones of miners, trappers, and others that came by his hotel. By 1852 he began purchasing land near Webber Lake, and by 1854 built a ranch on the property. It was not until 1860 that the current Webber Lake Hotel that he would become known for would be built and become a regular stop on the Henness Pass. Local accounts indicate that it was Webber himself that stocked the lake with fish, leading many to come to fish and hunt for deer,

mountain lion, bear, and other animals. He would go on to have a soft spot for many of the orphaned or abandoned children in the area, adopting or supporting them by paying for education even until college.

6.5.4 ENVIRONMENTAL ANALYSIS

Questions 6.5a and 6.5b: Cause a substantial adverse change in the significance of a historical or archaeological resource pursuant to §15064.5? *Less than Significant with Mitigation Incorporated*

No prehistoric or historic resources, as defined by CEQA, were found within the APE, but four resources (LV-01, LV-02, LV-03, and LV-04) were identified within or near to the Disturbance Area. Thus, impacts to these resources could occur as a result of implementing the proposed project. It is also possible that as yet undiscovered resources may inadvertently be discovered during project construction. Therefore, this impact is considered significant. To reduce this impact to less-than significant, implement **Mitigation Measures CUL-1, CUL-2, and CUL-3**.

Mitigation Measure CUL-1: Provide Cultural Resource Sensitivity Training

Prior to initiating any ground disturbing activities, TRWC or its contractors shall ensure that all workers are provided with archaeological sensitivity training by a qualified archaeologist. The training shall include the identification of archaeological materials that could be present on the project site, and what to do if such materials are discovered. Training will be documenting using a sign-in sheet or similar method.

Mitigation Measure CUL-2: Erect Fencing Around Known Cultural Resource Sites

Prior to initiating any ground disturbing activities, TRWC or its contractors shall erect fencing around the cultural resources identified as LV-01, LV-02, LV-03, and LV-04 in the report Phase I Archaeological Inventory Report for the Lacey Meadows Restoration Project, Sierra and Nevada Counties, California. An appropriate buffer distance shall be determined by a qualified archaeologist, who will also oversee the erection of the fencing. This fencing shall remain intact during the entire time when construction in the vicinity of the resources is ongoing.

Mitigation Measure CUL-3: Inadvertent Discovery of Historic or Archaeological Resources During Construction

If signs of an archeological site are uncovered during grading or other construction activities, such activities shall cease within 100 feet of the find. The Lahontan Water Board shall be notified of the discovery and a professional archeologist shall be retained by TRWC to evaluate the find, determine the significance of any finds, and recommend appropriate mitigation measures. Such measures shall include the measures contained in Section 15126.4 of the CEQA Guidelines, including avoidance, covering in place, and documentation. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed.

Implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3 would protect any previously unidentified cultural resources identified during project construction, by requiring sensitivity training for all construction personnel and by halting of construction upon the discovery of any previously unidentified cultural materials, until protective measures have been completed, and would thus reduce this impact to a less-than-significant level.

Question 6.5c) Disturb any human remains, including those interred outside of formal cemeteries? *Less than Significant with Mitigation Incorporated*

Despite the shallow nature of excavation that would occur, there is a remote possibility that an unanticipated discovery of human remains could occur during construction of the proposed project. This impact is considered significant. To reduce this impact to less than significant, implement **Mitigation Measure CUL-4**.

> **Mitigation Measure CUL-4: Discovery of Human Remains**
>
> If human remains are encountered during future construction, it is required that work stop immediately in that area and notification be made to either the Sierra County Coroner or the Nevada County Coroner, depending on which county the finds are made in (CCR 15064.5(e) (1) (A); HSC Sec.7050.5). If the coroner determines the remains to be Native American, the Coroner shall contact the NAHC within 24 hours and collaboratively determine the Most Likely Descendant (CCR 15064.5(e)(1)(B)

Implementation of Mitigation Measure CUL-4 will ensure that any human remains found during construction are handled according to State law and with appropriate sensitivity, and would thus ensure that this impact is less than significant.

6.6 ENERGY

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			X	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				X

6.6.1 ENVIRONMENTAL SETTING

The Sierra Business Council, supported by Pacific Gas & Electric and in collaboration with Sierra County, prepared the Sierra County Energy Action Plan (Sierra EAP) in 2016 (Sierra Business Council 2016). The Sierra EAP is a roadmap for expanding energy-efficiency, water-efficiency and renewable-energy efforts already underway in Sierra County. It recommends goals, strategies, and actions that support the efforts of residents and business owners in unincorporated Sierra County to increase their energy efficiency, increase their generation and use of renewable energy and reduce water waste. The EAP addresses energy use from two sources, electricity and propane, for three sectors (residential, commercial, and municipal). Notably, the EAP does not quantify emissions related to construction activities, and does not include any goals, strategies, or actions to address these activities.

The Sierra Business Council, supported by Pacific Gas & Electric, prepared the Nevada County Energy Action Plan (Nevada EAP) in 2019 (Sierra Business Council 2019). This plan is organized similarly to the Sierra County EAP. It evaluates current energy use with Nevada County by energy use sector, and

recommends goals, strategies, and actions that support the overall plan goal of accelerating energy efficiency, water efficiency, and renewable energy efforts already underway in Nevada County. Similar to the Sierra EAP, the EAP does not quantify emissions related to construction activities, and does not include any goals, strategies, or actions to address these activities.

6.6.2 ENVIRONMENTAL ANALYSIS

Question 6.6a: Less-than-significant Impact. Construction of each phase of the proposed project would involve a very small and very short-duration use of diesel energy to power (approximately 8 weeks) and a limited number of pieces of construction equipment. Once construction is completed, there would be no on-going energy use. Implementation of Mitigation Measure AQ-1 would ensure that the equipment being used would meet CARB emissions standards. These standards would also ensure that this equipment would be energy efficient. Therefore, this impact is considered less than significant and no mitigation is required.

Question 6.6b: No Impact. Construction of the proposed project would involve only a small amount of energy use over a short period of time. The EAP provides guidance for energy efficiency within Sierra County. Neither the Sierra EAP nor the Nevada EAP addresses construction-related energy use, so the proposed project would not conflict with implementation of either plan. Therefore, this impact is considered less than significant, and no mitigation is required.

6.7 GEOLOGY AND SOILS

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

6.7.1 ENVIRONMENTAL SETTING

The Lacey Meadows watershed is characterized by a dynamic period of Tertiary volcanic activity that occurred between 5 and 24 million years ago, followed by a more recent period of glaciation and erosion. The watershed is dominantly underlain by volcanic rocks, with total absence of exposed Cretaceous granitics that are found in much of the Sierra Nevada. Additionally, a small portion of the watershed is underlain by Cretaceous metamorphosed marine sediments. (Balance 2013)

The soils mantling the watershed generally reflect the underlying geologic units from which they developed. Much of the uplands and steeper slopes include soils derived from volcanic tuffs and mudflows. Lower portions of the watershed include soils weathered from glacial deposits and alluvium and wetland soils. The more prominent soil types associated with the meadows or areas of disturbance in the uplands include the Waca Series, Ahart-Waca Series and Meiss Series, which are characterized as gravelly sands with moderate to high erosion potential. Other steep terrains in the watershed include exposed rock outcrops of volcanic and meta-volcanic origin such as soil types: a) Rock outcrop, metamorphic-tinker-cryumbrepts (MM), b) rock outcrop, metamorphicwoodseye complex (MN) and, c)

rock outcrop-volcanic (VR). As Lacey Creek exits these steeper areas and crosses glacial moraine deposits adjacent to and upstream of Upper Lacey Meadow, soils transition to the Tallac and Celio Series; sandy loams weathered from glacial deposits and alluvium. (Balance 2013)

Standards and guidelines published by the Society of Vertebrate Paleontology show that sedimentary rock units with a high potential for containing significant nonrenewable paleontological resources are those within which vertebrate or significant invertebrate fossils have been determined to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and those which add to the existing body of knowledge in specific areas, stratigraphically, taxonomically, or regionally. No sedimentary rock units are known to exist within the Study Area.

6.7.2 Environmental Analysis

Question 6.7a: Less-than-significant Impact. The proposed project does not involve the construction of any habitable structures. Further, it would not change site conditions so as to create an increased risk, either directly or indirectly, of substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, or landslides for the few structures on the north side of Webber Lake. Therefore, this impact is considered less than significant, and no mitigation is required. The Study Area is not located in an identified Alquist-Priolo Earthquake Zone (California Department of Conservation 2020b).

Question 6.7b: Less-than-significant with Mitigation Incorporated. The project would not result in a significant long-term loss of topsoil. The highest long-term potential for erosion from the proposed project is in locations where project actions would alter flows in selected channel segments. This erosion could occur as these channel segments readjust to the changes in flow. However, in high flow channels, the proposed project could result in reduced sediment transport, as the newly restored channels would have greater access to their floodplain, restoring the natural overbank sediment deposition process and reducing in-channel erosion. Long-term vegetation vigor in the Disturbance Area is also expected to increase, thereby also reducing the potential for erosion.

However, there is potential for a short-term increase in soil erosion during construction. Specifically, soil erosion could increase through excavating fill to block off selected creek channels, placing fill in the selected creek channels, repairing headcuts within the active channel of Lacey Creek, use of existing access routes by heavy equipment, and by developing temporary access routes across meadows and staging areas.

Although implementation of the proposed project is expected to result in a long-term reduction in soil erosion within the Study Area, some soil erosion could occur until the system adjusts to the new flow conditions. This impact is considered significant. To reduce this impact to less than significant, implement Mitigation Measures BIO-3, BIO-4, BIO-11, and GEO-1.

> **Mitigation Measure GEO – 1: Obtain Coverage under and Comply with the Construction General Permit and Obtain Clean Water Act Section 401 Water Quality Certification**
>
> Prior to initiation of construction, TRWC shall obtain coverage under the State Water Resources Control Board's (SWRCB's) National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities (CGP, Order 2009-0009-DWQ9), and will as part of this coverage develop and implement a

Stormwater Pollution Prevention Plan (SWPPP) that will detail construction Best Management Practices (BMPs) and other measures to prevent erosion. Before and during construction (as appropriate for each measure), TRWC will implement all erosion control requirements contained in the permit.

In addition, TRWC shall obtain Water Quality Certification under Section 401 of the Clean Water Act from Lahontan Water Board.

The CGP and the water quality certification will include BMPs for minimizing impacts to wetlands, waters of the U.S., and waters of the State, as well as measures to minimize soil loss and erosional effects. It is expected that the permits will cover terms to protect water quality related to the following:

- Minimizing the project footprint;
- Limiting the timing of project activities to periods when stream flows are low or non-existent;
- When working in live streams, develop and implement diversion and dewatering plans;
- Minimizing the disturbance of vegetation by confining activities to designated access routes and work sites;
- Revegetating all disturbed areas using native seed mix and mulching with native or certified weed-free materials and incorporating willow stakes as appropriate following construction;
- Detailing site-specific BMPS to retain sediment on site and prevent sediment from reaching waterways;
- Restrict access to disturbed areas until revegetation success criteria are met;
- Saving topsoil during excavation and using it to place on top of fill to aid in revegetation;
- Limiting staging to pre-defined areas;
- Using low ground pressure/rubber tracked equipment to the greatest extent possible;
- Using meadow mats where access routes cross wet areas;
- Using only clean materials if any imports are required;
- Decommissioning all temporary access routes by applying seed to revegetate damaged areas; and
- Monitoring access routes for construction-related sources of erosion.

Mitigation Measures BIO-3, BIO-4, and BIO-11 and GEO-1 would reduce both short-term and long-term erosion by requiring that the project proponent obtain permits from state and federal agencies that would contain terms to minimize erosion and by implementing best management practices that: limit the timing of construction work to times when the stream channels would be dry; and implementing methods to minimize damage to meadows from heavy construction equipment. In addition, Mitigation Measures BIO-3, BIO-4, and BIO-11 would reduce the potential for erosion by minimizing vegetation removal, revegetating where removal is necessary, and obtaining environmental permits which would contain measures to minimize erosion and protect water quality.

Question 6.7c and Question 6.7d: Less-than-significant Impact. The proposed project would not involve the construction of any habitable structures that are dependent on stable soils, but instead involves the installation of small structures composed of trees and boulders. Thus, the project would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction or collapse, nor would it create substantial direct or indirect risks to life or property. This impact is considered less than significant and no mitigation is required.

Question 6.7e: No Impact. The proposed project does not involve the development of any uses that would generate any wastewater, nor does it involve any land uses depending on the use of septic systems. Thus, there would be no impacts related to the suitability of the site for septic or other alternative wastewater disposal systems, and no mitigation is required.

Question 6.7f: Less-than-significant Impact. Excavations were completed on the project site, as part of project design (Hastings pers. comm.). Excavations were made in the upper Lacey Meadow up to 8 feet in depth without encountering bedrock. Excavations were made in Lower Lacey Meadow up to 4.5 feet in depth without encountering bedrock. Excavations as part of the proposed project would typically not exceed 2-3 feet, so it is highly unlikely that any project-related excavation would penetrate bedrock. Therefore, it is unlikely that this work would directly or indirectly destroy a unique paleontological resource or site. No project activities would affect any unique geologic features. Therefore, this impact is considered less than significant, and no mitigation is required.

6.8 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases				X

6.8.1 ENVIRONMENTAL SETTING

The State of California has passed a number of laws and regulations to combat Global Climate Change by reducing the emissions of greenhouse gases, which trap reflected light from the earth and contribute to warming temperatures. Among these are Executive Order S-3-05 (2005), Assembly Bill 32 (2006), and Senate Bill 32 (2016).

Under CEQA, the preparation of a quantitative analysis of GHG emissions is required where it has been determined that project-related emissions would cross a threshold established by the local Air Pollution Control District. The NSAQMD, has not established a threshold for GHG emissions. However, as described above under *Air Quality*, NSAQMD has established a threshold for evaluation of criteria air pollutants, and the proposed project would not exceed that threshold. Further, the proposed project

involves a very limited amount of construction, and would not result in any on-going operational emissions.

As noted above under *Energy*, the Sierra Business Council, supported by Pacific Gas & Electric and in collaboration with Sierra County, prepared the Sierra EAP in 2016 (Sierra Business Council 2016), and prepared the Nevada EAP in 2019 (Sierra Business Council 2019). Neither the Sierra EAP nor the Nevada EAP quantifies emissions related to construction activities, and neither includes any goals, strategies, or actions to address these activities.

6.8.2 Environmental Analysis

Question 6.8a: Less-than-significant Impact. The proposed project includes only very short-term emissions of GHGs during the construction of the proposed project (approximately 8 weeks for each phase), and would involve a limited number of pieces of equipment working during that period. Further, there would be no on-going emissions. In fact, the restoration of meadow habitat could result in a small, long-term decrease in net CO_2 emissions, because wetland habitats provide CO_2 sequestration in the form of increased vegetative growth both above and below ground. Therefore, this impact is considered less than significant and no mitigation is required.

Question 6.8b: No Impact. The proposed project would involve only a small amount of GHG emissions due to project construction. However, neither the Sierra EAP or the Nevada EAP addresses construction-related GHG emissions, so the proposed project would not conflict with implementation of either plan. Therefore, this impact is considered less than significant, and no mitigation is required.

6.9 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?		X		
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?				X

6.9.1 ENVIRONMENTAL SETTING

The project site is in a remote area. The closest developed areas are the town of Sierraville, approximately 17 miles to the northeast, and the Town of Truckee, approximately 20 miles to the southeast. The nearest schools are in the Town of Truckee, and in the town of Loyalton, located northeast of Sierraville (Sierra County Office of Education 2020).

Based on queries of databases of active hazardous waste sites collected by the California Department of Toxic Substances Control (DTSC) and the SWRCB, there are no hazardous waste sites identified within the Study Area (DTSC 2020, SWRCB 2020a).

The closest public or private airports to the Study Area are Sierraville Dearwater Airport, approximately 8 miles north of the Study Area, the Truckee Tahoe Airport, approximately 20 miles from the Study Area.

6.9.2 Regulatory Setting

The California Environmental Protection Agency and the DTSC define hazardous materials as any material that poses a significant present or potential hazard to human health and safety or the environment if released, because of its quantity, concentration, or physical or chemical characteristics. The use of hazardous materials is regulated by federal and state laws, as well as by Sierra County policies. For the purposes of this analysis, hazardous materials include any hazardous materials currently identified on the project site and any materials used in constructing or operating the proposed project.

In addition, this section evaluates impacts related to other potential hazards such as those associated with airports, wildland fires (evaluated in more detail below under Section 5.20 *Wildland Fires*), and interference with an emergency response or evacuation plan.

6.9.3 Environmental Analysis

Question 6.9a: Less-than-significant Impact. Temporary construction activities associated with both Phase I and Phase II of the proposed project would involve the transport and use of limited quantities of certain hazardous substances including gasoline, diesel fuel, hydraulic fluid, solvents, and oils on the project site. Federal and State laws regulate the handling, storage, and transport of these and other hazardous materials, and define mechanisms to respond to and clean up any spills that occur along local and regional roadways.

Chemicals present on site or used for the proposed project would be handled in accordance with applicable Federal, State, and local regulations governing the transport and use of hazardous substances. Therefore, the potential for impacts related to hazardous materials transport, use, or disposal would be considered less than significant and no mitigation is required.

Question 6.9b: Less-than-Significant with Mitigation Incorporated.

Temporary construction activities associated with both Phase I and Phase II of the proposed project would involve the transport and use of limited quantities of hazardous materials including gasoline, diesel fuel, hydraulic fluid, solvents, and oils. Chemicals present on site during project construction would be handled by the contractor in accordance with applicable Federal, State, and local regulations for hazardous substances, and any spills would be immediately cleaned up and disposed of in the appropriate manner. The proposed project site is not listed by any Federal or State database that identifies known hazardous materials sites (DTSC 2020, SWRCB 2020a). Because the potential for an accidental spill of hazardous materials during project construction, this impact is considered significant. To reduce this impact to a less than significant level, implement Mitigation Measures **HAZ-1** through **HAZ-4**.

> **Mitigation Measure HAZ-1: Spill Plans, Spill Notification, and Spill Containment**
>
> TRWC will ensure that the contractor prepare a safety plan for all products and chemicals to be used on the project site including steps to follow in case of a spill. The chemicals expected to be used during construction include diesel fuel, oil, hydraulic fluid, and other chemicals needed to operate and maintain construction equipment. Any of these chemicals used on-site will be stored in appropriate containers and stored well away from any aquatic habitat. The Material Safety Data Sheet for diesel fuel will be contained in the Spill Plan.

The contracts shall also contain a Spill Notification procedure that specifies that in the unlikely event of a chemical spill, the following parties will be notified:

1. Call 911:
    - For spills that involve injury requiring medical treatment
    - For spills that involve fire or explosion hazards
    - For spills that are potentially life threatening
    - For spills that occur after work hours
2. Call Sierra County Environmental Health at: (530) 993-6716.
    - For chemical spill situations which do not require 911 assistance
    - For spills that cannot be cleaned up by personnel on site
3. Call Lahontan Regional Water Quality Control Board at: (530) 542-5400
    - Immediately for a major spill
    - Within 24 hours for a minor spill

TRWC will also ensure strict onsite chemical handling rules will be implemented to minimize spills and keep potentially released or contaminated materials out of the drainage waterways. If a spill occurs implement containment measures immediately and follow safety plan procedures.

Mitigation Measure HAZ-2: Fueling of Construction Equipment

TRWC will require that all fueling of construction equipment will take place either offsite or in places well away from riparian, wetland, or stream channels to minimize the potential to negatively affect water quality. The equipment will be inspected daily for leaks.

Mitigation Measure HAZ-3: Waste Disposal

TRWC will ensure the proper disposal of wastes and petroleum products. Waste and petroleum products used during construction will be collected and removed from the project site in accordance with state and federal guidelines.

Mitigation Measure HAZ-4: Remediation of Contaminated Soil

If known or suspected contaminated soil and/or groundwater are encountered during construction, or if contamination occurs as a result of construction, work will be halted in the area, and the type and extent of the contamination shall be identified. A qualified professional, in consultation with the appropriate federal, state, and/or local regulatory agencies, will then develop an appropriate method to remediate the contamination.

The implementation of Mitigation Measures HAZ-1 through HAZ-4 would ensure that this impact would be less than significant by requiring that potentially hazardous substances are handled with appropriate care to minimize the opportunity for spills to occur and to implement cleanup actions should a spill occur.

Question 6.9c: No Impact. As noted above, there are no schools within ¼ mile of the Study Area. Therefore, there is no possibility that the proposed project would result in hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of a school. There would be no impact and no mitigation is required.

Question 6.9d: No Impact. According to queries of the GeoTracker (SWRCB 2020a) and Envirostor (DTSC 2020) databases, the Study Area does not contain any sites identified on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5. The Proposed Project will not be sited in or disturb an area containing hazardous materials, therefore, implementation of the proposed project would not create a significant hazard to the public or the environment. No impact would result and no mitigation is required.

Question 6.9e: No Impact. The project site is not with an airport land use plan, nor within 2 miles of an airport, and would thus not project result in a safety hazard or excessive noise for people residing or working in the Study Area. Therefore, there would be no impact and no mitigation is required.

Question 6.9f: Less-than-significant Impact. Construction of the proposed project would involve the movement of equipment to the site prior to construction, and from the site following construction, but this would only occur for one day in each direction. Once constructed, the proposed project would not result in any changes to roadways serving the Study Area. Thus, the proposed project would not result in any physical features that would impair implementation of, or physically interfere with, emergency evacuations. Access for all fire and police emergency response vehicles would be maintained on Highway 89 and Jackson Meadows Road. Therefore, the proposed project would have a less-than-significant impact on emergency, fire, and police response, and no mitigation is required.

Question 6.9g: No Impact. The project site would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. In fact, by restoring overbank flooding of meadow areas and increasing groundwater levels, the proposed project could have a minor beneficial impact by reducing the potential for wildfires. The potential for project construction to cause a wildfire is addressed below in Section 6.20: *Wildfire*.

6.10 HYDROLOGY AND WATER RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X		
b) Substantially decrease groundwater supplies or interfere with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;		X		
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			X	
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				X
(iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?		X		

6.10.1 ENVIRONMENTAL SETTING

Above Webber Lake, Lacey Creek has a watershed area of approximately 9.3 square miles and provides hydrologic support to both the Upper and Lower Meadow (Figure 2). Webber Lake is also fed by other unnamed tributaries (i.e., Coppins Meadow and Lake of the Woods) outside the boundary of this study. The Webber Lake outflow forms the headwaters of the Little Truckee River, which flows downstream over Webber Falls to Perazzo Meadows and Stampede and Boca Reservoirs, ultimately discharging to the Truckee River near Boca, California. (Balance 2013)

An approximately 3-foot high rock dam was constructed at the outlet of Webber Lake around 1914 to augment water storage and support recreation. Improvements were made to the dam since that time, though the dam height was not changed. A metal fish weir and fish screens were added around 1985 in order to prevent stocked fish from entering downstream waters of the Little Truckee River. (Balance 2013)

Lacey Creek is a snowmelt-dominated system, with annual peak flows typically between March and June, coincident with snowmelt. Occasional rain-on-snow events result in significant flooding during

other winter months. Lacey Creek is mapped as perennial on USGS topographic maps; however, in August 2012, it was mostly dry with intermittent flow in some reaches. A number of ephemeral tributaries to Lacey Creek and Webber Lake only flow during the spring or as the result of summer thunderstorms. (Balance 2013)

6.10.2 Regulatory Framework

Clean Water Act

The Clean Water Act (CWA, 33 U.S.C. Section 1251 et seq.) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water.

Section 404 of the CWA is described above under Section 6.4: *Biological Resources*.

The SWRCB and the Regional Water Quality Control Boards have the authority to regulate discharges of dredged or fill material to waters of the U.S. and state under section 401 of the Clean Water Act (CWA) and the Porter-Cologne, respectively. The Study Area is under the jurisdiction of the Lahontan Water Board, and a water quality certification under Section 401 would be required from the Lahontan Water Board if a permit under CWA Section 404 is required for the proposed project.

As authorized by Section 402 of the CWA, the National Pollutant Discharge Elimination System (NPDES) Permit Program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. In California, NPDES permitting authority is delegated to the SWRCB, and administered by the nine Regional Water Quality Control Boards (RWQCBs). Dischargers whose projects disturb one (1) or more acres of soil or whose projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the CGP.. Construction activity subject to the CGP includes clearing, grading and disturbances to the ground such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The CGP requires the development of a SWPPP by a certified Qualified SWPPP Developer (SWRCB 2020b)

The proposed project would disturb more than one acre of soil so coverage under the CGP would need to be obtained, and preparation of a SWPPP would be required.

Porter Cologne Water Quality Control Act

The State of California established the SWRCB, which oversees the nine Regional Water Quality Control Boards, through Porter-Cologne. Through Porter-Cologne , the SWRCB and the Regional Water Quality Control Boards determine the beneficial uses of the waters (surface and groundwater) of the State, establish narrative and/or numerical water quality standards, and initiates policies to protect and enhance water quality in waters of the state. The project-related beneficial uses, water quality objectives/standards, and policies are contained in the Water Quality Control Plan for the Lahontan Region (Lahontan Basin Plan).

State Wetland Riparian Area Protection Policy

The SWRCB adopted a State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (Procedures), for inclusion in the forthcoming Water Quality Control

Plan for Inland Surface Waters and Enclosed Bays and Estuaries and Ocean Waters of California. The Procedures consist of four major elements: 1) a wetland definition; 2) a framework for determining if a feature that meets the wetland definition is a water of the state; 3) wetland delineation procedures; and 4) procedures for the submittal, review and approval of applications for Water Quality Certifications and Waste Discharge Requirements for dredge or fill activities. (SWRCB 2020c)

The SWRCB adopted the Procedures to address several important issues. There is need to strengthen protection of waters of the state that are no longer protected under the CWA due to U.S. Supreme Court decisions, since the Water Boards have historically relied on CWA protections in dredged or fill discharge permitting practices. (SWRCB 2020c)

Compliance with the State Wetland Riparian Area Protection Policy may be required for any actions associated with the proposed project involving impacts to wetlands or waters of the State that are not covered under a CWA Section 404 permit.

Sierra County General Plan

The Sierra County General Plan (Sierra County 1996) contains one goal and two policies related to hydrology and water quality that pertain to the proposed project.

> **Goal 1**: It is the County's goal to protect and maintain its water resources for the benefit of the County residents and natural habitats and to assure protection of its watersheds as a primary land use constraint.
>
> **Policy 22**: Protect natural swales and wetlands, plus a buffer from those features, for water quality protection.
>
> **Policy 31**: Preserve the integrity of water courses throughout the County.

Nevada County General Plan

The Nevada County General Plan (Nevada County, 1996) contains one goal, four objectives and one policy related to hydrology and water quality that pertain to the proposed project:

- **Goal 11.1**. Identify, protect and manage for sustainable water resources and riparian habitats
- **Objective 11.2**. Preserve surface and sub-surface water quality and, where feasible, improve such quality
- **Objective 11.3**. Preserve and, where economically feasible, restore the density and diversity of water-dependent species and continuous riparian habitats based on sound ecological principles.
- **Objective 11.4**. Preserve the integrity and minimize the disruption of watersheds and identified critical watercourses.
- **Objective 11.5**. Support the acquisition, development, maintenance and restoration, where clearly consistent with General Plan policies, of habitat lands for wildlife enhancement.
- **Policy 11.10**. Cooperate with State and Federal agencies and public and quasi-public organizations and agencies in the acquisition, restoration, and maintenance of habitat lands.

6.10.3 Environmental Analysis

Questions 6.10a: Less-than-significant Impact with Mitigation Incorporated. There is a potential for some construction activities associated with the proposed project to result in impacts to surface water quality that could violate water quality standards. Potential pollutants include sediment, turbidity, and to a lesser degree petroleum products and equipment related chemicals. The project would involve placing fill within the 100-year floodplain of tributaries to the Little Truckee River which has the potential to result in a violation of the Lahontan Basin Plan. However, the Lahontan Water Board encourages restoration projects that are intended to reduce or mitigate existing sources of soil erosion, water pollution, or impairment of beneficial use. The proposed project meets the conditions for a 100-year floodplain prohibition exemption[6]. Information regarding the floodplain prohibition exemption would be provided with the 401 Water Quality Certification application to Lahontan Water Board (Mitigation Measure BIO – 11).

Nevertheless, the proposed project has the potential to result in violations of surface water quality standards, and to introduce contaminants such as petroleum-based materials into the groundwater, through accidental spills. This impact is considered significant. To reduce this impact, implement Mitigation Measure GEO-1. The requirements contained in GEO-1 will ensure that proposed project construction will minimize any impacts on water quality by obtaining and implementing all requirements under the CGP and CWA Section 401 Water Quality Certification.

Question 6.10b: No Impact. The proposed project has as one of its goals to increase the replenishment of the groundwater basin under Lacey Meadows by slowing flows during spring snow melts and increasing the connection of Lacey Creek and its tributaries with their floodplains. This is intended to increase the flooding of the meadows, which should increase infiltration of surface waters to the groundwater basin and increase groundwater storage. There are no mechanisms whereby the proposed project would reduce groundwater storage. Therefore, there would be no adverse impact on groundwater supplies and recharge, and the potential for a beneficial impact. No mitigation is required.

Question 6.10c (i): Less than Significant with Mitigation Incorporated: Actions associated with the proposed project are intended to result in the alteration of site drainage patterns, compared to current conditions, by returning flows to previously occupied channels. The potential for the proposed project to contribute to increased erosion as a result of these actions is discussed above in the response to Question 6.7b under *Geology and Soils*. This impact is considered significant. This project would not add any impervious surfaces within the Study Area, result in an increase in the rate or amount of runoff, nor impede or redirect floodflows in a manner that would result in increased flooding.

The contribution of the proposed project to increased erosion would be considered significant. To reduce this impact, implement Mitigation Measure GEO-1. As noted in the discussion under Question 6.7b above, the implementation of Mitigation Measure GEO-1 would reduce this impact to less than significant.

Question 6.10c (ii): Less-than-significant Impact. The potential for the proposed project to contribute to increased flooding onsite is discussed above in the response to Question 6.10b. Because this onsite flooding is intentional to assist in restoring Lacey Meadows, because no flooding outside of the Study

[6] The conditions for a 100-year floodplain prohibition exemption are detailed in Chapter 4 of the Lahontan Basin Plan (https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/ch4to4_1_imp.pdf)

Area would occur, and because the area to be flooded is open space, with no potential to be developed, this impact would be less than significant and no mitigation is required.

Question 6.10c (iii): No Impact. The Study Area is not developed and there is no stormwater drainage system. Therefore, there would be no impact on an existing or planned stormwater drainage system.

Question 6.10c (iv): Less-than-significant Impact. The proposed project would intentionally redirect flood flows onsite, as discussed above in the response to Question 6.10b, but this would not lead to a significant impact, as there are no developed uses that would be flooded. This impact would be less than significant and no mitigation is required.

Question 6.10d: No Impact. The project is in the Sierra Nevada and therefore not within a tsunami zone. During an earthquake, Webber Lake may be subject to seiche movement, but such an event would not risk the release of pollutants, because none exist around the lake, and most of the work under Phase II would be located a considerable distance from the lake. Thus, there would be no impact and no mitigation is required.

Question 6.10e: Less than Significant with Mitigation Incorporated. The proposed project would have a very minimal potential to obstruct implementation of a water quality control plan. As discussed above, there is some potential for the project to result in short-term increases in erosion and sedimentation, and potential chemical spills during construction activities. However, the incorporation of Mitigation Measures BIO-3, BIO-4 and BIO-11, and GEO-1, would reduce this impact to a less-than-significant level, as described above under Section 6.4: *Biological Resources* and Section 6.7 *Geology and Soils*. The Study Area is not within the boundaries of a sustainable groundwater management plan. Further, as discussed above under Question 6.10b, the proposed project is intended to increase groundwater levels, so it would not obstruct implementation of a future sustainable groundwater management plan.

6.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?				**X**
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				**X**

6.11.1 Environmental Setting

The parcels within Sierra County have general plan designations of Forest and are zoned as General Forest or Timber Production Zone, while the parcel within Nevada County is zoned as TPZ-160 and has a General Plan designation of FOR-160 (Jimenez pers. comm.). All of the actions proposed as part of the project are allowable with these general plan designations and zoning.

6.11.2 Environmental Analysis

Question 6.11a: No Impact. The Study Area is not an urbanized or developed community, and proposed project would not involve the construction of any infrastructure, such as transportation facilities that

could divide a community. Therefore, the proposed project would not result in any impacts related to established communities and no mitigation is required.

Question 6.11b: No Impact. The proposed project is consistent with the land use designations of each of the parcels within which the project elements would be constructed. Therefore, there would be no conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental impact, and no mitigation is required.

6.12 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

6.12.1 ENVIRONMENTAL SETTING

The project site is not zoned for mineral extraction and no mineral resources have been identified within the Study Area (Sierra County 1996).

6.12.2 ENVIRONMENTAL ANALYSIS

Questions 6.12a and 6.12b: No Impact. No mineral resources have been identified on the project site, so implementation of the proposed project would not result in the loss of a known mineral resource or the loss of availability of a locally-important mineral resource delineated on a local general plan or any other plan. Therefore, there would be no impact and no mitigation is required.

6.13 NOISE

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

6.13.1 ENVIRONMENTAL SETTING

Characteristics of Noise

Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. The 0 point on the dB scale is based on the lowest sound level that a healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise-sensitive receptor of concern.

Existing Noise Levels

There are no current noise level readings within the Study Area, but its location in a remote relatively undeveloped area indicate that the only man-made sources of noise are automobile traffic and noise created by campers. However, given the distance of the Study Area from the nearest public road (0.6 miles from Jackson Meadows Road), the low level of traffic on that road, and the intervening terrain and vegetation, it is expected that background noise levels would be very low in the Study Area.

The only sensitive receptors in the Study Area are campers and other visitors to the area.

6.13.2 Regulatory Framework

Sierra County General Plan

The Sierra County General Plan (Sierra County 1996) contains the following goals and policies related to noise:

> Goal 1. To protect County residents from the harmful and annoying effects of exposure to excessive noise.
>
> Goal 2. To preserve the rural noise environment of the County and surrounding areas.

Sierra County does not have a noise ordinance or other regulations that govern noise due to construction activities.

6.13.3 Environmental Analysis

Question 6.13a: Less-than-significant Impact with Mitigation Incorporated. The construction of the proposed project would entail the use of construction equipment for approximately eight weeks for each phase of work, which would result in temporary or periodic short-term increases in ambient noise levels. There would be no change to long-term noise levels once construction was completed.

Noise from construction typically attenuates over distance. Additional attenuation also occurs where vegetation, which is acoustically absorptive, covers the ground, and where trees and other obstacles may block or absorb sound.

The construction of Phase I of the proposed project is unlikely to result in noise impacts. Although the ambient noise environment on the project site is very quiet, several factors would minimize the effects of Phase I construction on people at the campground: the construction would take place more than 2 miles away from the campground; access to Upper Lacey Meadow would be via Meadow Lake Road rather than via Webber Lake Road; the presence of vegetation (particularly the intervening grove of trees) which would attenuate the noise; and the fact that the disturbance would be temporary. Thus, the impacts of Phase I construction on ambient noise levels would be less than significant, and no mitigation is required.

The construction of Phase II of the proposed project would take place closer to the campground than the Phase I work. While most work would take place ½ mile or further from the closest camp sites, the work closest to Webber Lake would take place much closer, although the duration for this portion of the work would be much shorter. Nevertheless, the construction work would take place for approximately 8 weeks, and this impact would be considered significant. To reduce this impact to less than significant, implement mitigation measure NSE-1.

> **Mitigation Measure NSE-1: Limit Construction Hours**
>
> TRWC shall limit Phase II construction to between the hours of 7:00 am and 7:00 pm on weekdays only. No construction work outside of those days and hours restrictions shall occur. Prior to initiating construction of Phase II features, TRWC shall work with TDLT to determine if any further restrictions are required, and will implement those agreed upon restrictions. These additional measures could include further restricting the allowable construction hours, or closing the campground during the period when construction closest to the campground is occurring.

Any construction related noise impacts would be heard only by day recreationists and visitors to the Webber Lake campgrounds, as no other sensitive receptors exist within the Study Area. The limitation on days and hours of work during Phase II construction would minimize impacts on the campground visitors for most work. However, the potential for work closer to the campgrounds to create more significant impacts would be addressed by working with the campground owners, TDLT, to adopt measures to further minimize noise effects. This would ensure that the noise impacts are less than significant.

Question 6.13b: Less-than-significant Impact. The construction of Phase I of the proposed project would generate some groundborne vibration and noise, but these vibrations would be relatively small and temporary, and the distance of the work from the campground would attenuate these vibrations to where they would not be noticeable.

The construction of Phase II of the proposed project would also generate groundborne vibration and noise. Although the work would be closer to the campground than the Phase I work, the amount of vibration and the distance would still lead to negligible amounts of groundborne vibration at the nearest campground.

Neither phase of work would involve activities that generate large amounts of ground-borne vibration, such as pile driving and blasting. The project does not require significant import of materials, so haul truck traffic through the campground that could generate ground-borne vibration would be very limited, if not non-existent. Further, the temporary nature of the work, and the distances involve between the source of vibration and the nearest campground means that this impact would be less than significant, and no mitigation is required.

Question 6.13c: No Impact. The proposed project is not within the vicinity of a private airstrip or an airport. Further, the proposed project would not result in the construction of any urban uses. Therefore, there would not be an impact associated with the exposure of people residing or working in the area to increased airplane-related noise.

6.14 POPULATION AND HOUSING

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

6.14.1 Environmental Setting

The Study Area is not zoned for housing. The preponderance of the site is undeveloped, thought a small part of the area around Webber Lake is developed as a private campground. The only dwelling unit is a structure housing the campground host.

6.14.2 Environmental Analysis

Question 6.14a: No Impact. The Study Area is neither developed with urban uses nor zoned for such uses. The proposed project does not involve any actions related to the development of urban uses such as housing or employment, and would therefore not either directly or indirectly induce unplanned population growth in the Study Area. There would be no impact and no mitigation is required.

Question 6.14b: No Impact. As noted above, the proposed project is not in an urban area, so the proposed project would not lead to the displacement of any existing people or housing. There would be no impact and no mitigation is required.

6.15 Public Services

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

The Study Area is not urbanized and there are no public services provided to the area, other than fire protection, which is discussed below under Section 20: *Wildfire*. Further, Webber Lake Road is a private road through the Study Area and is gated to limit access, so no public services (e.g. sheriff patrols) can be provided.

6.15.1 Environmental Analysis

Questions 6.15a through 6.15e: No Impact. The proposed project is not currently served by any public services (other than wildland fire protection), and the proposed project would not create the need for or result in any public services being provided to the Study Area. Therefore, the proposed project would not result in a substantial adverse physical impact related to the provision of new services. There would be no impact, and no mitigation is required.

6.16 RECREATION

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial deterioration of the facility would occur or be accelerated?				X
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

6.16.1 ENVIRONMENTAL SETTING

The Study Area is currently used for recreational purposes. A private campground exists around Webber Lake, and Webber Lake Road serves as a hiking trail. There are no neighborhood or regional parks within the Study Area.

6.16.2 ENVIRONMENTAL ANALYSIS

Questions 6.16a and 6.16b: No Impact. The proposed project would not change any of the existing recreational facilities within the Study Area, nor create any new recreational facilities. Therefore, it would not result in increased use of any recreational facilities, or require the construction or expansion of any recreational facilities. There would be no impact, and no mitigation is required.

6.17 TRANSPORTATION

Would the project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?				X
b) Would the project conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?			X	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
d) Result in inadequate emergency access?				X

6.17.1 ENVIRONMENTAL SETTING

The proposed project is located within a very rural area of Sierra and Nevada Counties. Regional access to the site is provided by I-80, SR 89, and SR 49. Local access is provided by Jackson Meadows Road, Henness Pass Road, Meadow Lake Road, and Webber Lake Road. Other than I-80, these other roads are lightly travelled. Jackson Meadows road is paved, but Henness Pass Road, Meadow Lake Road, and

Webber Lake Road are dirt or gravel roads. No transit service exists in the vicinity of the proposed project, and there are no bicycle facilities or dedicated pedestrian facilities.

6.17.2 Environmental Analysis

Question 6.17a: No Impact. The construction of the proposed project would result in a small, temporary increase in travel to and from the site. There would be a small number of trips when bringing construction equipment to the site, and then removing them at the conclusion of construction. In addition, there would be a small number of daily trips to the site for the construction workers and the engineer overseeing the work. This small number of trips (expected to be fewer than 12 per day at the peak of construction) over a short duration (8 weeks) would not change the operation of any of the roadways or intersections, and would not result in a permanent increase in travel on any roadways, and would therefore not conflict with any program, plan, ordinance, or policy related to the circulatory system. There would be no impact, and no mitigation is required.

Question 6.17b: Less-than-significant Impact. The construction of the proposed project would result in a small, temporary increase in travel to and from the site. There would be a small number of trips when bringing construction equipment to the site, and then removing them at the conclusion of construction. In addition, there would be a small number of daily trips to the site for the construction workers and the engineer overseeing the work. This small number of trips (expected to be fewer than 12 per day) over a short duration (8 weeks) would not change the operation of any of the roadways or intersections, and would not result in a permanent increase in the amount of vehicle miles traveled to and from the Study Area. This impact would be less than significant, and no mitigation is required.

Question 6.17c: No Impact. The proposed project would not result in any change to the geometry of any roadways or intersections, and thus would not result in an increased hazard related to geometric design, nor create an incompatible use for farm equipment. There would be no impact, and no mitigation is required.

Question 6.17d: No Impact. The proposed project would not result in the blockage of any roadways (other than when moving construction equipment onto and off of the site), which would take one day for each direction). The only changes to project roadways would be minor improvements to site roadways to allow access for construction equipment. Neither of these actions would change emergency access to the area. Therefore, there would be no impact to emergency access, and no mitigation is required.

6.18 TRIBAL CULTURAL RESOURCES

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

6.18.1 REGULATORY SETTING

Tribal Cultural Resources are considered a separate resource category from Cultural Resources under CEQA. California Assembly Bill 52 (AB 52), enacted July 1, 2015, expands CEQA by defining a new resource category, "tribal cultural resources." Assembly Bill 52 establishes that "A project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Sections 21074 (a)(1)(A) and (B) define tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and that meet either of the following criteria:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified. AB 52 requires that lead agencies "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be

included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

6.18.2 Summary of Tribal Consultation

The only tribe registered with Lahontan for the area containing the project site is the United Auburn Indian Community of the Auburn Rancheria. On September 16, 2020, Lahontan Water Board sent a letter to the United Auburn Indian Community of the Auburn Rancheria, informing them of the proposed project and inquiring whether the tribe wished to consult with Lahontan regarding Tribal Cultural Resources. The letter requested a response by October 15, 2020. Lahontan Water Board staff did not receive a response from the United Auburn Indian Community of the Auburn Rancheria.

6.18.3 Environmental Analysis

Questions 6.18a and 6.18b: No Impact. Lahontan Water Board staff did not receive a request for consultation the United Auburn Indian Community of the Auburn Rancheria. Therefore, no Tribal Cultural Resources were identified within the Study Area, and no impacts to Tribal Cultural Resources would occur.

6.19 Utilities and Services Systems

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

6.19.1 Environmental Setting

The portions of the Study Area where work would occur are in a rural, undeveloped area, and not served by any utilities or service systems.

6.19.2 Environmental Analysis

Questions 6.19a through 6.19e: No Impact.

Because the proposed project area is not served by any utilities or service systems, and the proposed project would not result in any urban development that would require the provision of one or more of those services, the project would not result in any impacts related to the provision or expansion of such services. Therefore, there would be no impact, and no mitigation is required.

6.20 Wildfire

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

6.20.1 Environmental Setting

According to California Fire and Resource Management Program, the proposed Study Area contains a mixture of areas of state and federal responsibility, and has a Fire Hazard Severity Zone rating of Very High (CalFIRE 2020).

Questions 6.20a: Less-than-Significant Impact. The activities associated with the proposed project would not result in any changes that would impair an adopted emergency response plan or emergency evacuation plan, as they would not create a long-term increase in traffic, block any roadways, or increase any urban uses.

Question 6.20b: Less-than-Significant with Mitigation Incorporated. Proposed project activities would occur in relatively flat portions of the Study Area, and would thus not exacerbate wildfire risks related to slope, would not have any affects related to prevailing winds, would not require the installation or maintenance of any infrastructure, nor involve the construction of any habitable structures that would expose the structures or any people to significant risks. In fact, by improving the health of Lacey Meadows, the proposed project should reduce the period of the year when meadow vegetation is dry.

However, the presence of diesel-powered construction equipment on the project site during the summer could increase the risk of wildfires created by the equipment. This would be a significant impact. To reduce this impact to less than significant, implement Mitigation Measure **WF-1**.

> **Mitigation Measure WF–1: Fire Suppression and Control**
>
> The TRWC shall require the selected construction contractor to coordinate with the Sierra County fire chief and the U.S. Forest Service to ensure fire control measures are in place to reduce the risk of wildfires associated with proposed project construction activities. The fire prevention and control measures shall include requirements for onsite extinguishers; roles and responsibilities of the TRWC, and the contractor including what to do in the event of a fire; fire suppression equipment and supplies, and any other items or awareness measures recommended by the fire chief and/or Sierra County.

Questions 6.20c and 6.20d: No Impact. The proposed project would not require any changes to infrastructure either within the Study Area nor adjacent to it, so it would not exacerbate fire risk nor result in temporary or on-going impacts on the environment. The proposed project would also not involve any development on the project site, and all work would be completed within the relatively flat slopes within the meadow areas. Therefore, it would not increase hazards associated with down-slope or downstream flooding or landslides. There would be no impacts, and no mitigation measures are required.

6.21 MANDATORY FINDINGS OF SIGNIFICANCE

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

Question 6.21a: Less than Significant with Mitigation Incorporated. As discussed above, the project has the potential to adversely impact air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and noise. With the implementation of mitigation measures identified in this Initial Study (and listed below), all potential

impacts would be reduced to a less-than-significant level. No significant or potentially significant impacts would remain, and no additional mitigation measures are required.

Question 6.21b: Less than Significant Impact. The proposed project is in a remote area, mainly on private land, and surrounded by lands owned by the U.S. Forest Service. Thus, the potential for additional projects to occur is extremely low, and none are known, except the TDLT Webber THP approved by CAL FIRE and permitted by the Lahontan Water Board. The tree harvesting required under the proposed project was included in the THP, and the impacts of that harvesting were evaluated in that CEQA-equivalent document. Thus, the potential for cumulatively considerable impacts is less than significant, and no additional mitigation measures are required.

Question 6.21c: Less than Significant Impact. As noted above, all environmental impacts (including potential impacts on human beings) have been found to be either Less than Significant with Mitigation Incorporated, Less than Significant, or to result in No Impact. Because of existing regulation and monitoring of many potential environmental impacts, and with the implementation of mitigation measures identified in this report, the proposed project would not have the potential to cause substantial adverse effects on human beings. This would be a less-than-significant impact, and no additional mitigation measures are required.

Mitigation Measures:

Mitigation Measure AQ-1: Construction Equipment Must Meet CARB Emission Standards.

TRWC shall ensure that the proposed project complies with California Air Resources Board (CARB) emissions standards for diesel construction equipment. The CARB requirements can be found at: https://ww3.arb.ca.gov/diesel/diesel.htm.

Mitigation Measure AQ-2: **Dust and Emissions Control Plan.** TRWC shall require the contractor for the proposed project to prepare and implement a Project Dust and Emissions Control Plan that is approved by the NSAQMD prior to initiating construction of each phase of work. The following shall be included in the plan and shall be implemented throughout the construction period to limit and control dust and air emissions:

- All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and/or causing a public nuisance. Watering during construction activities shall occur daily, with application to all disturbed areas (excavated areas, stockpiles, and/or graded areas until stabilized).
- All areas with vehicle traffic shall be watered or have dust palliative applied as necessary to minimize dust emissions.
- All on-site vehicle traffic shall be limited to a speed of 15-mph on unpaved roads within the project footprint.
- All land clearing, grading, earth moving, or excavation activities on the project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20-mph.
- All inactive portions of the project site shall be covered, seeded, or watered or otherwise stabilized until a suitable cover is established.

- All material transported to or from off-site shall be either sufficiently watered or securely covered to prevent it from being entrained in the air and there must be a minimum of six-(6) inches of freeboard in the bed of the transport vehicle.
- The nearest paved road is Jackson Meadows Road (Forest Road 07), approximately 0.6 miles north of the Webber Lake campground. Any paved roads used for transport to the project shall be maintained reasonably clean through methods such as sweeping or washing at the end of each day when heavy equipment is brought to or from the site, or more frequently if necessary, to remove excessive accumulations or visibly raised areas of soil which may have resulted from activities transporting materials to or from the project site.
- All areas of bare soil will be stabilized, as specified in the Stormwater Pollution Prevention Plan to be prepared for the proposed project.
- The project contractor shall ensure that all construction equipment is properly maintained.

All applicable portable engines and off-road equipment must be registered with CARB's portable engine and off-road equipment programs.

Mitigation Measure BIO-1: Provide Worker Environmental Awareness Training

TRWC shall ensure that a qualified biologist develops and provides a comprehensive worker environmental awareness training for the project. The training shall describe the biology and ecology of the special-status species that are known to occur, or that could occur, in the Study Area; describe ways to identify these species and their habitats; depict known or potential locations of these species and their habitats within the Study Area; and describe the actions to be implemented by the project to minimize or avoid impacts on these species during project construction. Additionally, the training shall describe procedures to halt work and provide immediate notification to a qualified biologist in the event that special-status species are unexpectedly observed by construction personnel during project activities; the qualified biologist, working with TRWC, and in coordination with CDFW and/or USFWS as appropriate, shall determine the appropriate course of action to avoid impacts on special-status species. All project personnel shall complete the environmental awareness training prior to beginning work on the project site, and TRWC shall maintain a training log or similar proof that all appropriate personnel have completed the training as described above.

Mitigation Measure BIO-2: Collect and Remove Refuse

To avoid attracting predators on special-status species to the project site, TRWC shall ensure that all construction refuse, food wrappers, disposable beverage containers, and similar trash and refuse is immediately disposed of at designated locations; that onsite refuse disposal containers be wildlife and bear proof, and remain covered and protected prior to removal from the project site; and that all refuse is removed from the project site and disposed of at an approved landfill or similar authorized disposal site on a daily basis throughout project construction.

Mitigation Measure BIO-3: Minimize Vegetation Disturbance

TRWC shall ensure that areas of ground and vegetation disturbance are minimized during project construction. Access routes shall be sited and constructed to minimize vegetation disturbance and removal; particularly for large trees and snags equal to or greater than approximately 18 inches diameter at breast height, shrubs, and wet meadow vegetation. If access routes are

required through wet meadows, meadow mats or similar protective measures shall be implemented by TRWC to minimize ground disturbance, compaction, rutting, and similar impacts on wet meadow vegetation and soils.

Mitigation Measure BIO-4: Revegetate Areas of Ground Disturbance

Immediately following completion of project construction, TRWC shall ensure that all areas of ground disturbance are temporarily stabilized (per the requirements of the SWPPP to be obtained) and revegetated with native species adapted to growing conditions on the project site. Mulch or similar erosion control materials that are free of invasive plant propagules shall be used to protect revegetation sites and minimize erosion. Revegetation requirements shall be incorporated into the final engineer's construction plans and specifications for project construction, and TRWC shall ensure that all measures are implemented as described on the plans at the conclusion of project construction.

Mitigation Measure BIO-5: Inspect and Clean Construction Equipment

TRWC shall ensure that all construction equipment is inspected when first brought onto the project site and cleaned to remove soil or other materials potentially containing weed propagules. Areas where construction equipment is inspected and cleaned shall be located and maintained to prevent runoff, erosion, and similar impacts on surrounding, undisturbed areas. These measures shall be incorporated into the final engineer's construction plans and specifications for project construction, and TRWC shall ensure that all measures are implemented as described on the plans throughout project construction.

Mitigation Measure BIO-6: Observe Special-status Wildlife Work Windows

TRWC shall time all project activities, to the maximum extent practical, to occur during periods when special-status wildlife would not be adversely affected. If project activities are timed to occur outside the periods of time listed below for each species, implementation of Mitigation Measures BIO-7and BIO-8 shall not be required for that (those) species. However, if project activities cannot be so timed, TRWC shall implement Mitigation Measures BIO-7 and BIO-8 described below for those species. Additionally, TRWC shall implement Mitigation Measures BIO-7 and BIO-8 for the Sierra marten and pallid bat, as there are no work windows within which dens or roosts of these species are feasibly avoided.

- Bald Eagle: Feb 15 – August 15
- Northern Goshawk: February 15 – September 15
- California Spotted Owl: March 1- August 15
- Willow Flycatcher: June 1 – August 31
- All Other Species of Birds: March 1 – August 31
- Sierra Nevada Snowshoe Hare: March 1 – July 15

Mitigation Measure BIO-7: Conduct Special-status Wildlife Pre-construction Surveys

Prior to initiation of project construction, TRWC shall ensure that a qualified biologist completes pre-construction surveys for those special-status species that may occur in or around the areas within which each phase of the proposed project would occur and that would have the potential, based on their breeding phenology and planned work schedule, to be adversely affected. Surveys

shall follow the guidelines and requirements of CDFW, USWFS, and/or USFS, in terms of survey methods, area, timing, and frequency. If formal survey guidelines do not exist for any species, the qualified biologist shall coordinate with CDFW, USFWS, and/or USFS (as appropriate), to determine survey methods and guidelines. Surveys shall occur in suitable habitats for each species throughout the Study Area and in surrounding areas. The distance surrounding the project site to be surveyed, if not included in formal agency guidance, shall be determined by the qualified biologist based on the nature of planned project activities, the magnitude of disturbance associated with those activities, and each species' sensitivity to disturbance. In determining sensitivity to disturbance, the qualified biologist shall evaluate the presence of surrounding vegetation, topography, and other factors to act as visual or auditory barriers to disturbances from project activities. Following the surveys, the qualified biologist shall prepare a concise summary report describing survey methods, findings, and recommendations, which TRWC shall provide to the Lahontan RWQCB, CDFW, USFWS, and USFS (as appropriate) at least 7 days prior to construction initiation. TRWC shall provide the survey memo to other public agencies upon request.

Mitigation Measure BIO-8: Establish and Observe Special-status Wildlife Avoidance Buffers

TRWC shall ensure that a qualified biologist establishes appropriately-sized avoidance buffers as needed to protect special-status wildlife found within or near the areas within which each phase of the proposed project would occur. The size of the buffer shall be determined by the qualified biologist, in consultation with CDFW, USFWS and/or USFS (as appropriate), based on the nature and magnitude of project activities, each species' sensitivity to disturbance, presence of visual or auditory buffers between the project site and the species location, and other relevant factors. Buffer boundaries shall be delineated on the project site by TRWC using stakes, poly rope, flagging, silt fencing, or similar means (excepting plastic monofilament netting, which shall not be used) and shall be maintained to deter inadvertent access by construction equipment and construction workers at all times throughout project construction. A qualified biologist, in consultation with CDFW, USFWS, and/or USFS as appropriate, shall be solely responsible for determining when buffers may be removed and project construction equipment or personnel may be allowed inside the buffer.

If buffers cannot be observed, and work cannot be timed to occur when adverse effects on special-status wildlife would be avoided fully, TRWC shall consult with CDFW, USFWS, and/or USFS (as appropriate) to develop and implement avoidance measures. Examples of these measures include:

- Passively or actively relocating individuals outside the Disturbance Area, where construction-related impacts would not occur, pursuant to a relocation plan developed by a qualified biologist and reviewed and approved by CDFW prior to implementation;
- Allowing work to occur inside the buffer only with a qualified biological monitor present – the biological monitor shall have the authority to halt project activities at any time when the biologist determines that the activities have the potential to adversely affect special-status wildlife;
- Obtaining incidental take authorization under the federal Endangered Species Act or California Endangered Species Act, as appropriate, and implementing the mitigation and conservation measures required by those authorizations.

Mitigation Measure BIO-9: Conduct Surveys for Special-status Plants

TWRC shall ensure that a qualified biologist conducts a focused survey for special-status plants within the Disturbance Area prior to the initiation of construction activities. The surveys shall follow appropriate survey guidelines from CDFW and CNPS and shall occur at the appropriate time of year (i.e., during peak blooming period) to positively identify all species of special-status plants potentially occurring within the Disturbance Area. Following the surveys, the qualified biologist shall prepare a concise summary report describing survey methods, findings, and recommendations, which TRWC shall provide to the Lahontan RWQCB and to CDFW, USFS, or other public agencies upon request.

Mitigation Measure BIO-10: Avoid Special-status Plant Populations

If special-status plants are discovered within the Disturbance Area, the TRWC shall develop a protection and implementation plan and undertake one or more of the following actions:

- Relocate construction actions to fully avoid special-status plant populations;
- Protect special-status plant populations by flagging or delineating the population with construction flagging or fencing and excluding construction activities where total avoidance is feasible;
- Implement protective measures such as access route padding (where appropriate protective mats are placed for temporary construction access in avoidance areas) or other construction methods designed to prevent impacts on special-status plants; or
- Relocate plants to suitable habitat that would not be impacted by the project. If relocation is proposed, TRWC shall ensure that a qualified biologist prepares a detailed relocation plan, in coordination with CNPS, CDWF, USFS, or species experts, describing methods of plant or propagule (e.g., seed) collection, planting techniques, and relocation site maintenance, annual monitoring, and annual reporting requirements to assess relocation success. The plan also shall describe adaptive management measures (e.g., additional relocation site maintenance, supplemental planting of propagules) that TRWC shall implement in the event that the initial relocation effort is not successful (i.e., in the event that the target species of rare plants are not successfully established at the relocation site, as determined through monitoring conducted by a qualified botanist). The relocation plan and copies of all annual monitoring reports shall be provided by TRWC to the Lahontan RWQCB, and to other public agencies upon request.

Mitigation Measure BIO-11: Obtain All Required Environmental Permits

Because avoidance of the wetlands/waters of the U.S./waters of the state or riparian areas is not practicable, TRWC shall apply for and obtain a CWA Section 404 Nationwide Permit and comply with the current U.S. Army Corps of Engineers (USACE) compensation schedule for any loss of waters of the U.S. TRWC shall work with USACE to ensure that the local, state, and federal "no net loss" of wetlands is properly upheld. In addition, for work within a stream or lake bed, riparian zone, or floodplain, TRWC shall apply for, obtain and comply with a CDFW Lake and Streambed Alteration Agreement. For all activities that trigger a USACE CWA 404 permit, the TRWC shall also apply for, obtain and comply with a Clean Water Act Section 401 Water Quality Certification from the Lahontan Water Board. TRWC shall be responsible for ensuring compliance with each permit, including any permit-required compensatory mitigation, monitoring, and reporting.

Mitigation Measure BIO-12: Relocate Native Fishes

Within dewatered reaches of Lacey Creek, TRWC shall ensure that a qualified biologist captures and relocates all native fishes using electrofishing, beach seines, or similar methods to capture fish without injury or mortality. Captured fish will be placed in large buckets or large coolers containing cool, oxygenated water and immediately transported and released into the nearest suitable waterbody not affected by the proposed project, which will have been identified and reviewed by a qualified biologist to verify habitat suitability prior to fish capture. Following completion of the relocation effort, the qualified biologist will prepare a brief memo summarizing relocation methods, number and species of native fishes relocated, and the disposition of relocated fish. Representative photographs of the relocation effort, including individual fish captured, the capture site(s), and relocation site(s) along with a map showing the capture and location sites, will be included with the memorandum. The relocation memo will be provided by TRWC to the Lahontan Water Board and may be provided to other public agencies upon request.

Mitigation Measure CUL-1: Provide Cultural Resource Sensitivity Training

Prior to initiating any ground disturbing activities, TRWC or its contractors shall ensure that all workers are provided with archaeological sensitivity training by a qualified archaeologist. The training shall include the identification of archaeological materials that could be present on the project site, and what to do if such materials are discovered. Training will be documenting using a sign-in sheet or similar method.

Mitigation Measure CUL-2: Erect Fencing Around Known Cultural Resource Sites

Prior to initiating any ground disturbing activities, TRWC or its contractors shall erect fencing around the cultural resources identified as LV-01, LV-02, LV-03, and LV-04 in the report Phase I Archaeological Inventory Report for the Lacey Meadows Restoration Project, Sierra and Nevada Counties, California. An appropriate buffer distance shall be determined by a qualified archaeologist, who will also oversee the erection of the fencing. This fencing shall remain intact during the entire time when construction in the vicinity of the resources is ongoing.

Mitigation Measure CUL-3: Inadvertent Discovery of Historic or Archaeological Resources During Construction

If signs of an archeological site are uncovered during grading or other construction activities, such activities shall cease within 100 feet of the find. The Lahontan Water Board shall be notified of the discovery and a professional archeologist shall be retained by TRWC to evaluate the find, determine the significance of any finds, and recommend appropriate mitigation measures. Such measures shall include the measures contained in Section 15126.4 of the CEQA Guidelines, including avoidance, covering in place, and documentation. Project-related activities shall not resume within 100 feet of the find until all approved mitigation measures have been completed.

Mitigation Measure CUL-4: Discovery of Human Remains

If human remains are encountered during future construction, it is required that work stop immediately in that area and notification be made to either the Sierra County Coroner or the Nevada County Coroner, depending on which county the finds are made in (CCR 15064.5(e) (1) (A); HSC Sec.7050.5). If the coroner determines the remains to be Native American, the Coroner shall contact the NAHC within 24 hours and collaboratively determine the Most Likely Descendant (CCR 15064.5(e)(1)(B)

Mitigation Measure GEO – 1: Obtain Coverage under and Comply with the Construction General Permit and Obtain Clean Water Act Section 401 Water Quality Certification

Prior to initiation of construction, TRWC shall obtain coverage under the State Water Resources Control Board's (SWRCB's) National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction and Land Disturbance Activities (CGP, Order 2009-0009-DWQ9), and will as part of this coverage develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that will detail construction Best Management Practices (BMPs) and other measures to prevent erosion. Before and during construction (as appropriate for each measure), TRWC will implement all erosion control requirements contained in the permit.

In addition, TRWC shall obtain Water Quality Certification under Section 401 of the Clean Water Act from Lahontan Water Board.

The CGP and the water quality certification will include BMPs for minimizing impacts to wetlands, waters of the U.S., and waters of the State, as well as measures to minimize soil loss and erosional effects. It is expected that the permits will cover terms to protect water quality related to the following:

- Minimizing the project footprint;
- Limiting the timing of project activities to periods when stream flows are low or non-existent;
- When working in live streams, develop and implement diversion and dewatering plans;
- Minimizing the disturbance of vegetation by confining activities to designated access routes and work sites;
- Revegetating all disturbed areas using native seed mix and mulching with native or certified weed-free materials and incorporating willow stakes as appropriate following construction;
- Detailing site-specific BMPS to retain sediment on site and prevent sediment from reaching waterways;
- Restrict access to disturbed areas until revegetation success criteria are met;
- Saving topsoil during excavation and using it to place on top of fill to aid in revegetation;
- Limiting staging to pre-defined areas;
- Using low ground pressure/rubber tracked equipment to the greatest extent possible;
- Using meadow mats where access routes cross wet areas;
- Using only clean materials if any imports are required;
- Decommissioning all temporary access routes by applying seed to revegetate damaged areas; and
- Monitoring access routes for construction-related sources of erosion.

Mitigation Measure HAZ-1: Spill Plans, Spill Notification, and Spill Containment

TRWC will ensure that the contractor prepare a safety plan for all products and chemicals to be used on the project site including steps to follow in case of a spill. The chemicals expected to be used during construction include diesel fuel, oil, hydraulic fluid, and other chemicals needed to operate and maintain construction equipment. Any of these chemicals used on-site will be stored in appropriate containers and stored well away from any aquatic habitat. The Material Safety Data Sheet for diesel fuel will be contained in the Spill Plan.

The contracts shall also contain a Spill Notification procedure that specifies that in the unlikely event of a chemical spill, the following parties will be notified:

1. Call 911:
    - For spills that involve injury requiring medical treatment
    - For spills that involve fire or explosion hazards
    - For spills that are potentially life threatening
    - For spills that occur after work hours
2. Call Sierra County Environmental Health at: (530) 993-6716.
    - For chemical spill situations which do not require 911 assistance
    - For spills that cannot be cleaned up by personnel on site
3. Call Lahontan Regional Water Quality Control Board at: (530) 542-5400
    - Immediately for a major spill
    - Within 24 hours for a minor spill

TRWC will also ensure strict onsite chemical handling rules will be implemented to minimize spills and keep potentially released or contaminated materials out of the drainage waterways. If a spill occurs implement containment measures immediately and follow safety plan procedures.

Mitigation Measure HAZ-2: Fueling of Construction Equipment

TRWC will require that all fueling of construction equipment will take place either offsite or in places well away from riparian, wetland, or stream channels to minimize the potential to negatively affect water quality. The equipment will be inspected daily for leaks.

Mitigation Measure HAZ-3: Waste Disposal

TRWC will ensure the proper disposal of wastes and petroleum products. Waste and petroleum products used during construction will be collected and removed from the project site in accordance with state and federal guidelines.

Mitigation Measure HAZ-4: Remediation of Contaminated Soil

If known or suspected contaminated soil and/or groundwater are encountered during construction, if suspected contamination is encountered during project construction, or if contamination occurs as a result of construction, work will be halted in the area, and the type and extent of the contamination shall be identified. A qualified professional, in consultation with the appropriate federal, state, and/or local regulatory agencies, will then develop an appropriate method to remediate the contamination.

Mitigation Measure NSE-1: Limit Construction Hours

TRWC shall limit Phase II construction to between the hours of 7:00 am and 7:00 pm on weekdays only. No construction work outside of those days and hours restrictions shall occur. Prior to initiating construction of Phase II features, TRWC shall work with TDLT to determine if any further restrictions are required, and will implement those agreed upon restrictions. These additional measures could include further restricting the allowable construction hours, or closing the campground during the period when construction closest to the campground is occurring.

Mitigation Measure WF–1: Fire Suppression and Control

The TRWC shall require the selected construction contractor to coordinate with the Sierra County fire chief and the U.S. Forest Service to ensure fire control measures are in place to reduce the risk of wildfires associated with proposed project construction activities. The fire prevention and control measures shall include requirements for onsite extinguishers; roles and responsibilities of the TRWC, and the contractor including what to do in the event of a fire; fire suppression equipment and supplies, and any other items or awareness measures recommended by the fire chief and/or Sierra County.

7. PREPARERS OF THE INITIAL STUDY / NEGATIVE DECLARATION

7.1.1 LEAD AGENCY

Lahontan Regional Water Quality Control Board (Lahontan Water Board)
2501 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150
Tom Gavigan
Doug Cushman

7.1.2 PROJECT SPONSOR

Truckee River Watershed Council (TRWC)

P.O. Box 8568
Truckee, CA 96162
Beth Christman

7.1.3 ENVIRONMENTAL CONSULTANTS

Stevens Consulting – IS/MND preparation

1241 Larkin Way
Sacramento, CA 95818
Craig Stevens – Project Manager

H.T. Harvey & Associates – Project design, biological resources

1331 Garden Highway, Suite 300
Sacramento CA 95833-9773
Matt Wacker, M.S., M.C.P.
Ellen Pimentel, M.A.
Debra Bishop, M.S.

Balance Hydrologics – Project design, hydrology, and geology and soils

P.O. Box 1077
Truckee CA 96160
Brian Hastings
Peter Kulchawik, PE

DZC Archaeology & Cultural Resource Consulting, LLC

Dimitra Zalarvis-Chase M.A., RPA
Steven Brewer, B.A.

8. ACRONYMS AND ABBREVIATIONS

Area of Direct Impacts (ADI)

Area of Potential Effects (APE)

Balance Hydrologics, Inc. (Balance)

Best Management Practices (BMPs)

California Air Resources Board (CARB)

California Department of Fish and Wildlife (CDFW)

California Department of Forestry and Fire Protection (Cal Fire)

California Department of Transportation (Caltrans)

California Department of Toxic Substances Control (DTSC)

California Endangered Species Act (CESA)

California Environmental Quality Act (CEQA)

California Fish and Game Code (CFGC)

California Historic Resources Information System (CHRIS)

California Invasive Plant Council (Cal-IPC)

California Native Plant Protection Act (CNPPA)

California Native Plant Society (CNPS)

California Natural Diversity Database (CNDDB)

California Register of Historic Resources (CRHR)

California Species of Special Concern (CSSC)

Clean Water Act (CWA)

Diameter at Breast Height (dbh)

DZC Archaeology and Cultural Resource Management (DZC)

Environmental Study Limits (ESL)

Federal Endangered Species Act (FESA)

Forest Service Manual (FSM)

Information for Planning and Consultation (IPaC)

Initial Study/Mitigated Negative Declaration (IS/MND)

Institute for Bird Populations (IPB)

Lake or Streambed Alteration Agreement (LSAA)

Lahontan Regional Water Quality Control Board (Lahontan)

Migratory Bird Treaty Act (MBTA)

National Environmental Policy Act (NEPA)

National Historic Preservation Act (NHPA)

National Invasive Species Council (NISC)

National Marine Fisheries Service (NMFS)

National Pollutant Discharge Elimination System (NPDES)

National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction And Land Disturbance Activities, Order 2009-0009-DWQ9 (CGP)

National Register of Historic Places (NHPA)

National Resources Inventory System (NRIS)

Native American Heritage Commission (NAHC)

Nevada County Energy Action Plan (Nevada EAP)

North Central Information Center (NCIC)

Northeast Information Center (NEIC)

Northern Sierra Air Quality Management District (NSAQMD)

Porter-Cologne Water Quality Control Act (Porter-Cologne)

Protected Activity Center (PAC)

Public Resources Code (PRC)

Regional Water Quality Control Board (RWQCB)

Sierra County Energy Action Plan (Sierra EAP)

Sierra Nevada Forest Plan Amendment (SNFPA)

State Water Resources Control Board (SWRCB)

Storm Water Pollution Prevention Plan (SWPPP)

Truckee Donner Land Trust (TDLT)

Tahoe National Forest (TNF)

Timber Harvest Plan (THP)

Tribal Cultural Resources

Truckee River Watershed Council (TRWC)

U.S. Army Corps of Engineers (USACE)

U.S. Fish and Wildlife Service (USFWS)

U.S. Forest Service (USFS)

9. REFERENCES

9.1 DOCUMENTS

Balance Hydrologics (Balance). 2013, Lacey Meadows Assessment, Sierra and Nevada Counties, California, Balance Hydrologics consulting report prepared for Truckee River Watershed Council, Truckee, California, 183 p. + appendices.

_____. 2020a. Design Basis Report-Lacey Meadows Restoration Design-Sierra and Nevada Counties, California. Prepared for the Truckee River Watershed Council. August.

_____. 2020b. Webber Lake Water-Level Management Plan (Draft), Sierra County, California. Prepared for the Truckee River Watershed Council. September.

California Air Resources Board (CARB). 2020. Maps of State and Federal Area Designations website. Accessed by Craig Stevens on September 29, 2020 at: https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations.

California Department of Conservation. 2020a. Farmland Mapping and Monitoring Program website. Accessed by Craig Stevens on October 14, 2020 at: https://www.conservation.ca.gov/dlrp/fmmp.

California Department of Conservation. 2020b. Alquist-Priolo Earthquake Fault Zones website. Accessed by Beth Christman on December 22, 2020 at: https://www.conservation.ca.gov/cgs/alquist-priolo

California Department of Forestry and Fire Protection (CAL FIRE). 2019. Timber Harvest Plan No: 2-18-00130-SIE. January 2.

_____. 2020. Fire Hazard Severity Zone Webpage. Accessed by Craig Stevens on October 14, 2020 at: https://egis.fire.ca.gov/FHSZ/.

California Department of Toxic Substances Control (DTSC). 2020. Envirostor. Accessed by Craig Stevens on September 30, 2020.at: https://www.envirostor.dtsc.ca.gov/public/search?basic=True.

California Department of Transportation (Caltrans). 2020. Scenic Highways. Accessed by Craig Stevens at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. September 23, 2020.

H.T. Harvey & Associates (H.T. Harvey). 2020. Biological Resources Assessment, Lacey Meadows Restoration Project. Memo to Craig Stevens and Beth Christman. October 28.

Nevada County. 1996. Nevada County General Plan. Volume 1: Goals, Objectives, Policies, and Implementation Measures. Accessed by Beth Christman on December 4, 2020 at: https://www.mynevadacounty.com/1065/General-Plan.

Northern Sierra Air Quality Management District (NSAQMD). 2020. Website. Accessed by Craig Stevens on October 20, 2020 at: https://myairdistrict.com/index.php/about-us/.

Sierra Business Council. 2016. Sierra County Energy Action Plan. Public Review Draft. September. Accessed by Craig Stevens on October 12, 2020 at: https://www.sierracounty.ca.gov/DocumentCenter/View/2406/GPER_SierraCo_EAP_PublicReviewDraft_201609?bidId=.

_____. 2019. Nevada County Energy Action Plan. 2019. Accepted by Board of Supervisors on February 12. Accessed by Craig Stevens on October 13, 2020 at: https://www.mynevadacounty.com/DocumentCenter/View/35183/Nevada-County-Energy-Action-Plan.

Sierra County. 1996. Sierra County General Plan Figure 11-1: Existing and Semi-Active Mines. Prepared by Planning Concepts. October.

_____. 2016. Energy Action Plan. September. Accessed by Craig Stevens on September 30, 2020 at: https://www.sierracounty.ca.gov/DocumentCenter/View/2406/GPER_SierraCo_EAP_PublicReviewDraft_201609?bidId=.

Sierra County Office of Education website. 2020. Accessed by Craig Stevens on September 30, 2020; at: https://sierracountyofficeofeducation.org/SPJUSD/.

State Water Resources Control Board (SWRCB). 2020a. GeoTracker. Accessed by Craig Stevens on September 30, 2020; at: https://geotracker.waterboards.ca.gov/.

_____. 2020b. Waste Discharge Requirements Program. Accessed by Craig Stevens on October 19, 2020 at: https://www.waterboards.ca.gov/water_issues/programs/waste_discharge_requirements/.

_____. 2020c. State Wetland Riparian Area Protection Policy website. Accessed by Craig Stevens on October 19, 2020; at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.html.

9.2 PERSONAL COMMUNICATIONS

Hastings, Brian. Geomorphologist, Hydrologist, Balance Hydrologics. E-mail to Matt Wacker, Beth Christman, and Craig Stevens. October 15, 2020.

Foss, Brian. Nevada County Planning Director. Phone conversation with Beth Christman on October 16, 2020 regarding Nevada County grading permit for project.

Jimenez, Corri. Planner II, County of Sierra. Personal communication with Craig Stevens. September 23, 2020.

Longmire, Sam. Air Pollution Control Specialist. North Sierra Air Quality Control District. E-mail to Craig Stevens on October 2, 2020 regarding emissions thresholds.

Appendix A

Biological Resources Report

Appendix B

Cultural Resources Report

(Note: Attachments containing confidential information have been omitted)

H. T. HARVEY & ASSOCIATES
Ecological Consultants
50 years of field notes, exploration, and excellence

Memorandum

Project# 3407-05

December 9, 2020

To: **Craig Stevens, Stevens Consulting; Beth Christman, Truckee River Watershed Council**

From: **Matt Wacker, Ellen Pimentel, and Debra Bishop, H. T. Harvey & Associates**

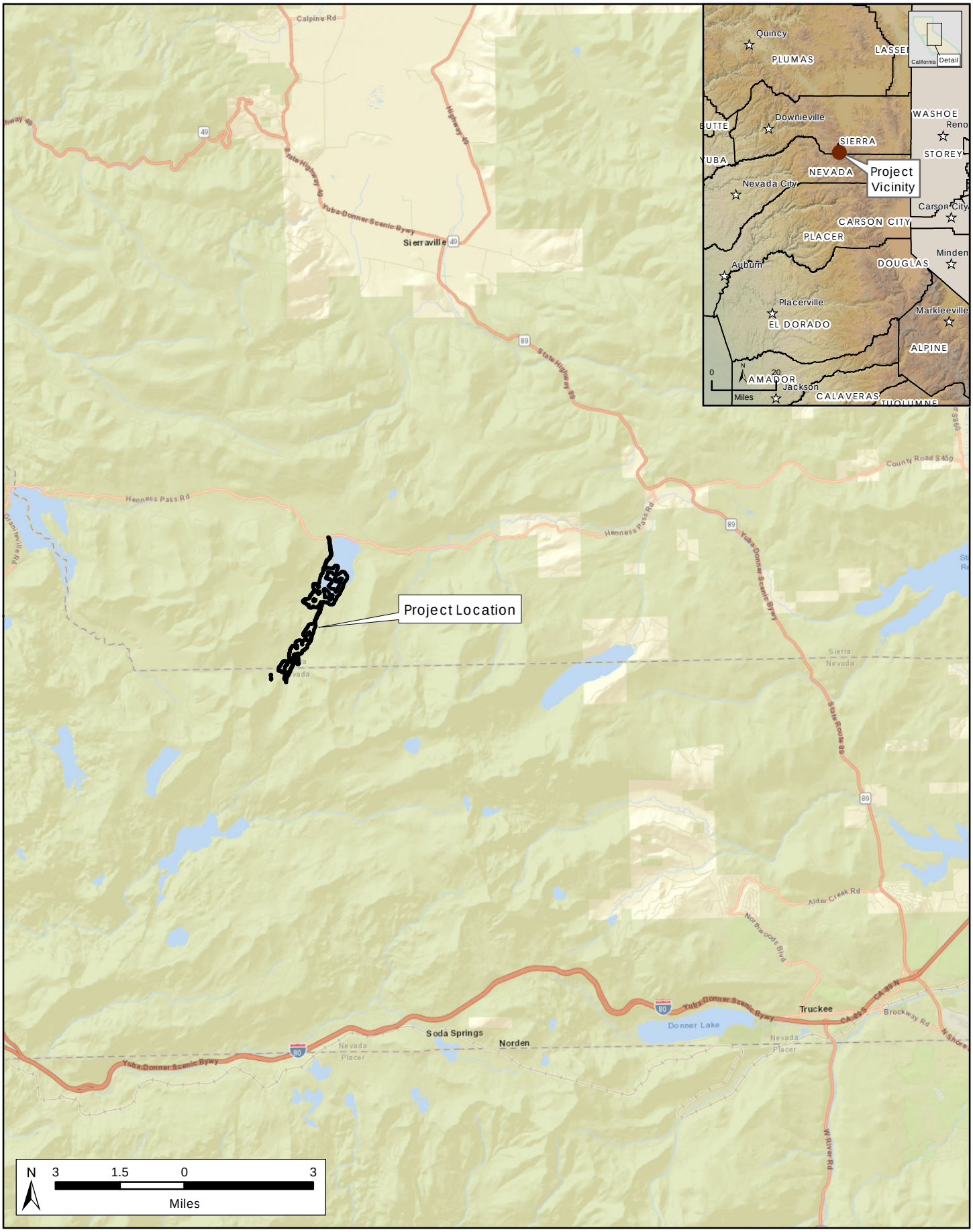
Subject: **Biological Resources Assessment, Lacey Meadows Restoration Project**

Introduction

The Truckee River Watershed Council (Watershed Council), together with the Truckee Donner Land Trust (TDLT or Landowner), propose to implement a series of ecological restoration projects at Lacey Meadows (project site) (Figure 1). The proposed project site spans approximately 421 acres in Sierra and Nevada Counties, roughly 25 miles northwest of the Town of Truckee, and consists of existing dirt roads, two montane meadow complexes (Upper and Lower Lacey Meadows), and Lacey Creek (Figure 1). TDLT owns the majority of the proposed project site, with only a small portion of the site owned by the United States Forest Service, Tahoe National Forest.

The proposed project would be implemented in two phases, split between specific actions in the Upper Meadow and upper Lacey Creek (Phase 1) and Lower Meadow and lower Lacey Creek (Phase 2). The 421-acre project site consists of all identified project elements in both project phases, plus a buffer of 250 feet around those locations in meadows and 50 feet around those locations in forests. Although this memo emphasizes the description of biological resources within the project site, and the potential for the proposed project to affect those resources, this memo also uses the term "study area" within the context of wildlife resources and impacts. The study area encompasses the project site and surrounding areas where implementation of the proposed project may adversely affect wildlife (e.g., through noise, vibrations, equipment and worker access, etc.).

Specific elements of the proposed project may include:



N:\Projects3400\3407-01\04\Reports\Fig 1 Study Area Vicinity.mxd akaiser

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 1. **Project Site and** Vicinity
Lacey Meadows Biological Resources Assessment (3407-05)
October 2020

- placing log structures in Lacey Creek and its tributaries to deter erosion, encourage creek bed aggradation, and create in-stream habitat for fish and aquatic invertebrates—log structures would be obtained locally from trees salvaged within other work areas or, potentially, adjacent forested areas surrounding Upper and Lower Lacey Meadows;

- re-routing Lacey Creek in Upper Lacey Meadow into its historic channel and abandoning its current (artificial) channel;

- excavating pilot channels to encourage overbank flows from Lacey Creek into both meadows at more frequently-occurring, ecologically-beneficial creek flows;

- creating or augmenting riffles in Lacey Creek to raise the creek bed thalweg elevation and thereby encourage more frequent meadow inundation during snowmelt and runoff;

- creating temporary construction access roads through Upper and Lower Lacey Meadows—these routes would be designed to avoid existing vegetation to the extent possible, but a small number of trees or shrubs may be removed to construct some access routes; and

- revegetating selected areas disturbed during construction activities.

All of these elements are intended increase the residence time of snowmelt runoff in Lacey Meadows as well as increase the summer groundwater elevation of both meadows, thereby creating conditions that should support widespread establishment of meadow-obligate plants such as sedges (*Carex* spp.) and bulrush (*Scirpus* spp.), maintenance of base flows in Lacey Creek through the summer, and otherwise increase the ecological functions (e.g., wildlife habitat values) provided by both Upper and Lower Lacey Meadow. Note that construction access for the Phase 1 work areas would occur using Meadow Lake Road and would thus avoid passing through Lower Lacey Meadow (i.e., the Phase 2 work areas) entirely.

Balance Hydrologics, with the assistance of H. T. Harvey & Associates, has developed the proposed project to an approximate 65% design level. Construction of Phase 1 of the project could occur as early as 2021, pending funding availability and issuance of regulatory permits, which are expected to include a federal Clean Water Act Section 404 permit from the United States Army Corps of Engineers (Corps), a federal Clean Water Act Section 401 water quality certification from the Lahontan Regional Water Quality Control Board (Lahontan RWQCB), a Lake and Streambed Alteration Agreement with the California Department of Fish and Wildlife (CDFW), and a grading permit from Sierra County. The timing for implementation of Phase 2 is undetermined at this point.

The Lahontan RWQCB, as a California state agency that will be issuing a discretionary permit (i.e., the 401 certification), will serve as the lead agency pursuant to the California Environmental Quality Act (CEQA); CDFW, Nevada County, and Sierra County all are expected to be responsible agencies under CEQA. Based on the complexity of the proposed project, and the environmental resource issues expected to be encountered during project construction, an Initial Study-Mitigated Negative Declaration (IS/MND) is being prepared to

facilitate environmental review pursuant to CEQA.

To support preparation of the IS/MND, the following describes the biological resources potentially occurring in and around the project site, describes the regulatory environment applicable to the protection of these resources, and, based on Appendix G of the CEQA Guidelines, characterizes whether project implementation may result in potentially significant biological resource impacts. Where impacts are determined to be potentially significant, mitigation measures are described to reduce potentially significant impacts to a less-than-significant level.

Existing Biological Resources

Existing biological resources in the project site and study area were identified based on readily-available background documents and public-domain datasets, and further informed by limited fieldwork periodically completed by H. T. Harvey & Associates biologists beginning in 2012. Specific data sources reviewed in compiling this information are listed below.

- *Lacey Meadows Assessment* (Assessment) (Balance et al. 2013)
- *Preliminary Delineation of Jurisdictional Waters of the United States for the Lacey Meadows Restoration Project* (H. T. Harvey & Associates 2020a)
- *Webber Lake Livestock Grazing Plan* (H. T. Harvey & Associates 2020b)
- United States Forest Service (USFS) vegetation and land cover data (USFS 2017)
- USFS Natural Resources Inventory System (NRIS) records, provided by the Tahoe National Forest (TNF 2020)
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation website (USFWS 2020)
- University of California, Davis Sierra Nevada meadow mapping (UC Davis 2017)
- Recent and historical aerial imagery (Google Earth 2020)
- California Natural Diversity Database (CNDDB 2020)
- California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants of California* (CNPS 2020)
- Calflora Database (Calflora 2020)

No fieldwork or similar detailed investigation of biological resource conditions in the study area and project site , other than those described above, was conducted to support preparation of this memorandum.

Natural Communities

The natural communities (i.e., plant communities or habitats) occurring on the proposed project site were mapped by H. T. Harvey & Associates in 2020 (H. T. Harvey & Associates 2020a) (Figure 2). On the basis of this mapping, Table 1 lists the acreages of natural communities in the proposed project site, and the characteristics of each plant community are summarized briefly below.

Table 1. Natural Communities in the Project Site

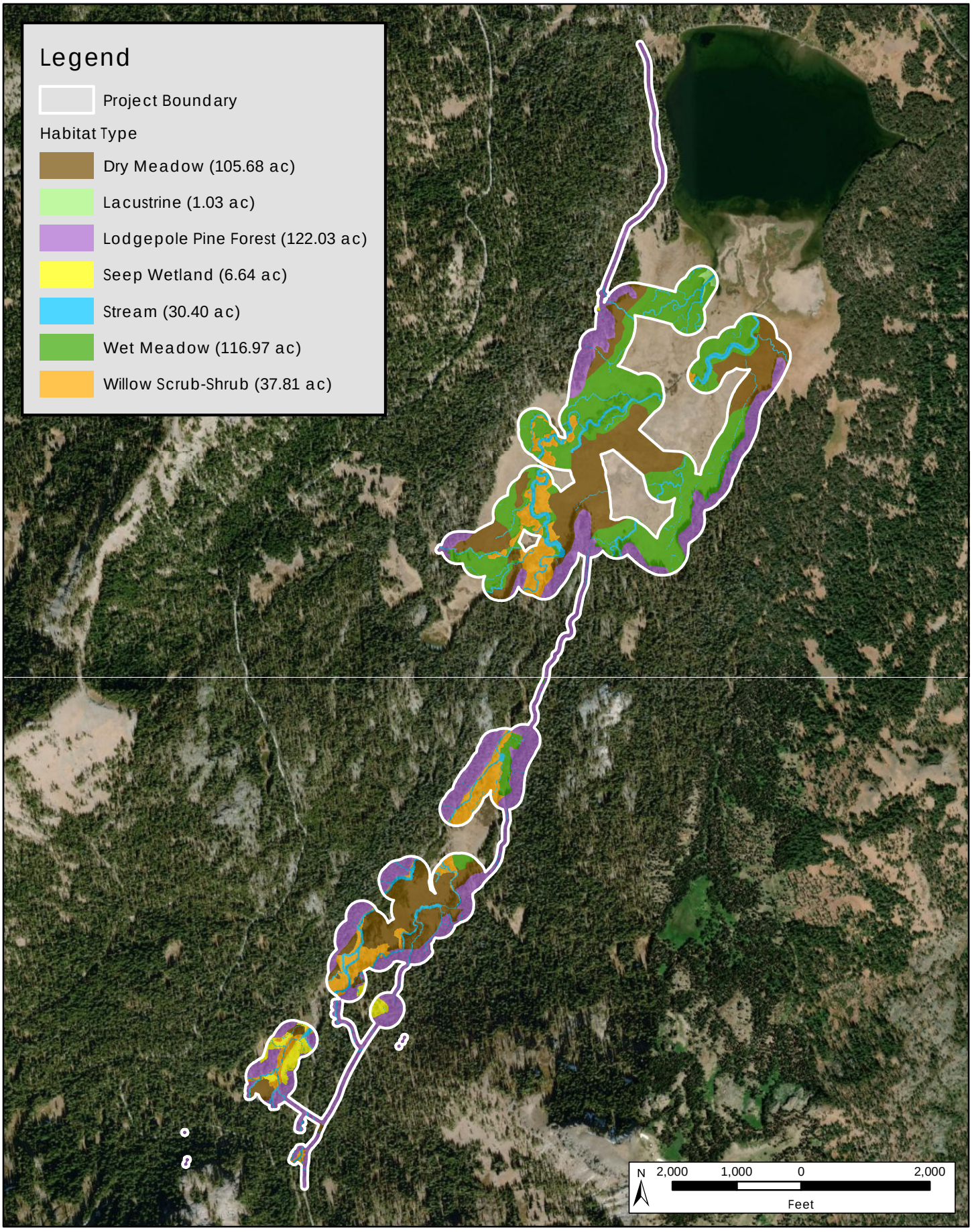
Community	Acres
Dry Meadow	105.68
Lacustrine	1.03
Lodgepole Pine Forest	122.03
Seep Wetland	6.64
Wet Meadow	116.97
Willow Scrub-Shrub	37.18
Stream	30.40
Total	**420.56**

Dry Meadow

Dry Meadow occurs on benches, terraces, slopes, and similar upland areas where precipitation and runoff (as opposed to shallow groundwater) are the dominant sources of hydrology. Soils in Dry Meadow communities may be wet or moist in the early portion of the growing season, typically during snowmelt and runoff, but are dry within the plant rooting zone throughout the remainder of the year. The dominant plant species in Dry Meadows are influenced by soil moisture, elevation, slope, and aspect. Characteristic plant species may include: blue wild rye (*Elymus glaucus*), little squirreltail (*Elymus elymoides*), slender hairgrass (*Deschampsia elongata*), annual hairgrass (*Deschampsia danthonoides*), slender wheatgrass (*Elymus trachycaulus*), California needle grass (*Stipa occidentalis* var. *californica*), California brome (*Bromus carinatus*), one-sided blue grass (*Poa secunda* ssp. *secunda*), Baltic rush (*Juncus balticus*), Douglas' sedge (*Carex douglasii*), various annual forbs (e.g., *Navarretia* spp., *Lupinus lepidus*, *Leptosiphon* ssp., *Polygonum sawatchense*, *Calyptridium umbellatum*), and upland perennial forbs such as Parish's yampah (*Perideridia parishii*) and potentillas (*Potentilla* spp.). Dry Meadows are found on higher landforms surrounding Lower Lacey Meadow and at the upper end of Upper Lacey Meadow. Scattered Lemmon's willow (*Salix lemmonii*) and lodgepole pine (*Pinus contorta*) occur in Dry Meadows, particularly in Upper Lacey Meadow.

Lacustrine

Lacustrine habitat is mapped at Webber Lake. This is typically a deep to shallow, open water habitat that includes lakes, ponds, and similar habitats with less than 5% vegetation cover. Vegetation, if present, consists of sedges (e.g., *Carex utriculata*), pondweed (*Potemogeton* spp.), bulrush (*Scirpus* spp.), and similar wetland plants. Scattered willows, such as Lemmon's willow, may be present in very shallowly inundated margins of Lacustrine communities.



N:\Projects3400\3407-01\04\Reports\Fig 6 Habitat Map.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure **2. Natural Communities**
Lacey Meadows Biological Resources Assessment (3407-05)
October 2020

Lodgepole Pine Forest

Lodgepole Pine Forests are typically dominated by a single species, lodgepole pine, but other conifers, such as red fir (*Abies magnifica*) may be present in small amounts through the project site. Depending on topography, aspect, and tree canopy cover, the understory community of Lodgepole Pine Forests may be dominated by a variety of shrubs, such as mountain whitethorn (*Ceanothus cordulatus*), rubber rabbitbrush (*Ericameria nauseosa*), or antelope bitterbrush (*Purshia tridentata*) or herbaceous species described above in Dry Meadow or below in Wet Meadow, including native grasses in the following genera: *Stipa*, *Calamagrostis*, *Elymus*, *Poa*, and *Bromus*. Lodepole Pine Forest occurs surrounding Upper and Lower Lacey Meadows throughout the proposed project site.

Seep Wetland

Seep Wetlands generally are similar to Wet Meadow described below, with the exceptions that Seep Wetlands are continuously saturated or inundated at, or very near, the soil surface, often due to the presence of perennial seeps or springs nearby, and are dominated by obligate wetland plants such as sedge and bulrush, with very little to no bare ground. Within the proposed project site, Seep Wetlands occur in isolated areas at the margins of Upper Lacey Meadow.

Wet Meadow

Wet Meadows are dominated by plants that are adapted to saturated soil within the rooting zone (typically within the top 12–24 inches of the soil profile) ranging from seasonally to permanently, where at least 80% of the vegetation is dominated by perennial herbaceous species. Wet Meadow occurs on topographically lower landforms along active and abandoned stream channels and lake margins, as well as in areas where shallow, summer groundwater is present. This community contains little bare ground and is dominated by perennial graminoids (e.g., grasses, sedges, and rushes) with fewer herbaceous forbs; shrubs and trees are not commonly found in this plant community. Characteristic species in mesic settings, which are found across the majority of areas mapped as Wet Meadow in the proposed project site, include: Kentucky bluegrass (*Poa pratensis*), tufted hairgrass, (*Deschampsia cespitosa*), Oregon checkerbloom (*Sidalcea oregana*), meadow barley (*Hordeum brachyantherum* ssp. *brachyantherum*), slender wheatgrass (*Elymus trachycaulus*), California oatgrass (*Danthonia californica*), mat muhly (*Muhlenbergia richardsonis*), Baltic rush, yarrow (*Achillea millefolium*), Parish's yampah, lupines, longstem clover (*Trifolium longipes*), California corn lily (*Veratrum californicum* var. *californicum*), and potentillas. In wetter settings, such as abandoned stream courses and oxbows, at the margins of lakes, and in areas with shallow summer groundwater, many of the aforementioned species may be present (albeit less commonly), and dominant species instead are typically species such as Nebraska sedge (*Carex nebrascensis*), inflated sedge (*Carex vesicaria*), beaked sedge (*Carex utriculata*), short-beaked sedge (*Carex simulata*), and species of rushes (e.g., *Juncus nevadensis*), wood-rush (*Luzula comosa*), and bulrush. Areas with persistent, shallow summer groundwater found at the upper margins of Upper Lacey Meadow along Lacey Creek also have a variety of perennial forbs such as columbine (*Aquilegia formosa*), big leaf lupine (*Lupinus latifolius*), larkspurs (*Delphinium* spp.), and California tiger lily (*Lilium pardalinum*).

Willow Scrub-Shrub

Willow Scrub-Shrub is a diverse community typically dominated by various shrub species such as willows (*Salix* spp.) and mountain alder (*Alnus incana* ssp. *tenufolia*), with minimal tree cover. In some locations, creek dogwood (*Cornus sericea* ssp. *sericea*), wild rose (*Rosa* spp.), quaking aspen (*Populus tremuloides*), and scattered black cottonwood (*Populus trichocarpa*) and other woody riparian vegetation also can occur, but these species are less commonly encountered throughout the proposed project site. Willow Scrub-Shrub occurs along Lacey Creek and in scattered locations along tributaries to Lacey Creek. Areas of Dry Meadow or Wet Meadow also commonly occur in the understory of Willow Scrub-Shrub.

Stream

Streams are mapped along Lacey Creek and its tributaries throughout the proposed project site. Streams typically lack vegetation but usually occur in association with one of the other natural communities described above, including: Wet Meadow, Lodgepole Pine Forest, Dry Meadow, or Willow Scrub-Shrub. The surrounding natural community typically is a function of soil depth and texture, slope and aspect, and stream hydrology (i.e., whether the stream is perennial or intermittent/ephemeral).

Sensitive Natural Communities

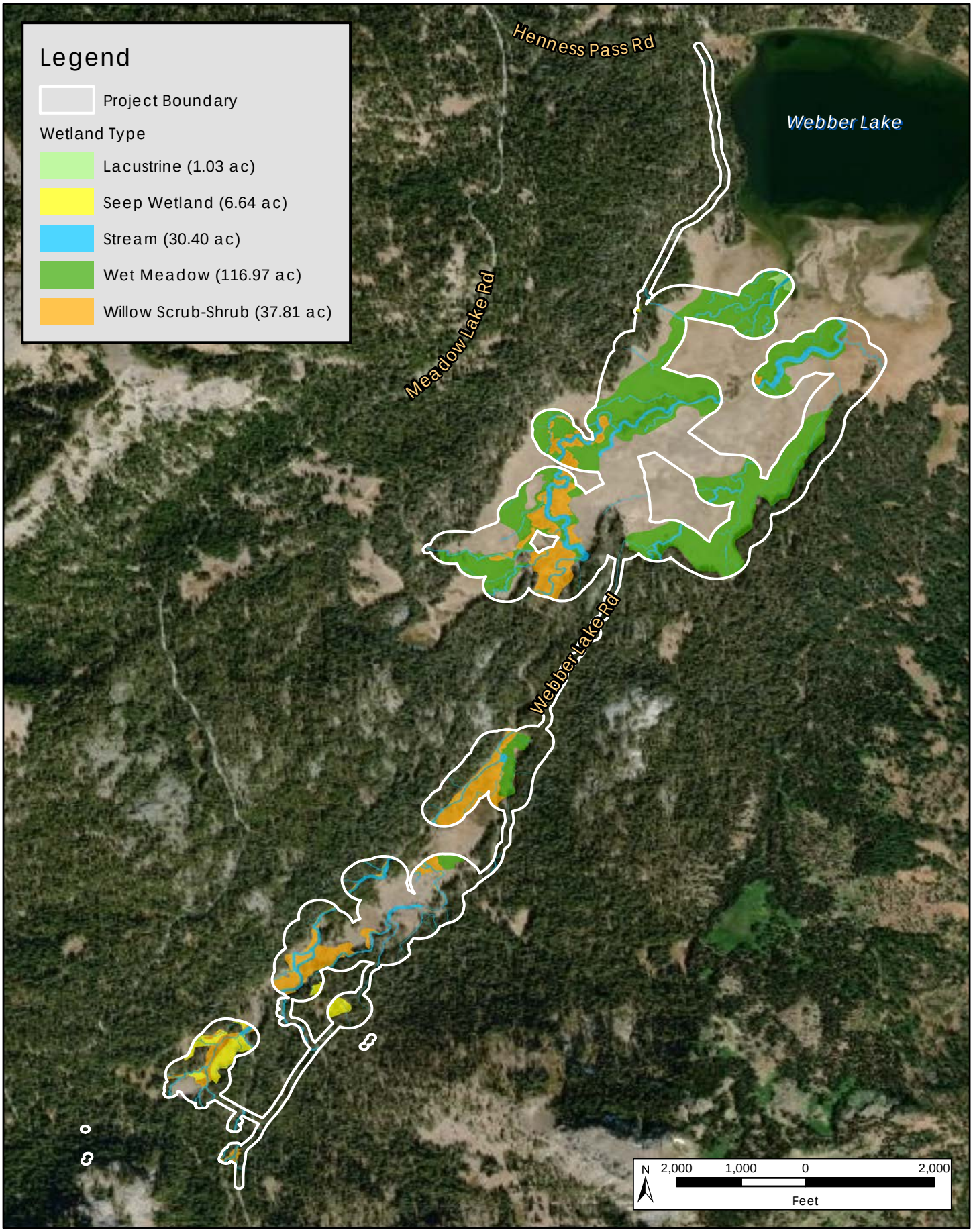
Sensitive Natural Communities in the project site are: Lacustrine, Seep Wetland, Wet Meadow, Willow Scrub-Shrub, and Stream. These natural communities are considered to be sensitive because they are relatively rare on the landscape and provide high ecological values; for these reasons, they are protected under various California and federal laws (see *Regulatory Setting*, below). The locations and acreages of Sensitive Natural Communities, which total approximately 193 acres throughout the project site, are depicted in Figure 3 (H. T. Harvey & Associates 2020a).

Invasive Plants

The Assessment (Balance et al. 2013) documented 21 species of invasive, terrestrial plants (i.e., weeds) that could potentially occur in the Webber Lake watershed. Of the 21 species that could occur, weed species such as Canada thistle (*Cirsium arvense*), Scotch thistle (*Onopordum acanthium*), and perennial pepperweed (*Lepidium latifolium*) are particularly likely to occur in the meadows and riparian areas throughout the proposed project site, but none of these species, or any other species of weeds, have been observed during sporadic fieldwork completed by H. T. Harvey & Associates biologists dating back to 2012. It is possible, if not likely, that small populations of weeds occur in some portions of the proposed project site, but larger populations (i.e., more than 10s of plants per infestation) do not appear to be present.

Fish and Wildlife

The following section provides an overview of general fish and wildlife occurrence within the study area. It largely incorporates similar information compiled by H. T. Harvey & Associates for the Assessment, with minor modifications as needed to update information and more specifically describe the project site.



N:\Projects3400\3407-01\05\Reports\Fig 3 Sensitive Natural Communities.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 3. Sensitive Natural Communities
Lacey Meadows Biological Resources Assessment (3407-05)
October 2020

Mammals

The proposed project site consists of a variety of habitat types that provide foraging and denning/reproduction opportunities for mammals as well as sources of water, cover, and other habitat elements. Additionally, the project site and surrounding study area are part of an extensive, undeveloped landscape relatively free from human disturbance and development. The diversity of habitat types, combined with the relative isolation and undeveloped nature of the project site and surrounding study area, provide the potential to support a wide variety of mammal species, including species of mesocarnivores and large carnivores that require large, unfragmented, and relatively undisturbed landscapes for habitat. The following common species of mammals are either known to occur or are expected to occur within the study area and project site: American black bear (*Ursus americanus*), North American beaver (*Castor canadensis*), bobcat (*Lynx rufus*), coyote (*Canis latrans*), long-tailed weasel (*Mustela frenata*), mountain lion (*Puma concolor*), Sierra marten (*Martes americana sierrae*), Columbian black-tailed deer (*Odocoileus hemionus columbianus*), common porcupine (*Erethizon dorsatum*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), golden mantled ground squirrel (*Callospermophilus lateralis*), chipmunks (*Tamias spp.*), deer mouse (*Peromyscus maniculatus*), voles (*Microtus* spp.), and yellow-bellied marmot (*Marmota flaviventris*).

Amphibians and Reptiles

Amphibians are most likely to occur in close proximity to the various lakes, streams, meadows, and ponds found in the study area and project site. Common species expected to use these habitats for foraging and reproduction include: long-toed salamander (*Ambystoma macrodactylum*), Pacific chorus frog (*Pseudacris regilla*), and western toad (*Bufo boreas*). It should be noted that the presence of introduced, predatory fish such as rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), and eastern brook trout (*Salvelinus fontinalis*) throughout Webber Lake and Lacey Creek and its tributaries may reduce habitat suitability for these species; although, isolated pools (i.e., deep pools not connected by flowing surface water to the rest of the stream) may provide suitable amphibian micro-habitats due to the absence of predatory fish. Reptiles likely to occur in the study area and project site include: mountain garter snake (*Thamnophis elegans elegans*), Sierra garter snake (*Thamnophis couchii*), and northern rubber boa (*Charina bottae*).

Birds

Despite their relatively sparse distribution and sensitivity to disturbance, montane meadows like Lacey Meadows play a crucial role in the life-history and ecology of many Sierra bird species (Grinnell and Miller 1944, Orr and Moffitt 1971, Gregory et al. 1991, Gaines 1992, Cicero 1997, Lynn et al. 1998, Bombay et al. 2003, Cain and Morrison 2003, Heath and Ballard 2003, Borgmann 2010). The occurrence of water, herbaceous vegetation, and riparian shrubs in close proximity create valuable habitats for both aquatic and terrestrial life stages of many insect species on which meadow birds prey (Erman 1984, Gray 1993, Erman 1996, Hatfield and LeBuhn 2007). In addition, Sierra meadows provide dense herbaceous cover for avian nesting, predator avoidance, and thermal cover as well as bountiful seed crops for granivorous birds in late summer and fall.

Because Lacey Meadows and the surrounding watershed have been largely privately owned and access has been controlled for over 100 years, few formal bird surveys have been conducted until recently. Most recent survey efforts have focused only on the breeding population of California endangered willow flycatcher (*Empidonax*

traillii) (e.g., Harris et al. 1987, Loffland et al. 2011, Loffland 2019), with the documentation of other species being opportunistic in nature. Nonetheless, over the last 20–30 years a relatively complete picture of the bird community in the study area, totaling 106 species, has been compiled and includes a number of rare or uncommon species as described further below under "Special-status Species". Recent surveys in 2019 documented a total of 59 species of birds in the study area (Loffland 2019).

Fish

Moyle et al. (1996), identified four zoogeographic regions (drainages) in the Sierra Nevada, each defined by distinctive native fish communities sharing few species in common. The Lahontan drainage, consisting of the Susan, Truckee, Carson, and Walker River drainages, is characterized by ten native fish species, which are distributed widely throughout the drainage from lowlands to elevations above 6600 feet. Despite their widespread distribution in the surrounding region, it is probable, although not certain, that these fish were absent from Webber Lake and Lacey Creek because Webber Falls, located downstream of Webber Lake on the Little Truckee River, is a natural barrier to fish movement from lower reaches of the Truckee River system. Fish absence is typical in other high elevation eastern Sierra watersheds (La Rivers 1994, Moyle et al. 1996), and, prior to Euro-American settlement, nearly all Sierra Nevada lakes and streams lacked fish above approximately 6000 feet (Knapp 1996) due to a combination of glaciation and steep topography that created natural barriers to upstream fish movement.

Nonnative fishes were introduced to historically fishless high elevation lakes through private and government sponsored programs beginning in the mid-1800s and continuing far into the 1900s (Knapp et. al. 2001). The introduction of fish to Webber Lake may have initially consisted of native species including "trout and minnows" (Lindström 2012) from the Little Truckee River below Webber Falls. Subsequent introductions included nonnative fish species, largely game fish, such as: rainbow trout, brook trout, brown trout, "catfish", and "carp" (Lindström 2012) (historical records do not identify the specific species of catfish or carp that were stocked). Nonnative species now represent the primary target species for anglers in Webber Lake and likely dominate the species composition in the lake and in Lacey Creek. More recently, sterile rainbow trout were stocked in Webber Lake up until 2017 (J. Svahn, pers. comm. 2020), and beginning in that same year, a mix of small (roughly 6 inches in length) and trophy-sized (roughly 20–30 inches in length, or greater) cutthroat trout (*Oncorhynchus clarkii henshawi*) were stocked into Webber Lake as a sport fish.

The Lacey Creek fish population consists of fish species that have migrated upstream from Webber Lake. During site visits in summer 2012, and periodically thereafter, abundant brook trout have been observed by an H. T. Harvey & Associates biologist throughout the upper reaches of Lacey Creek in the project site, and several other species including rainbow trout, brown trout, and smaller, unidentified fish (e.g., dace or sculpin) were observed in scattered locations, particularly within the lower reaches of Lacey Creek in Lower Lacey Meadow.

Special-Status Species

For the purpose of this memorandum, special-status species include species listed as threatened or endangered (or proposed or candidate species for such listing) under the California or federal Endangered Species Acts, vascular plants and lichens included in the *CNPS Inventory of Rare and Endangered Plants of California* (CNPS 2020),

California Fully Protected species or Species of Special Concern (CDFW 2020), and Tahoe National Forest-designated Sensitive Species (USFS 2013). Special-status species also include all species of common nesting birds, including all species of raptors, because nests of these species are afforded protection under the California Fish and Game Code, and under certain circumstances also are protected by the federal Migratory Bird Treaty Act (see *Regulatory Setting* below).

The following sources were consulted during development of the Assessment (Balance et al. 2013), and updated for this memorandum, to develop a listing of special-status species that could potentially occur in the study area and project site.

- A query of all California Natural Diversity Database (CNDDB 2020) records reported within 5 miles of Webber Lake.

- A query of the CNPS Inventory of Rare and Endangered Plants of California (CNPS 2020) for all species potentially occurring within the Webber Peak 7.5 minute United States Geological Survey topographic quadrangle as well as the surrounding eight 7.5 minute quadrangles (Haypress Valley, Sattley, English Mountain, Sierraville, Independence Lake, Cisco Grove, Soda Springs, and Norden).

- A query of all USFS species occurrence records maintained in NRIS for the Prosser Creek Watershed (TNF 2020).

- A query of USFWS-Designated Critical Habitat occurring in the project site obtained from the USFWS Information for Planning and Consultation (IPaC) website (USFWS 2020).

- Other species that potentially could occur in the Watershed based on the personal observations or professional opinions of H. T. Harvey & Associates biologists or biologists from the Institute for Bird Populations (IPB). IBP oversaw a multi-year demographic study of willow flycatchers in Lacey Meadows (Loffland et al. 2011) and noted incidental observations of other birds during those surveys, as well as during more recent surveys in 2019 (Loffland 2019).

The species identified through these sources were assessed for their potential to occur within the project site and study area as follows, and placed into the following categories:

- **Known to Occur**: Species documented by CNDDB or NRIS as occurring in the study area and the project site provides suitable habitat for the species; this also includes species personally observed by H. T. Harvey & Associates ecologists or species noted as being observed by qualified biologists (e.g., Loffland et al. 2011, Gaither 2011).

- **Could Occur**: Species documented as occurring outside of, but in close proximity to (e.g., within 2 miles) the study area, and the proposed project site provides suitable habitat for the species.

- **Less Likely to Occur**: This category encompasses the following situations:

- Species have been documented as occurring outside of, but in close proximity to (e.g., within 2 miles), the study area, but suitable habitat is limited within the project site itself.

- Species are known to occur or could occur, in the larger study area, but owing to the proposed project site's smaller area and more limited habitat distribution within the study area, these species are less likely to occur within the proposed project site itself.

- Species for which the project site provides suitable habitat, but the species is not known regionally and/or the species is known to have a restricted distribution that does not include the proposed project site (typically, this applies to species of rare plants or to wildlife with restricted distributions and small population sizes).

- **Unlikely to Occur**: Any species not meeting one of the criteria above.

For species not known to occur on the proposed project site or study area, the potential for occurrence was determined based on the experience and knowledge of H. T. Harvey & Associates ecologists, information provided in the Assessment (and references cited therein), and occurrence record notes and observations recorded in CNDDB or Calflora (2020).

A total of 16 species of special-status wildlife (Table 2, Figure 4) and 4 species of special-status plants (Table 3, Figure 5) were documented that are either known to occur or that could occur on the proposed project site or surrounding study area; each of these species are described in more detail below. Special-status wildlife and plant species that are less likely to occur, or unlikely to occur, in the proposed project site are summarized in Table 2 and Table 3, respectively, but are not described further in this memorandum. There are no special-status species of fish that potentially occur in or near the proposed project site. Observations of common nesting birds, including raptors, although considered to be special-status species, are not summarized in Table 2 or depicted on Figure 4 because they typically are not reported or tracked in databases such as the CNDDB.

Table 2. Special-status Wildlife Species, Their Status, and Potential to Occur in the Study Area

Name	Status[1]	Habitat	Potential for Occurrence[2]
Known to Occur			
Black Tern *Chlidonias niger*	CSSC	Lakes with marshy edges and emergent vegetation or wetland shrub habitat.	**Known to Occur (Phase 2)**. Confirmed by IBP nesting along Webber Lake margin at lower Lacey Valley in 2001 and 2003, near access routes and other proposed project components.
Northern Harrier *Circus cyaneus*	CSSC	Forages in marshes, grasslands, meadows, and treeless habitats. Nests on ground in patches of dense, tall, vegetation.	**Known to Occur (Phase 2)**. Nesting in proposed project site assumed based on presence of suitable habitat and on consistent sightings of harriers by IBP and H. T. Harvey & Associates biologists in Lower Lacey Meadow.
Yellow Warbler *Dendroica petechia*	CSSC	Meadows, riparian areas, or recent burned areas with large stands of willow or other deciduous shrubs.	**Known to Occur**. Well documented on all survey efforts by IBP for Lower Lacey Meadow and Upper Lacey Meadow; relatively abundant breeder in and around the project site.
Willow Flycatcher *Empidonax traillii*	SE TNF-S	Medium to large meadows with extensive areas of montane wet meadow, emergent vegetation and large stands of willow or other riparian deciduous shrubs.	**Known to Occur (Phase 2)**. Intensively monitored by IBP (and others) and confirmed breeding since the 1980s, primarily in Lower Lacey Meadow where access routes and other proposed project components would be located. Most recent surveys in 2019 did not document breeding in Lower Lacey Meadow (Loffland 2019).
Greater Sandhill Crane *Grus canadensis tabida*	ST, FP TNF-S	Marshes and meadows adjacent to grassland or other short vegetation uplands. Nearby montane dry or wet meadow.	**Known to Occur (Phase 2)**. Breeding well documented in lower portion of Lower Lacey Meadow, near Webber Lake and in proximity to access routes and other proposed project components.
Bald Eagle *Haliaeetus leucocephalus*	SE, FP TNF-S	Lakes and rivers, with mature montane coniferous forest nearby.	**Known to Occur (Phase 2)**. TNF documented nest site at southwest side of Webber Lake, relatively near the project site and proposed access routes.
Yellow-headed Blackbird *Xanthocephalus xanthocephalus*	CSSC	Dense, shallow to moderately flooded emergent vegetation dominated by sedges, rushes, or reeds.	**Known to Occur (Phase 2)**. Documented breeding by IBP in Lower Lacey Meadow, near access routes and other components of the proposed project.

Name	Status[1]	Habitat	Potential for Occurrence[2]
Could Occur			
Pallid Bat *Antrozous pallidus*	CSSC TNF- S	Grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Roosts in tree cavities.	**Could Occur**. Documented in vicinity of Webber Lake (D. Johnston pers. obs.). Larger snags surrounding Lacey Meadows, near access routes and other proposed project components, could provide suitable roosting sites.
Sierra Nevada Snowshoe Hare *Lepus americanus tahoensis*	CSSC	Montane riparian scrub, mixed conifer, lodgepole pine forest, aspen, chaparral, montane meadow. Elevation range is 4850-8600 ft.	**Could Occur.** Two TNF observations in the watershed in 2001 using remote sensor camera station. Although riparian scrub in the project site is potentially not dense enough or extensive enough to provide suitable habitat for this species, the species could occur.
Sierra Marten *Martes caurina sierrae*	TNF-S	Diverse age class, mixed conifer with closed canopies and complex understory structure. Downed wood, snags, tree cavities, and similar habitat elements used for dens. Elevation range is 3400-10400 ft.	**Could Occur.** Numerous records reported in the study area surrounding the project site (TNF 2020). Larger snags, downed wood piles, and similar structures surrounding Lacey Meadows, near access routes and other proposed project components, could provide suitable denning sites. TNF (2020) documents multiple records immediately surrounding Lacey Meadows and in or adjacent to the proposed project site.
Northern Goshawk *Accipiter gentilis*	CSSC TNF-S	Mature coniferous forest with large diameter trees and high canopy closure. Frequently forages along meadow edges or in aspen/willow shrub communities.	**Could Occur**. TNF confirmed nest sites in multiple forested locations surrounding Lacey Meadows (TNF 2020), and larger trees near access routes and other proposed project components could be used for nesting.
Short-eared Owl *Asio flammeus*	CSSC	Breeds on marshes and grasslands. Irruptive with significant range expansions when wet weather conditions result in population explosions of prey items.	**Could Occur (Phase 2)**. Nesting is presumed, but not documented, in Lower Lacey Meadow, near access routes and other proposed project components, based on observations by IBP in June 2001.

Name	Status[1]	Habitat	Potential for Occurrence[2]
American White Pelican *Pelecanus erythrorhynchos*	CSSC	Lakes with marshy edges and emergent vegetation or wetland shrub habitat	**Could Occur (Phase 2)**. Routinely documented by IBP on Webber Lake and in the lacustrine shrub vegetation and mudflats along the southern lake boundary, near the project site. Suitable nesting habitat exists, but status of a nesting colony around Webber Lake is unknown.
Great Gray Owl *Strix nebulosa*	SE TNF-S	Forages in meadows and nests within 200m of meadow edges in the Sierra Nevada between 2,500 -8000 ft. Meadows as small as 10 acres will support infrequent breeding.	**Could Occur (Phase 2).** Suitable habitat exists in the project site. This species has been observed by TNF in other meadow complexes near the project site (Perazzo Meadows), and incidental observations of the species have been reported by IBP around Webber Lake and Lower Lacey Meadow.
California Spotted Owl *Strix occidentalis occidentalis*	CSSC TNF-S	Coniferous forests that have a complex multi-layered structure, dense canopies, and large diameter trees.	**Could Occur.** There are several CNDDB and TNF records for this species within the 5 miles of the project site, but the species is unlikely to nest in close proximity to the project site as large diameter trees and complex forest structure generally are lacking.
Less Likely to Occur			
Sierra Mountain Beaver *Aplodontia rufa californica*	CSSC	Open and intermediate-canopy coverage in riparian-deciduous vegetation with a dense understory near water. Deep, friable soil for burrowing. Elevation range is 5800-7600 ft.	**Less Likely to Occur**. Marginally-suitable willow riparian scrub with a dense, herbaceous understory occurs in limited locations within the project site; however, much of the project site is too open or too dry to provide suitable habitat for this species. Closest CNDDB record reported from the southwest end of Perazzo Meadows.
California Wolverine *Gulo gulo leteus*	ST TNF-S	Lodgepole pine forest, mixed conifer, montane chaparral, montane wet meadow. Elevation range is 4300-7300 ft.	**Less Likely to Occur**. CNDDB query returned 5 records in the Webber Lake quad and 7 records in surrounding watershed. One nearby occurrence documented with remote sensor camera in 2008, and multiple other sightings have occurred regionally since that time up to 2018; all of these sightings are believed to be of a single male wolverine. Because this individual has not been observed since 2018, he may be deceased (the animal would have minimally been 10 years old as of 2018).

Name	Status[1]	Habitat	Potential for Occurrence[2]
Vaux's Swift *Chaetura vauxi*	CSSC	Lakes and rivers, with mature montane coniferous forest nearby. Nests in larger, hollow trees.	**Less Likely to Occur**. Observed foraging around Webber Lake by IBP, but breeding status is uncertain in the project site as large, hollow trees used for nesting and roosting are generally limited.
Southern Long-toed Salamander *Ambystoma macrodactylum sigillatum*	CSSC	Flooded alpine meadows, permanent and temporary high mountain ponds and lakes up to 10,000 feet.	**Less Likely to Occur.** TNF reported two observations from ponds west of Meadow Lake Road, over 0.5 mile west of Upper Lacey Meadow. Suitable breeding habitat does not occur in the proposed project site.
Sierra Nevada Yellow-legged Frog *Rana sierrae*	ST FE TNF-S	Fishless streams, lakes, and ponds in montane riparian, lodgepole pine forest, subalpine conifer, and wet meadow habitats. Elevation range is 2040-12070 ft.	**Less Likely to Occur**. Lacey Creek throughout the project site provides potentially suitable dispersal habitat. However, suitable breeding habitat generally is limited and located over 1000 feet distant from closest locations where the proposed project would occur. Closest populations are documented at Pass Creek, White Rock Lake, Perazzo Meadows, and Paradise Valley (CNDDB 2020), well outside the typical dispersal distance of this species. USFWS designated Critical Habitat does not occur in the proposed project site.
Unlikely to Occur			
Pacific Fisher – West Coast Distinct Population Segment (DPS) *Pekania pennanti*	FT(P) TNF-S	Mature, mixed conifer or riparian forest with closed canopies, larger trees, and complex understory structure. Snags, downed wood, or rocky areas used for denning. Elevation range is 4000–8000 ft.	**Unlikely to Occur**. Multiple CNDDB records from 1970s reported from tracks or hair samples around Webber Lake. However, the species generally believed to be extirpated in a region of the Sierra Nevada and Cascade Range between the Pit River and Merced River (which now defines two separate DPS – the West Coast DPS, occurring the in far northern Sierra Nevada, Cascade Range, and Coast Range in California and Oregon, and the Southern Sierra DPS, occurring south of the Merced River in the Sierra Nevada) (CDFW 2010).
Townsend's Big-eared Bat *Corynorhinus townsendii*	CSSC TNF-S	Coniferous forests, riparian communities, deserts, native prairies, and coastal habitat. Roosts in caves, mines, tunnels, buildings, or similar areas.	**Unlikely to Occur**. Documented in vicinity of Webber Lake (D. Johnston pers. obs.), but suitable roosting habitat does not occur in or near the proposed project site.

Name	Status[1]	Habitat	Potential for Occurrence[2]
Spotted Bat *Euderma maculatum*	CSSC	Arid deserts, grasslands, and mixed conifer forests. Roosts in cliffs and rocky outcrops.	**Unlikely to Occur**. Suitable foraging habitat present in Lacey Meadows, but suitable roosting habitat does not occur in or near the proposed project site.
Western Mastiff Bat *Eumops perotis*	CSSC	Arid to semi-arid habitats including forests, woodlands, grasslands, urban areas. Typically roosts in rock crevices, cliffs or structures.	**Unlikely to Occur.** Suitable foraging habitat present in Lacey Meadows, but suitable roosting habitat does not occur in or near the proposed project site.
Fringed Myotis *Myotis thysanodes*	TNF-S	Grasslands, sagebrush steppe, mixed deciduous and mixed conifer forest, and pinyon/juniper. Roosts in rock crevices, cliff edges, caves, mines, and sometimes tree cavities and built structures.	**Unlikely to Occur.** Preferred roosting structures (cliff edges, caves, mines, etc.) do not occur near the proposed project site.
Sierra Nevada Red Fox *Vulpes vulpes* necator	ST	Lodgepole pine forest, mixed conifer, and alpine fell-fields. May hunt in forest openings, meadows, and barren rocky areas. Elevation range is 4500-11500 ft.	**Unlikely to Occur**. CNDDB query returned 2 older records in the Webber Lake quad and 3 older records in surrounding watershed. However, the species is believed to occur currently only in the Sierra National Forest and near Lassen National Park. Historic CNDDB observations are questionable (i.e., possibly observations of a different species) based on currently available data.
Lahontan Cutthroat Trout *Oncorhynchus clarkii henshawi*	FT	Cool-water streams with riffle-runs, rocky substrates, and pools with vegetated and stable stream banks.	**Unlikely to Occur.** This species has been introduced as a gamefish to Webber Lake. Webber Falls, downstream of Webber Lake, likely represents an historic passage barrier to natural populations that occurred downstream in the Little Truckee River. Stocked gamefish in Webber Lake are unlikely to occur, except perhaps on limited occasions in Lacey Creek near Webber Lake, as the lower reaches of Lacey Creek often are ephemeral.

Notes:

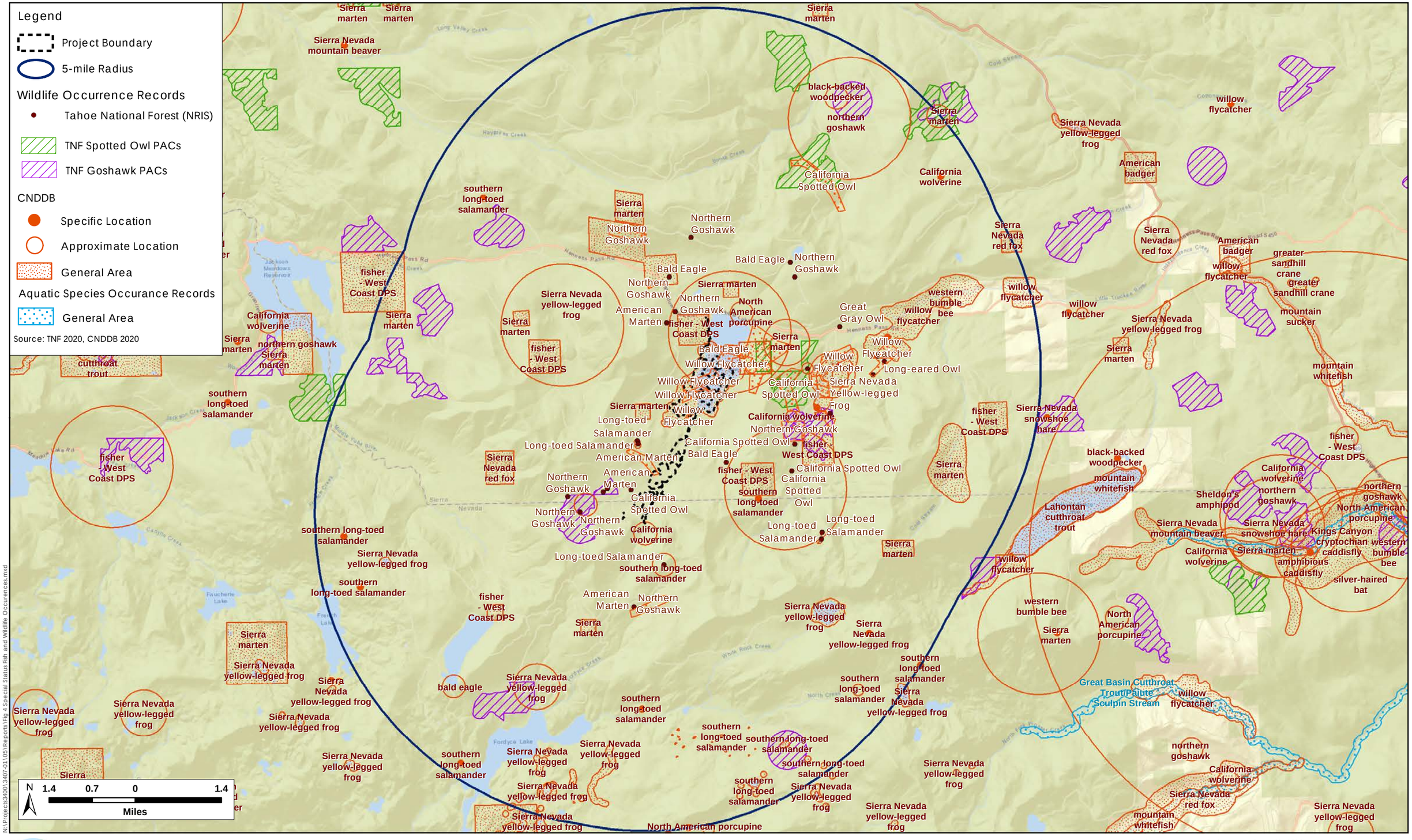
[1] Status Codes

U. S. Fish and Wildlife Service
- FE: Federally Endangered
- FT: Federally Threatened
- FT(P): Federally Threatened (Proposed)

California Department of Fish and Game
- SE: State Endangered
- ST: State Threatened
- CSSC: California Species of Special Concern
- FP: California Fully-Protected Species

Tahoe National Forest
- TNF-S: U.S. Forest Service Sensitive Species (USFS 2013)

[2] For species that are known to occur or that could occur in the proposed project site, those species most likely to occur only within the Phase 2 project area are so noted.



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 4. Special-Status Fish and Wildlife Occurrences
Lacey Meadows Biological Resources Assessment (3407-05)
October 2020

Wildlife Species Known to Occur within the Study Area

Black Tern (*Chlidonias niger*); CDFW-CSSC. The black tern breeds and forages in lakes, meadows, and similar wetland habitats. The species is primarily insectivorous in California, but in some locales fish may play an important role in its diet. Nests are built semi-colonially on floating masses of vegetation that are typically anchored to (or lodged in) emergent vegetation or beds of submerged aquatic plants. Most breeding sites are dominated by low emergent vegetation (usually <3 feet), most often spikerush (*Eleocharis* ssp.) or rushes (*Juncus* spp.), where there is an open water to vegetation ratio of 1:4). Occasionally yellow pond lily (*Nuphar lutea*), smartweed (*Polygonum* ssp.), or bullrush have been utilized for nesting (Orr and Moffitt 1971, Shuford 2008a). Nests are typically located over water 10 to 36 inches deep, and are sometimes found in abandoned grebe (*Podiceps* spp.) nests, on floating logs, or plant debris, or small earthen hummocks (Orr and Moffitt 1971, Shuford 2008a).

The species is currently found in greatest abundance in northeastern California with a smaller population in select Central Valley locations. In the Sierra Nevada, the southern-most locations documented in the literature are in the Sierra Valley and in Kyburz Flat. Black terns were observed by IBP nesting along the lake margin at Lower Lacey Meadow in 2001 and 2003 and have been observed irregularly since that time. Black terns are known to occupy some marshes intermittently, so their periodic absence since the early 2000s should not necessarily be interpreted as the result of change in habitat condition or overall species decline. Although, changes in the operation of Webber Lake (i.e., discontinuing use of fish screens, which formerly caused the Webber Lake level to extend well into Lower Lacey Meadow) since the early 2000s, may be one explanation for the decreased frequency with which black terns have been observed in recent years.

Northern Harrier (*Circus cyaneus*); CDFW-CSSC. The northern harrier breeds and forages in marshes, grasslands, meadows and other treeless habitats in northeastern California, the eastern Sierra Nevada, the Central Valley, and in California's coastal regions (Davis and Niemela 2008). Harriers nest on the ground in patches of dense, tall vegetation in undisturbed areas (MacWhirter and Bildstein 1996). In wetland and meadow areas such as Lower Lacey Meadow, primary prey species are voles and small birds (Davis and Niemela 2008). This species has experienced habitat losses with the draining of wetlands and conversion of open habitat into agricultural production (grazing, alfalfa, rice, etc.). High quality breeding and foraging habitat for this species exists in Lacey Meadows, and harriers are commonly observed during summer breeding season.

Yellow Warbler (*Dendroica petechia*); CDFW-CSSC. The yellow warbler breeds and forages in riparian woodlands and shrublands across much of California, excepting the Central Valley, deserts, and higher elevations of the west slope of the Sierra Nevada. The species reaches some of its greatest abundances in willow-dominated wet meadows of northeastern California and the east slope of the Sierra Nevada (Heath 2008). This species is commonly observed in Upper and Lower Lacey Meadows and is assumed to be a relatively abundant breeder in both locations (Loffland 2019, Cain et al. 2003).

Willow Flycatcher (*Empidonax traillii*); CDFW-SE, TNF-S. The willow flycatcher breeds and forages in riparian scrub habitats, generally associated with lake margins, wet meadows, and similar mesic-wet montane habitats primarily in the Sierra Nevada and Cascade Range. Two subspecies of willow flycatcher regularly occur

in the northern Sierra Nevada. *E. t. adastus* and *E. t. brewsterii* are found along the east and west slopes (respectively) of the Sierra Nevada and southern Cascades. Analyses of DNA and song recordings from willow flycatcher breeding in Lower Lacey Meadow and the nearby vicinity failed to successfully differentiate between the *E. t. adastus* and *E. t. brewsterii* subspecies, and as such, these birds are considered to be intergrades between the two subspecies (Sedgwick 2001).

Anecdotal and demographic studies indicate a dramatic decline in the Sierra Nevada willow flycatcher populations since the 1920s when this species was considered locally common in riparian areas (Ray 1903, Orr and Moffitt 1971, Gaines 1992). These regional declines, as well as local extirpations from most southern Sierra locations, have been well documented since the 1980s (Harris et al. 1987, Bombay et al. 2003, Siegel et al. 2008). Ten years of willow flycatcher population monitoring during the 1990s and 2000s indicated 17% annual declines in the area immediately south of Lake Tahoe, 6% annual declines in the northern Sierra (including data from Lacey Meadows), and 1% percent declines along the Cascade/Sierra interface (Mathewson et al. 2012). With few exceptions, meadows that consistently support more than three territories annually are restricted to the northern Sierra Nevada and southern Cascades (Mathewson et al. 2012). More isolated breeding sites are known in the vicinity of Mono Lake and the East Carson and Walker River watersheds (McCreedy and Heath 2004, H. Loffland pers. obs). Sites that supported multiple territories along the west slope of the Sierra Nevada in the vicinity of the Sierra and Stanislaus National Forests and Yosemite National Park during the 1980s and early 1990s have remained unoccupied for many years, and willow flycatchers are presumed to have been extirpated from these locations (Green et al 2003, Siegel et al. 2008).

Willow flycatchers have been intensively monitored around Webber Lake from 1998 through 2019 (Loffland et al. 2011, Loffland and Siegel 2014, Loffland 2019), with earlier studies occurring in the late 1980s (Harris et al. 1987). Territories numbered from 12 to 14 through 2001 and then steadily declined to three or four in 2008 and 2009 to just two territories in 2014 to no occupied territories in 2019. In 2014, two territories were located south of Webber Lake Road; no territories occurred north of Webber Lake Road (where occupied territories were common near Webber Lake in prior years) (Loffland and Siegel 2014).

Greater Sandhill Crane (*Grus canadensis tabida*); CDFW-ST, TNF-S. The Greater sandhill crane winters in the Central Valley and breeds across six counties in Northeastern California, south to Nevada County (Carpenter Valley), Greater sandhill cranes breed primarily in bulrush and sedge-dominated marshes or meadows adjacent to grassland or other short vegetation uplands (Littlefield 1982, Ivey and Herzinger 2001). Nests are most frequently found in patches of rushes and in areas protected from predators by standing water. This species is very susceptible to disturbance and will sometimes abandon nests in the presence of repeated human or livestock activity. Nest predation from coyote and common raven (*Corvus corax*) is a significant factor in reproductive success, and drought conditions often lead to increased predation rates (Littlefield 1989). Cranes are susceptible to draining of wetlands for agricultural or residential conversion, trampling of young and reduction in nest cover by livestock, mortality from mowing and habitat abandonment from human related disturbance. Greater sandhill cranes have been routinely documented in northeast side of Lower Lacey Meadow, near the Webber Lake shore. Fledgling cranes (colts) have been observed with adults during many years, and in 2012 IBP observed one colt with two adults. Greater sandhill cranes also were observed in this

same general location by H. T. Harvey & Associates biologists in August 2020, but were not noted in general bird surveys conducted by IBP in 2019 (Loffland 2019).

Bald Eagle (*Haliaeetus leucocephalus*); CDFW-FP, SE. California's breeding population of bald eagles is resident yearlong in areas where the climate is relatively mild. Aside from resident pairs, individuals from regions north and northeast of California will migrate into California between mid-October and December. Wintering populations remain in California through March or early April. Nesting territories are normally associated with lakes, reservoirs, rivers, or large streams (Lehman 1979); most nest territories occur in Shasta, Plumas, Siskiyou, Lassen, and Modoc Counties, but additional known breeding territories are scattered elsewhere throughout California, except the Central Valley and southwest desert regions (CDFW 2016).

Bald eagle nests are usually located in uneven-aged (multi-storied) stands with old growth components (Anthony et al. 1982). Most nests in California are located in predominantly coniferous stands. Factors such as relative tree height, diameter, species, position on the surrounding topography, distance from water, and distance from disturbance also appear to influence nest site selection (Lehman et al. 1980, Anthony and Isaacs 1981).Trees selected for nesting are characteristically one of the largest in the stand or at least co-dominant with the overstory. Nest trees usually provide an unobstructed view of the associated water body and are often prominently located on the landscape. Live, mature trees with deformed tops are occasionally selected for nesting. In California, 73 percent of the nest sites were within 0.5 mile of a body of water, and 89 percent within 1 mile. No nests were known to be over 2 miles from water. Bald eagles often construct several nests within a territory and alternate between them from year to year. Up to 5 alternative nests may be constructed within a single territory (USFWS 1986). The most common food sources for the bald eagle are fish, waterfowl, jackrabbits, and various types of carrion (USFWS 1986).

Bald eagles are known from a number of lake and river settings on the Tahoe National Forest. The species is routinely observed at Webber Lake, and the TNF has documented a nest located in forested areas along the southwest side of the lake.

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*); CDFW-CSSC. The yellow-headed blackbird is locally common in the marshes found in large mountain valleys of northeastern California and the eastern Sierra Nevada (Jaramillo 2008). This species nests in tall, emergent vegetation over relatively deep water. Nests are typically found in cattails (*Typha* spp.) or bullrush, but locally (Sierra Valley), the species is documented using spikerush, as it does in Lacey Meadows. Yellow-headed blackbirds have been observed intermittently by IBP, and the interface between Lower Lacey Meadow and Webber Lake provides habitat for this species on at least an occasional basis.

Wildlife Species that Could Occur within the Study Area

Pallid bat (*Antrozous pallidus*); CDFW-CSSC, TNF-S. The pallid bat occurs throughout California with the exception of the northwest corner of the state and the high Sierra Nevada (Hall 1981, Zeiner et al. 1990). It is a colonial species with colonies ranging in size from a few individuals to over a hundred, but usually consisting of at least 20 individuals (Wilson and Ruff 1999, Sherwin and Rambaldini 2005). Pallid bats are most

commonly found in oak savannah and in open dry habitats with rocky areas, trees, buildings, or bridge structures that are used for roosting (Zeiner et al. 1990, Ferguson and Azerrad 2004). Pallid bats typically use separate day and night roosts (Hermanson and O'Shea 1983). In general, day roosts are more enclosed, protected spaces relative to night roosts, which often occur in open buildings, porches, garages, highway bridges, and mines. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators (Sherwin and Rambaldini 2005). Pallid bats do not migrate long distances between summer and winter sites (Johnston et al. 2006). After mating during the late fall and winter, females and males share a common wintering roost, usually along a canyon bottom where temperatures are relatively stable and cool, and then females leave the common winter roost in early spring to form maternity colonies, often on ridge tops or other warmer locales (Johnston et al. 2006). Maternity colonies in California may be active from May to October (Gannon 2003). Pallid bats forage on a variety of insects, including beetles, centipedes, cicadas, crickets, grasshoppers, moths, and others, both gleaned from surfaces and taken aerially (Johnston and Fenton 2001). This species may occur within the Lacey Meadow system and surrounding watershed (D. Johnston, pers. obs.), and the larger lodgepole pine trees and snags surrounding Lacey Meadows may provide suitable roosting sites.

Sierra Nevada Snowshoe Hare (*Lepus americanus tahoensis*); CDFW-CSSC, TNF-S. In California, the Sierra Nevada snowshoe hare is primarily found in montane riparian habitats with thickets of alders and willows and in stands of young conifers interspersed with chaparral (Zeiner et al. 1990). The early seral stages of mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges and especially near meadows (Ingles 1965). In the summer, their diet consists of grasses, forbs, sedges, and low shrubs (Zeiner et al. 1990). Needles and bark of conifers and leaves and green twigs of willow and alder are eaten in the winter (Wolff 1980). Several records of this species have been reported in the Webber Lake Watershed (CNDDB 2020), and suitable habitat for the species occurs in scattered locations that have dense willow cover, primarily limited to the southern end of Lower Lacey Meadow and scattered locations in Upper Lacey Meadow. Early seral lodgepole pine stands around the lower margins of Lower Lacey Meadow also could provide suitable habitat for this species.

Sierra marten (*Martes americana sierrae*); TNF-S. The Sierra marten is a subspecies of American marten with an elevational range from 3400 to 10400 ft (Freel and Stweart 1991). It occurs throughout much of its historic range from Trinity and Siskiyou counties east to Mount Shasta, south through the Cascade and Sierra Nevada mountain ranges to Tulare County (Zielinski et al.. 2001, Grinnel et al. 1937, Kucera et al. 1996). Mesocarnivore surveys conducted in the Sierra Nevada from 1996 to 2002 reported Sierra martens in Amador, Calaveras, El Dorado, Fresno, Lassen, Madera, Mariposa, Placer, Plumas, Shasta, Sierra, Tehama, Tulare, and Tuolumne counties (Zielinksi et al. 2005). In the Sierra Nevada, martens prefer old growth fir forests and high elevation riparian-lodgepole pine associations (Spencer et al. 1983). Breeding occurs in July or August, pups typically are born in March or April. Martens will use a variety of structures for dens, including tree cavities, snags, stumps, downed logs or woody debris piles. Within its preferred habitat types (e.g., red fir forest, lodgepole pine forest), Sierra martens tend to avoid open areas, like meadows, but meadow-forest ecotones and riparian areas are preferentially used for hunting and travel (Spencer et al. 1983). This species is known to occur within the Webber Lake watershed, and suitable den sites may occur in the lodgepole forest surrounding Lacey

Meadows. The TNF (2020) also has reported multiple Sierra marten observations either within, or immediately adjacent to, the proposed project site.

Northern Goshawk (*Accipiter gentilis*); CDFW-CSSC, TNF-S. The northern goshawk is a medium-sized raptor that nests and forages primarily in mature montane coniferous forest with large diameter trees and high canopy closure. It sometimes nests and forages in mature aspen stands and will frequently forage along meadow edges or in aspen/willow shrub communities (Keane 2008). Primary prey are songbirds and small mammals. This species is known to nest in multiple forested locations within the Webber Lake watershed based on CNDDB and TNF records, and the forested areas surrounding Lacey Meadows provide suitable nesting trees.

Short-eared Owl (*Asio flammeus*); CDFW-CSSC. The short-eared owl breeds and forages in marshes, meadows, and grasslands in northeastern California, on the eastern foothills of the Sierra Nevada south of Lake Tahoe, and in the Central Valley (Roberson 2008). This species is irruptive and has significant range expansions when wet weather conditions result in population explosions of voles, which are a primary prey species of short-eared owls. This species is a ground-nesting, twilight hunter and requires good nesting cover from grassland or marsh vegetation 12 to 20 in high (Holt and Leasure 1993, Roberson 2008). There are historical records from Sierra Valley to the north and from similar lake-side settings at Mono Lake and June Lake to the south. Short-eared owls were observed by IBP on two occasions in Lower Lacey Meadow during 2001, but have otherwise not been observed in Lacey Meadows (H. Loffland, pers. obs.).

American White Pelican (*Pelecanus erythrorhynchos*); CDFW-CSSC. The American white pelican breeds on protected islands and peninsulas at lakes and marshes in Northeastern California as far south as Lake Tahoe (Shuford 2005, Shuford 2008b). They use ground nests or floating masses of vegetation and often nest colonially with other species from March through July. This species also travels long distances to forage during the breeding season, and some non-breeding individuals spend the entire summer at good foraging sites (Knopf and Kennedy 1980, Shuford 2005). American White Pelicans were routinely seen by IBP on Webber Lake and in the lacustrine shrub vegetation and mud flats along the southern lake boundary with Lower Lacey Meadow. Some suitable and protected islands of nesting habitat exist, but they not likely extensive enough to support a breeding colony. Nonetheless, it is unknown whether the species is breeding at Webber Lake in very small numbers or simply foraging around the vicinity.

Great Gray Owl (*Strix nebulosa*); CDFW-SE, TNF-S. The Sierra Nevada population of the great grey owl is the southernmost population in North America. Although there have been a number of recent observations of great gray owl breeding in foothill oak/pine savannah settings in California, the majority of the great gray owl population in the Sierra Nevada utilizes meadows for foraging, and nest locations are almost all within 600 feet of a meadow edge. The highly restricted range of the Sierra Nevada great gray owl population and its apparent genetic differentiation from great gray owls elsewhere (Hull et al. 2010) indicate an isolated and at risk population (Beck and Winter 2000). Most breeding locations are known from elevations between 2500 and 8000 feet. Evidence in the Yosemite Region suggests that great grey owls need meadows at least 25 acres in size for persistent occupancy and reproduction (Winter 1986), but meadows as small as 10 acres will support infrequent breeding. Great gray owls nest primarily in large-diameter trees with broken tops. Nest sites are almost always in close proximity to meadows, which are used intensively for foraging for voles and other small

mammals.

There are a number of historic observations in the TNF, but most important are multiple detections in the early 2010s (not reported in CNDDB) that have occurred in or near the Webber Lake/Little Truckee River watersheds. According to TNF records, a pair was located approximately 7.5 miles to the west of Webber Lake in 2012, and surveys in and around the Perazzo Meadows complex, approximately 1.8 miles downstream of Webber Lake, have resulted in multiple great gray owl detections. Additionally, IBP reported observations of great grey owls in Lower Lacey Meadow during willow flycatcher surveys (H. Loffland, pers. obs.). Suitable breeding and foraging habitat for this species exists along the forested boundaries of Lower Lacey Meadow. Upper Lacey Meadow likely does not provide enough suitable meadow habitat in its current condition to support forging habitat for this species, thus nesting around the Upper Meadow is not expected to occur.

California Spotted Owl (*Strix occidentalis occidentalis*); CDFW-CSSC, TNF-S. The California spotted owl is a subspecies of the spotted owl (*Strix occidentalis*) that only occurs in California. It is found on the western side of the Sierra Nevada and very locally on the eastern slope, occurring from Shasta County south through the Sierra Nevada to Kern County as well as in the coastal ranges from Monterey County south to Baja California (Verner et al. 1992). California spotted owls occur in a wide variety of habitats; although, individuals that occur at high elevations in the Sierra Nevada prefer habitats dominated by conifers (Gutierrez et al. 1995). This subspecies is strongly associated with forests that have a complex multi-layered structure, dense canopies, and large-diameter trees (Verner et al. 1992, Gutierrez et al. 1995, USFS 2018). The species is sensitive to disturbance and requires several hundred acres of mature forest for breeding (USFS 2018). The presence of large trees (>35.4 inches in diameter at breast height [dbh]) is essential for nesting and roosting habitat, while foraging habitat is more variable and includes both intermediate and old-growth forests (Gutierrez et al. 1995). California spotted owls do not construct their own nests, rather they use existing nest structures or cavities in the hollows of trees. The breeding season for California spotted owls extends from mid-February to mid-October (USFS 2018). The USFS has reported several Protected Activity Centers (PACs) and owl observations in close proximity to the proposed project site. The forested habitats surrounding Lower and Upper Lacey Meadows provide marginally suitable breeding habitat; although overall habitat suitability is reduced by the relative lack of large, old trees and forest structure this species tends to prefer for nesting.

Table 3. Special-status Plant Species, Their Status, and Potential to Occur in the Project Site

Species	Lifeform	Status[1]	Elevation Range	Habitat	Distribution
Species that Could Occur in the Project Site					
Davy's sedge *Carex davyi*	Perennial herb	1B.3	4950' to 10560'	Subalpine and upper montane conifer forest in drier meadows	Yosemite north tough Truckee/Tahoe Basin; CNDDB documents 1 record from Webber Lake and additional records in surrounding areas. Suitable dry meadow habitat present. Species could occur in the project site.
Subalpine fireweed (aka Yuba Pass willowherb) *Epilobium howellii*	Perennial stoloniferous herb	4.3 TNF- S	6600' to 10296'	Mesic to wet habitats in meadows, seeps, and subalpine conifer forest	Central to Southern Sierra Nevada, Bridgeport vicinity, Alpine County, Donner Pass, Plumas County; roughly 10 CNDDB records within 5 mi of Webber Lake. Suitable mesic to wet meadow habitat present. Species could occur in the project site.
Rayless mountain ragwort *Packera indecora*	Perennial herb	2B.2	5250' to 6560'	Meadows and seeps	Known from 6 recorded observations in CNDDB, including 1 historic record from "Webber Lake" in 1912. Although status of Webber Lake observation is questionable, given its age, suitable habitat for the species occurs in the project site.
Alder buckthorn *Rhamnus alnifolia*	Perennial deciduous shrub	2B.2	4521' to 7029'	Meadows and riparian areas in conifer forests; along seeps and in moist areas	Alpine County, Tahoe/Truckee, Lake Almanor vicinity; known along upper Little Truckee River roughly 7 mi below Webber Lake. Suitable habitat occurs in the project site.
Species that are Less Likely to Occur in the Project Site					
Threetip sagebrush *Artemisia tripartita ssp. tripartita*	Perennial shrub	2B.3	7260' to 8580'	Openings in upper montane conifer forest on rocky, volcanic soils	Tahoe Basin and Plumas County. Limited suitable habitat occurs in the project site.

Species	Lifeform	Status[1]	Elevation Range	Habitat	Distribution
Bolander's bruchia *Bruchia bolanderi*	Moss	4.2 TNF-S	5610' to 9240'	Damp soil, meadows, seeps	Widely distributed but uncommon throughout Sierra Nevada. Suitable wet meadow habitat limited in the project site. Species could occur, but is less likely to occur.
Thread-leaved beakseed *Bulbostylis capillaris*	Annual herb	4.2	1304' to 6848'	Meadows or seeps in conifer forest	Widespread in Central to Northern Sierra Nevada and Cascades to north of Redding; most of watershed outside elevation range of species. Limited suitable habitat occurs in the project site.
Mud sedge *Carex limosa*	Perennial rhizomatous herb	2B.2	3960' to 8910'	Bogs, fens, meadows, and seeps in conifer forests	Central Sierra Nevada, South Lake Tahoe/Emigrant Pass, Cascades; species is known from Sagehen Creek meadow; could occur along lake margins. Limited suitable habitat occurs in the project site.
Starved daisy *Erigeron miser*	Perennial herb	1B.3 TNF- S	6072' to 8646'	Rocky upper montane conifer forest	Bridgeport vicinity, Donner Pass, Lake Almanor vicinity; 2 CNDDB records just outside 5 mi Webber Lake buffer, outside watershed. Limited suitable habitat occurs in the project site.
Donner Pass buckwheat *Eriogonum umbellatum* var. *torreyanum*	Perennial herb	1B.2 TNF-S	6122' to 8646'	Openings in upper montane coniferous forest on rocky, volcanic soils	Tahoe Basin and Donner Pass; 4 CNDDB/Tahoe NF records within watershed and additional populations documented outside watershed within 5 mi of Webber Lake. Limited suitable habitat occurs in the project site.
Three-ranked hump moss *Meesia triquetra*	Moss	4.2 TNF-S	4290' to 9745'	Mesic to wet bogs, meadows, fens	Widely distributed but uncommon in Sierra Nevada, Cascades, North Coast. Species could occur, but is less likely to occur.

Species	Lifeform	Status[1]	Elevation Range	Habitat	Distribution
Broad-nerved hump moss *Meesia uliginosa*	Moss	2B.2 TNF-S	4290' to 9253'	Similar to M. triquerta	Widely distributed but uncommon in Sierra Nevada, Cascades, North Coast; known from Sagehen Creek meadow. Species could occur, but is less likely to occur.
White beaked-rush *Rhynchospora alba*	Perennial rhizomatous herb	2B.2	198' to 6732'	Bogs, fens, meadows, seeps	Yosemite north to Cascades and North Coast Range; could occur in meadows and seeps but most of project site located outside species elevation range. Less likely to occur in the project site.
Western campion *Silene occidentalis* ssp. *occidentalis*	Perennial herb	4.3	4059' to 6897'	Dry, open areas in chaparral and conifer forest	Pyramid Peak north to Lassen National Park vicinity, Modoc Plateau; could occur in drier, open areas but most of project site located outside species elevation range. Less likely to occur in the project site.
Unlikely to Occur					
Woolly-leaved milk-vetch *Astragalus whitneyi* var. *lenophyllus*	Perennial herb	4.3	7046' to 10065'	Alpine boulder and rock, subalpine conifer forest	Tahoe Basin, Donner Pass, Butte, Plumas and Alpine Counties. Suitable habitat does not occur in the project site.
Scalloped moonwort *Botrychium crenulatum*	Perennial rhizomatous herb	2B.2 TNF-S	4184' to 10824'	Bogs, fens, seeps, meadows	Distributed throughout Sierra Nevada, populations known from Tahoe NF and Sagehen Creek. Suitable fen habitat does not occur in the project site.
Fell-fields claytonia *Claytonia megarhiza*	Perennial herb	2B.3	8580' to 11656'	Alpine boulder and rock	Central Sierra Nevada, Ebbet's Pass; CNDDB documents 1 occurrence along Mt. Lola but suitable habitat is absent within watershed and outside the species known elevation range. Unlikely to occur in project site.

Species	Lifeform	Status[1]	Elevation Range	Habitat	Distribution
English sundew *Drosera anglica*	Perennial herb	2B.3 TNF-S	4290' to 6600'	Bogs, fens, meadows, and seeps	Northern Sierra Nevada to Cascades; known from Sagehen Creek meadows and similar habitats within Tahoe NF. Suitable fen habitat does not occur in the project site.
Sierra Valley ivesia *Ivesia aperta* var. *aperta*	Perennial herb	1B.2 USFS – S	4884' to 7590'	Seasonally wet areas in Great Basin scrub, lower montane conifer forest, juniper/pinyon pine woodland	Sierra Valley; watershed is outside known range of species and suitable habitat is limited. Unlikely to occur in project site.
Dog Valley ivesia *Ivesia aperta* var. *canina*	Perennial herb	1B.1 USFS – S	5280' to 6600'	Volcanic, rocky soils in dry meadows and lower montane conifer forest	Sierraville to Loyalton; watershed is outside known range of species and suitable habitat is limited. Unlikely to occur in project site.
Plumas ivesia *Ivesia sericoleuca*	Perennial herb	1B.2 USFS – S	4323' to 7260'	Seasonally wet, volcanic soils in Great Basin scrub and lower montane conifer forest	Eastern Sierra Valley north to Janesville; watershed is outside known range of species and suitable habitat is limited; found along Independence Lake and east of Hwy 89 along Henness Pass Rd. Unlikely to occur in project site.
Webber's ivesia *Ivesia webberi*	Perennial herb	1B.1 USFS – S	3300' to 6848'	Clayed, gravelly soils over andesitic bedrock in Great Basin scrub and lower montane conifer forest	Eastern Sierra Valley, Plumas County; CNDDB documents 1 record from Webber Lake area, but Witham (2000) concludes that this is an erroneous record and that no suitable habitat is present at Webber Lake; known populations found further east into Nevada. Unlikely to occur in project site.

Species	Lifeform	Status[1]	Elevation Range	Habitat	Distribution
Santa Lucia dwarf rush *Juncus luciensis*	Annual herb	1B.2	990' to 6732'	Chaparral, Great Basin scrub, meadows, vernal pools	Martis Valley north through Cascades, Central and Southern Coast Range; suitable habitat limited within watershed and generally above elevation range within which the species occurs. Unlikely to occur in project site.
Long-petaled lewisia *Lewisia longipetala*	Perennial herb	1B.3 USFS – S	8250' to 9653'	Alpine boulder and rock, granite soils, subalpine conifer forest	Emigrant Pass to Donner Pass; suitable habitat is limited in watershed and not within known distribution of species. Unlikely to occur in project site.
Northern bugleweed *Lycopus uniflorus*	Perennial herb	4.3	17' to 6600'	Bogs, fens, marshes, swamps	Yosemite, Cisco Grove, Lake Almanor vicinity, Cascades to north Coast Range; majority watershed not within elevation range for species. Unlikely to occur in project site.
Tall alpine-aster *Oreostemma elatum*	Perennial herb	1B.2 USFS – S	3317' to 6930'	Bogs, fens, meadows, and seeps in lower montane conifer forest	Plumas and Lassen Counties; species not observed in Lacey Meadows and most of watershed outside elevation range for species. Unlikely to occur in project site.
Stebbins' phacelia *Phacelia stebbinsii*	Annual herb	1B.2 USFS – S	2013' to 6633'	Cismontane woodland, lower conifer forest, meadows	American and Yuba River drainages; suitable habitat limited within watershed and most of watershed outside known distribution. Unlikely to occur in project site.
White-stemmed pondweed *Potamogeton praelongus*	Perennial rhizomatous herb	2B.3	5940' to 9900'	Lakes	Webber Lake, Catfish Lake, and Lassen NP; Webber Lake collection is from 1894. Suitable habitat does not occur in the project site.

Species	Lifeform	Status[1]	Elevation Range	Habitat	Distribution
Robbins' pondweed *Potamogeton robbinsii*	Perennial rhizomatous herb	2B.3	5049' to 10890'	Lakes	Sierra Nevada, Cascades, North Coast Range. Suitable habitat does not occur in the project site.
Sticky pyrrocoma *Pyrrocoma lucida*	Perennial herb	1B.2 USFS – S	2310' to 6435'	Alkaline clay in great basin scrub, lower montane conifer forest, meadows	Sierra Valley to Janesville/Quincy; suitable habitat limited within watershed. Unlikely to occur in project site.
Water bulrush *Schoenoplectus subterminalis*	Perennial rhizomatous herb	2B.3	2475' to 7425'	Lake margins	Central Sierra Nevada, Cascades, North Coast Range. Could occur along lake margins within watershed, but suitable habitat does not occur in the project site.
Water awlwort *Subularia aquatica* ssp. *americana*	Annual herb	4.3	6270' to 10230'	Lake margins	Yosemite north to Cascades; could occur along lake margins. Suitable habitat does not occur in the project site.

[1] Status Codes

California Native Plant Society:

1A. Presumed extinct in California
1B. Rare, Threatened, or Endangered in California and elsewhere
2B. Rare, Threatened, or Endangered in California, more common elsewhere
3. Plants for which we need more information - Review list
4. Plants of limited distribution - Watch list

New Threat Code extensions and their meanings:

.1 - Seriously endangered in California
.2 – Fairly endangered in California
.3 – Not very endangered in California

Note that all List 1A (presumed extinct in California) and some List 3 (need more information- a review list) plants lacking any threat information receive no threat code extension

Tahoe National Forest

TNF-S: U. S. Forest Service Sensitive Species (USFS 2013

Legend

Project Boundary

5-mile Radius

Occurrence Records

Tahoe National Forest (NRIS)

CNDDB

Specific Location

Approximate Location

General Area

Terrestrial Communities (CNDDB)

General Area

Sources:TNF 2020, CNDDB 2020

Mingan moonwort
subalpine fireweed
subalpine fireweed
subalpine fireweed
subalpine fireweed
western goblin
western goblin
subalpine fireweed
subalpine fireweed
sagebrush bluebells
alder buckthorn
Plumas ivesia
Plumas ivesia
white-stemmed pondweed
Davy's sedge
rayless mountain ragwort
Donner Pass buckwheat
Donner Pass buckwheat
broad-nerved hump moss
broad-nerved hump moss
broad-nerved hump moss
broad-nerved hump moss
broad-nerved hump moss
Plumas ivesia
Plumas ivesia
Plumas ivesia
white-stemmed pondweed
Donner Pass buckwheat
Donner Pass buckwheat
Donner Pass buckwheat
Plumas ivesia
Robbins' pondweed
Davy's sedge
Davy's sedge
Davy's sedge
northern coralroot
starved daisy
Donner Pass buckwheat
subalpine fireweed
Donner Pass buckwheat
Donner Pass buckwheat
subalpine fireweed
subalpine fireweed
subalpine fireweed
subalpine fireweed
Austin's astragalus
fell-fields claytonia
Davy's sedge
broad-nerved hump moss
common moonwort
Davy's sedge
English sundew
mud sedge
upswept moonwort (Fen)
scalloped moonwort
alder buckthorn
scalloped moonwort
English sundew
broad-nerved hump moss
broad-nerved hump moss
broad-nerved hump moss
broad-nerved hump moss
Donner Pass buckwheat
Donner Pass buckwheat
Donner Pass buckwheat
Donner Pass buckwheat
broad-nerved hump moss
broad-nerved hump moss
starved daisy
starved daisy
starved daisy
starved daisy
starved daisy
long-petaled lewisia
starved daisy
long-petaled lewisia
long-petaled lewisia
starved daisy
threetip sagebrush
Donner Pass buckwheat
starved daisy

N 1.4 0.7 0 1.4
Miles

N:\Projects\3400\3407-01\05\Reports\Fig 5 Special Status Plant Occurences.mxd

H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 5. Special-Status Plant Occurrences
Lacey Meadows Biological Resources Assessment (3407-05)
October 2020

Plant Species that Could Occur in the Project Site

Davy's Sedge (*Carex davyi*); CNPS-1B.3. Davy's sedge is an erect, clumped, perennial sedge (Cyperaceae family) growing approximately 10 to 15 inches in height (Baldwin et al. 2012). It is found in dry and sparsely vegetated meadows and slopes in upper montane and subalpine conifer forests from roughly 4500' to over 10,000' in elevation from the central and northern Sierra Nevada north through the Cascades into Washington (Baldwin et al 2012, CNPS 2020). Davy's sedge is known to occur within the Lacey Creek watershed. It has been collected near the Webber Lake outlet (CCH 2020), and several other observations have been recorded from the surrounding region (CNDDB 2020, CCH 2020). Webber Lake populations appear to mark the northern extent of known populations within the Sierra Nevada (CNPS 2020). CNPS (2020) has ranked Davy's sedge on list 1B.3, which indicates that plant is rare, threatened or endangered throughout its range, but not very rare within California. It is known from 20 or fewer populations within California (CNPS 2020).

Subalpine Fireweed (*Epilobium howellii*); CNPS-4.3, TNS-S. Subalpine fireweed (also known as Yuba Pass willowherb) is a wispy, perennial herb in the evening primrose family (Onagraceae) growing 3 to 8 inches high and spreading by short stolons (Baldwin et al. 2012). It is most commonly found growing in wet and boggy areas within the Sierra Nevada from roughly 6600' to nearly 9000' in elevation (Baldwin et al. 2012). Originally collected in 1975 along Yuba Pass (Taylor 2000), it has since been found in numerous locations throughout the Sierra Nevada (CNPS 2020) and is now known to occur in at least 23 different 7.5 minute USGS topography quadrangles ranging from Webber Peak in the north south to areas in the Sierra National Forest east of Fresno (CNPS 2020) in the south. Subalpine fireweed is likely to occur within the Lacey Creek watershed with at least a dozen collections made within 5 miles of Webber Lake (CNDDB 2020). Subalpine fireweed is also known from numerous collections within the surrounding region (CNDDB 2020). CNPS (2020) has placed sub-alpine fireweed on list 4.3, its lowest rarity ranking, indicating that it is uncommon in California and not very endangered; subalpine fireweed also is a Tahoe National Forest Sensitive species.

Rayless mountain ragwort (*Packera indecora*); CNPS-2B.2. Rayless mountain ragwort is an herbaceous perennial (family: Asteraceae) that can grow up to 3 feet in in height (Baldwin et al. 2012). It is found in meadows, along seeps, and in other mesic to wet areas throughout the Sierra Nevada from approximately 5250' to 6560' in elevation (CNPS 2020). Outside California, the species also occurs in Alaska, Idaho, Michigan, Minnesota, Montana, Oregon, Washington, Wisconsin, and Wyoming (CNPS 2020).In California, the species is known from only six locations scattered in the Cascade Range and the Sierra Nevada (CNDDB 2020). Rayless mountain ragwort was recorded near Webber Lake in 1912; although the current status of this observation is unknown, suitable mesic to wet meadow habitat occurs in the proposed project site. Rayless mountain ragwort has a California Rare Plant Rank of 2B.2, which indicates that the plant is rare or endangered in California but more common elsewhere, and is fairly endangered in California (CNPS 2020).

Alder buckthorn *(Rhamnus alnifolia)*; CNPS-2B.2. Alder buckthorn is a perennial deciduous shrub (Rhamnaceae family) that can grow up to 6.5 feet in height (Baldwin et al. 2012). It is found along stream sides, in seeps, and edges of wet meadows in montane coniferous forests from approximately 4,490' to 6,980' in elevation (CNPS 2020). Its range includes California, Washington, Oregon, Idaho, Utah, and Wyoming (CNPS 2020), and in California it occurs in the northern high Sierra Nevada. Alder buckthorn is not known to occur

within the Lacey Creek watershed, but there are records within 5 miles of the watershed (CNDDB 2020). Alder buckthorn has a California Rare Plant Rank of 2B.2, which indicates that the plant is rare or endangered in California but more common elsewhere, and is fairly endangered in California (CNPS 2020). It is known from approximately 27 occurrences in California, one of which may be extirpated (CNDDB 2020, CNPS 2020)

Regulatory Setting

Federal Government

Federal Endangered Species Act

The federal Endangered Species Act (FESA) of 1973, and subsequent amendments, provides regulations for the conservation of endangered and threatened species and the ecosystems on which they depend. The U.S. Fish and Wildlife Service (USFWS) (with jurisdiction over plants, wildlife, and resident fish) and National Marine Fisheries Service (NMFS) (with jurisdiction over anadromous fish and marine fish and mammals) oversee the implementation of the FESA. Section 7 mandates all federal agencies to consult with USFWS and NMFS if they determine that a proposed action or project may affect a listed species or its habitat. Under Section 7, the federal lead agency must obtain incidental take authorization or a letter of concurrence stating that the proposed project is not likely to adversely affect federally listed species.

Section 9 prohibits the take of any fish or wildlife species listed as endangered, including the destruction of habitat that prevents the species' recovery. *Take* is defined as any action or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, or collect a species. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to take at the time of listing. Under Section 9, the take prohibition applies only to wildlife and fish species; however, it prohibits the unlawful removal and possession, or malicious damage or destruction, of any endangered plant on federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in nonfederal areas in knowing violation of any state law or in the course of criminal trespass.

Additionally, under the ESA, USFWS or NMFS may officially designate critical habitat for threatened or endangered species. Critical habitat is generally defined as a specific geographic area(s) that contains features essential to the conservation of a threatened or endangered species and that may require special management considerations and protection. In other words, critical habitat represents the habitat essential for the species' recovery. Critical habitat may include areas that are not currently occupied by the species but that will be needed for its recovery. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness reserve, preserve or other special conservation area. It does not mandate government or public access to private lands. A critical habitat designation has no effect in situations that do not involve a federal agency—for example, a private landowner undertaking a project that involves no federal funding or permitting. Under the ESA, NMFS and USFWS are required to consider whether or not federal actions could result in the destruction or adverse modification of designated critical habitat. Destruction or adverse modification has been defined to mean a direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations may include, but are not limited to, those that alter the physical

or biological features essential to the conservation of a species or that preclude or significantly delay development of such features.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 United States Code [USC] 668–668c) was enacted in 1940 and prohibits the "taking" of bald or golden eagles, including their parts (e.g., feathers), nests, or eggs without a permit from the Secretary of the Interior. This regulation provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof."

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests, and it prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the USFWS in its June 14, 2018 memorandum "Destruction and Relocation of Migratory Bird Nest Contents". Nest starts (nests that are under construction and do not yet contain eggs) and inactive nests are not protected from destruction.

In its June 14, 2018 memorandum, the USFWS clarified that the destruction of an active nest "while conducting any activity where the intent of the action is not to kill migratory birds or destroy their nests or contents" is not prohibited by the MBTA. On February 3, 2020, the USFWS published a proposed rule to codify the scope of the MBTA as it applies to activities resulting in the injury or death of migratory birds (85 FR 5915-5926); the USFWS is currently considering comments on the proposed rule.

Clean Water Act Section 404

Section 404 of the Clean Water Act (CWA) requires authorization for discharge of dredged or fill material into a wetland or other navigable water of the United States; USACE issues this permit. USACE may issue either an individual permit evaluated on a case-by-case basis or a nationwide permit, which covers particular fill activities and specifies the particular conditions that must be met for a nationwide permit to apply. CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a nationwide permit until the requirements of the National Environmental Policy Act (NEPA), FESA, and the National Historic Preservation Act (NHPA) have been met. In addition, the USACE cannot issue or verify any permit until a water quality certification or a waiver of certification has been issued pursuant to CWA Section 401. The proposed project site is within the jurisdiction of the Sacramento USACE District.

Executive Order 11990: Protection of Wetlands

Executive Order 11990, signed May 24, 1977, directs all federal agencies to refrain from assisting in or giving financial support to proposed actions that encroach on publicly or privately owned wetlands. It also requires

that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. A proposed action that encroaches on wetlands may not be undertaken unless the applicable federal agency has determined that: (1) there are no practicable alternatives to such construction; (2) the proposed action includes all practicable measures to minimize harm to wetlands that would be affected by its implementation; and (3) the impact will be minor.

Executive Order 13112: Prevention and Control of Invasive Species

Executive Order 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The Executive Order established the National Invasive Species Council (NISC), which is composed of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. In July 2016, NISC published an updated national invasive species management plan that recommends objectives and measures to implement the Executive Order and to prevent the introduction and spread of invasive species. The Executive Order requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

Sierra Nevada Forest Plan Amendment

The Tahoe National Forest Land and Resource Management Plan was replaced in its entirety by the 2004 ROD for the Sierra Nevada Forest Plan Amendment (SNFPA) Final Supplemental Environmental Impact Statement (USFS 2004). The SNFPA prescribes management goals and objectives for a variety of resources, including old forest ecosystems and associated species such as the California spotted owl, northern goshawk, great grey owl, and Sierra marten as well as aquatic, riparian and meadow ecosystems and associated species such as the Sierra Nevada yellow-legged frog and willow flycatcher. Further, to meet the prescribed goals and objectives, the SNFPA requires that individual forests implement specific standards and guidelines, which provide management direction for designing and implementing projects on Forest Service lands. Some standards and guidelines apply to specific land allocations (e.g., Riparian Conservation Areas) while others apply forest-wide (across all land allocations). Specific standards and guidelines exist to prevent and minimize invasive plant infestations as well as to protect and enhance populations of the old forest and meadow-dependent species listed above (among other forest resources); the full text of these standards and guidelines can be found in the ROD.

Forest Service Manual

Aside from the SNFPA, which provides specific direction for management of National Forest lands in the Sierra Nevada, the Forest Service Manual (FSM) codifies general operating practices for all Forest Service lands nationwide. The FSM provides direction and guidance on a variety of topics including the management of Threatened and Endangered Species (FSM 2670.31), Forest-designated Sensitive Species (FSM 2670.32), and Invasive Species (FSM 2900).

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code [CFGC] Section 2050 et seq.) establishes state policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that would affect a federally or state listed species, compliance with FESA satisfies the requirements of CESA if CDFW determines that the federal incidental take authorization is consistent with CESA under CFGC Section 2080.1. If a project would result in the take of a species that is only state listed, the project proponent must apply for a Section 2081(b) take permit from CDFW.

California Fish and Game Code—Lake or Streambed Alteration (Section 1600 et seq.)

CDFW regulates activities that would interfere with the natural flow of, or substantially alter the channel, bed, or bank of, a lake, river, or stream, including the disturbance of riparian vegetation under CFGC Sections 1600–1616. Project applicants must enter into a Lake or and Streambed Alteration Agreement (LSAA) from CDFW for these activities. The conditions and requirements of an approved LSAA are focused on the protection of the integrity of biological resources and water quality. Specific conditions that CDFW may require include avoiding or minimizing vegetation removal, using standard erosion control measures, limiting the use of heavy equipment, limiting work periods to avoid impacts on fisheries and wildlife resources, and restoring degraded sites or compensating for permanent habitat losses.

California Fish and Game Code—Protection of Birds and Raptors (Sections 3503 and 3503.5)

Section 3503 of the CFGC prohibits the killing of birds and destruction of their nests. Section 3503.5 prohibits killing of raptor species and destruction of raptor nests. Typical violations include the destruction of active bird and raptor nests caused by tree removal, and failure of nesting attempts (loss of eggs or young) as a result of disturbance of nesting pairs from nearby human activity.

California Fish and Game Code—Fully Protected Species (Sections 3511, 3513, 4700, and 5050)

CFGC Sections 3511, 3513, 4700, and 5050 apply to fully protected wildlife species (birds in Sections 3511 and 3513, mammals in Section 4700, and reptiles and amphibians in Section 5050) and strictly prohibit the take of these species. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if a Natural Community Conservation Plan has been adopted. Specifically, Section 3513 prohibits any take or possession of birds designated by the MBTA as migratory nongame birds except as allowed by federal rules and regulations pursuant to the MBTA.

Porter-Cologne Water Quality Control Act and CWA Section 401

The California Water Code addresses the full range of water issues in the state and includes Division 7, known as the Porter-Cologne Water Quality Control Act (Porter-Cologne) (California Water Code Sections 13000–16104). Section 13260 requires "any person discharging waste, or proposing to discharge waste, in any region

that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements [WDRs])" with the appropriate Regional Water Quality Control Board(s) (RWQCB). Porter-Cologne broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." The RWQCBs have interpreted their regulatory authority under Porter-Cologne also to include regulation of impacts on riparian habitats associated with waters of the state. Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, and can also include regulation of impacts on riparian habitats associated with waters of the state, California's jurisdictional reach overlaps, and frequently exceeds, the boundaries of waters of the U.S regulated by the USACE under Section 404 of the CWA.

Under Porter-Cologne, each of the nine RWQCBs must prepare and periodically update Water Quality Control Basin Plans. The project site occurs within the jurisdiction of the Lahontan RWQCB, which has adopted the *Water Quality Control Plan for the Lahontan Region* (Basin Plan) (Lahontan RWQCB 1995). The Basin Plan sets forth water quality standards for surface water and groundwater, as well as actions to control non-point and point sources of pollution. Projects that affect waters of the state must meet the WDRs stipulated by the Lahontan RWQCB.

The Lahontan RWQCB has developed a *Conditional Waiver of Waste Discharge Requirements for Waste Discharges Resulting from Timber Harvest and Vegetation Management Activities in the Lahontan Region* (2014 Timber Waiver) (Board Order No. R6T-2014-0030,), which was recently renewed in 2019 for an additional 5-year period (Board Order No. R6T-2019-0240). The 2014 Timber Waiver describes six categories of vegetation management actions that potentially qualify for a WDR waiver; the notification, application, and monitoring requirements for each action category; four specific classes of waterbody buffer zones (defined by stream class, presence of absence of fish and other aquatic species, and slope); and other requirements for vegetation management actions (e.g., timber harvest) that must be followed to adhere to the Basin Plan's water quality standards and qualify for a WDR waiver.

Additionally, and pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the applicable RWQCB. This certification ensures that a proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state require Water Quality Certification even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements for impacts on waters of the state even if the USACE does not. California's broader approach, relative to CWA Section 404, to protecting waters and wetlands though CWA 401 and Porter-Cologne was recently codified in the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (Procedures). The Procedures consist of four major elements that largely mimic, but are more expansive than, similar elements under CWA Section 404: a formal wetland definition; a framework for determining if a feature that meets the wetland definition is a water of the state; wetland delineation procedures; and procedures for the submittal, review and approval of applications for Water Quality Certifications (under CWA Section 401) and WDRs (under Porter-Cologne) for dredge or fill activities. The Procedures became effective on May 28, 2020.

As with the WDRs described above under Porter-Cologne, the Basin Plan stipulates additional requirements on projects seeking issuance of a Section 401 Water Quality Certification. Specifically, the Basin Plan prohibits the discharge of solid or liquid waste materials (including soil, silt, clay, sand, and other organic and earthen materials) to lands within the 100-year floodplain of the Truckee River, or within the 100-year floodplain of any tributary to the Truckee River. The Lahontan RWQCB may grant exceptions to this prohibition for repair or replacement of existing structures provided that a loss of additional floodplain area or volume does not occur, and best management practices and mitigation measures are used to minimize any potential soil erosion or surface runoff problems.

The Lahontan RWQCB also may grant exceptions to the Basin Plan requirements for the following types of new projects.

1. Projects solely intended to reduce or mitigate existing sources of erosion or water pollution, or to restore the functional value to previously disturbed floodplain areas.

2. Bridge abutments, approaches, or other essential transportation facilities identified in an approved County general plan.

3. Projects necessary to protect public health or safety, or to provide essential public services.

4. Projects necessary for public recreation.

5. Projects that will provide outdoor public recreation within portions of the 100-year flood plain that have been substantially altered by grading and/or filling activities which occurred prior to June 26, 1975.

California Native Plant Protection Act

The California Native Plant Protection Act (CNPPA), which was enacted in 1977, prohibits the importation of rare and endangered plants into California, take of rare and endangered plants, and sale of rare and endangered plants. The CESA defers to the CNPPA, which ensures that state-listed plant species are protected when state agencies are involved in projects subject to CEQA. In this case, plants listed as rare under the CNPPA are not protected under CESA but instead under CEQA.

Z'berg-Nejedly Forest Practice Act

The Z'berg-Nejedly Forest Practice Act of 1973, also known as the California Forest Practice Act, ensures that logging on private lands is done in a manner that will preserve and protect wildland forest resources. The act is administered by CAL FIRE. Compliance with the California Forest Practice Act must occur through the submittal and approval of a CAL FIRE harvest document that describes the proposed logging and what measures will be taken to prevent adverse effects on the environment. Exemptions exist that allow harvesting of trees to prevent forest fires and to remove dead, diseased, and dying trees; however, the exemptions require adherence to specific restrictions and practices.

Local Government

Sierra County

The Sierra County General Plan was last updated in 1996 and provides a basis for local government decision making related to land use and development (Sierra County 1996). It contains goals, policies, and implementation measures, which are based on issues identified through a series of community workshops, and are mainly focused on preserving the county's rural nature, traditional industries, and natural environment. Several policies and goals focus on protecting, and whenever possible enhancing, threatened, endangered, and special plants and animals and their habitats, species of migratory birds, and wildlife migration corridors. The general plan also contains goals and policies emphasizing watershed conservation and the protection of streams, lakes wetlands, meadows, forests, and other natural community types that occur throughout Sierra County. And, the general plan prescribes specific biological resources minimization and avoidance measures for projects to implement in Sierra County; several of these measures deal with species (e.g., great grey owl, willow flycatcher, northern goshawk) that are known to occur or that could occur in the proposed project site. Specific implementation actions are described for these goals and policies and can be found in the full text of the Sierra County General Plan.

Nevada County

The Nevada County General Plan was last updated in 2016 and serves as the long-term policy guide for the physical, economic, and environmental future of the county (Nevada County 2016). It contains goals, objectives, policies, and implementation measures that are based upon assessments of current and future needs and available resources, and which are intended to carry out the four central themes: rural quality of life, the environment, a strong local economy, and planned land use patterns. Goals, objectives, and policies that are relevant to the proposed project include:

- Goal 11.1: Identify, protect and manage for sustainable water resources and riparian habitats.
- Objective 12.2: Minimize erosion due to road construction and maintenance.
- Objective 12.3: Minimize vegetation removal.
- Goal 13.1: Identify and manage significant areas to achieve sustainable habitat.

Specific policies and actions are described for these goals and can be found in the full text of the Nevada County General Plan.

Impacts and Mitigation

Pursuant to Appendix G of California's CEQA Guidelines, the following criteria should be examined in determining whether or not the proposed project will have a significant effect on biological resources.

a) Will the proposed project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or

regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

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

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

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

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

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

Based on these criteria, the following briefly analyzes the potential for the proposed project to result in significant impacts under CEQA. For the purpose of this analysis, and because CEQA does not define the term "substantial adverse effect" with respect to Criteria (a) to (c), (determination of effects that are substantial and adverse are left up to CEQA lead agencies), the following are assumed to represent substantial adverse effects: the death or injury of special-status species, whether caused by the proposed project directly or indirectly; the loss or alteration, whether temporarily or permanently, of habitats that could support special-status; or the temporary or permanent loss or alteration (e.g., degraded water quality, sedimentation) of riparian areas, streams, wetlands and other sensitive natural communities. In the case of temporary alteration of habitat for special-status species and sensitive natural communities, short-term habitat alteration (e.g., on the order of days) is not considered to be a substantial adverse effect.

In those cases where the impacts of the proposed project are potentially significant, as defined by Criteria (a) through (f) above, mitigation measures are described that, when implemented, would reduce potentially significant impacts to a less-than-significant level.

Criterion a) As provided in Table 2 and Table 3, numerous special-status species of wildlife and plants have the potential to occur in the project site or surrounding study area, primarily due to the relatively undisturbed nature of these areas. Implementation of the proposed project would result in ground disturbance, vegetation removal, stream bed and bank alteration, and elevated noise and human presence, all of which have the potential to adversely affect special-status wildlife and plants.

However, the project purpose is to enhance and restore habitat, which will benefit sensitive species overall. In

addition, the project's construction-related impacts would be relatively minor, short in duration, and, generally speaking, temporary in nature.

Considering these factors, the following analyzes the proposed project's potential to have a substantial, adverse effect on these identified special-status species with a potential to occur on the proposed project site or the surrounding study area. Where the magnitude of each impact differs for different groups of taxa, either owing to the biology and ecology of those taxa or the potential for those taxa to occur in the project site, those impacts are described separately.

Impact 1 – Direct and Indirect Impacts on Special-status Species. Direct and indirect impacts include killing or injuring special status wildlife, directly disturbing populations of special-status plants, or altering wildlife behavior in ways that indirectly lead to death or injury. In the cases of killing or injuring wildlife and directly disturbing populations of special-status plants, these impacts would primarily occur through vegetation removal or ground disturbance during project construction. The use of heavy equipment also can lead to death or injury of wildlife, if that equipment crushes individuals while being operated. In the case of altering wildlife behaviors in ways that indirectly lead to death or injury, impacts could occur due to the presence of construction personnel, construction site refuse, and construction related noise and vibration. The increased prevalence of these factors can attract predators, harass wildlife, and alter wildlife behaviors in ways that adversely affect sheltering, feeding, and other behaviors that can ultimately lead to injury or death of individuals, including abandonment or predation of dependent young. The magnitude of this impact varies for different species groups, as briefly described below.

- **Meadow and Riparian Dependent Wildlife.** This species group includes the following special-status wildlife species, all of which have either been documented in the project site or study area and are likely to use the project site or study area for breeding and foraging: the black tern, northern harrier, yellow warbler, willow flycatcher, greater sandhill crane, yellow-headed blackbird, short-eared owl, American white pelican, species of common nesting birds, and Sierra Nevada snowshoe hare.

  Of these species, the willow flycatcher has been the subject of most survey efforts, with breeding documented in the late 1980s and regular monitoring occurring thereafter up to 2019. During the 2014 surveys, two breeding territories were documented south of Webber Lake Road in Lower Lacey Meadow (Loffland and Siegel 2014) where various elements of Phase 2 of the proposed project, including pilot channel excavation, would occur. Other breeding territories, including territories in Upper Lacey Meadow (i.e., Phase 1), have not been documented in recent years. While no occupied breeding territories were found in either the Phase 1 or Phase 2 project areas in 2019 (Loffland 2019), suitable breeding habitat remains in the Phase 2 project area (Lower Lacey Meadow). Further, the areas south of Webber Lake Road in Lower Lacey Meadow, where various elements of Phase 2 of the proposed project would be constructed (access routes, riffles, log structures), historically supported the largest concentration of breeding territories in the proposed project vicinity.

  Additionally, greater sandhill cranes have been observed breeding in the northeastern portion of Lower Lacey Meadow, near Webber Lake, and greater sandhill cranes were heard, but not observed, in this area

by H. T. Harvey & Associates biologists in July 2020. At least two individual cranes were heard, but it is unknown if those two individuals were a breeding pair, an adult and a colt, or nonbreeding birds. Although no elements of the proposed project would be directly constructed in the areas potentially being used for greater sandhill crane breeding, Phase 2 of the proposed project would encroach within approximately 500 feet of this general area. Aside from willow flycatchers and greater sandhill cranes, it is likely, if not certain, that the northern harrier, yellow warbler, and other species of common nesting birds use the willow scrub-shrub and meadow habitats in Lower Lacey Meadow (Phase 2), and to a lesser extent in Upper Lacey Meadow (Phase 1), for breeding.

Aside from these species, the breeding status of other species of meadow and riparian dependent wildlife is less certain within the project site and study area. Many recorded observations of these other species in the vicinity of the project site are of individual animals; it is unknown whether these animals were breeding in and around the project site or simply foraging or traversing through the area. Many of these species generally require wet meadow habitats for breeding, and forage in wet meadows and surrounding habitats. Historically, Webber Lake was operated such that a significant portion of the lake backwatered into wet meadow and willow scrub-shrub habitats in the northern portion of Lower Lacey Meadow, creating ideal habitat conditions for these species. Within the last 5 to 10 years, these backwater conditions from Webber Lake have become less common, and when they occur, they last for a shorter duration of time. This change in Webber Lake operation may have reduced habitat suitability for many of these species in the Lower Meadow. Furthermore, much of the project site, particularly the Phase 1 work locations, where disturbance would be more extensive (greater excavation and vegetation disturbance, more extensive use of equipment), are in Upper Lacey Meadow where these species are much less likely to occur or do not occur, because suitable meadow and riparian habitat is more limited or absent.

Implementation of the proposed project could directly affect these individuals by disturbing and removing meadow and riparian vegetation, thereby injuring or killing individuals and particularly dependent young in nests or dens. In the case of ground-nesting animals, such as the northern harrier and Sierra Nevada snowshoe hare, breeding sites that contain eggs or dependent offspring also could be crushed by heavy equipment, leading to death or injury. The magnitude of these impacts is limited by the relatively small extent of meadow habitat in the areas where ground disturbance will occur and by the limited extent of willow stands and other riparian vegetation that would need to be trimmed or removed as part of the proposed project. Within Upper Lacey Meadow (Phase 1), the magnitude of this impact would be less due to the relatively more limited extent of meadow and riparian habitat in Upper Lacey Meadow, compared to Lower Lacey Meadow (Phase 2).

Furthermore, project construction activities would involve a greater level of human activity, compared to the current levels of disturbance associated with recreation and livestock grazing use of the project site. In addition, the presence of construction equipment would create noise, vibrations, and similar disturbances to which wildlife in the project site are not habituated, which could lead to breeding site abandonment, failure, or forced fledging of dependent young. Trash and refuse associated with construction personnel could attract predators (such as common ravens and crows) to the project siteand study area, and the

increased presence of these predators could indirectly increase predation of eggs and young of special-status wildlife. Relative to the direct impacts described above, these impacts are more certain to occur within both Upper and Lower Lacey Meadow, and the potential magnitude of this impact is greater, particularly for species like the greater sandhill crane that are more sensitive to disturbances during breeding.

For the reasons described above, this impact would be ***Significant*** for riparian and meadow dependent wildlife. Implementation of mitigation measures BIO-1, BIO-2, and BIO-6 through BIO-8 will reduce this impact on meadow obligate wildlife, including special-status species, to a less-than-significant level by increasing awareness among project construction personnel of these species and their habitat needs. In addition, these protection measures will minimize, or in most cases avoid, the potential for meadow and riparian dependent wildlife to be directly (e.g., killed, injured) or indirectly (e.g., through modification of behaviors in ways that result in injury or mortality) adversely affected by the proposed project, by altering the timing of work, conducting pre-construction surveys, and establishing appropriate avoidance buffers.

- **Forest Dependent Wildlife.** This species group includes the following special-status wildlife species: bald eagle, great grey owl, California spotted owl, northern goshawk, Sierra marten, and pallid bat. All of these species use larger trees in old forests for nesting or denning. Recent observations of the bald eagle have been recorded in close proximity to Phase 1 of the proposed project, and Sierra marten have been recorded in, or immediately adjacent to, both the Phase 1 and Phase 2 project areas. Additionally, numerous observations of the northern goshawk and California spotted owl PACs have been recorded in the Webber Lake watershed, surrounding the both Phase 1 and Phase 2 of the project site, and the project site supports larger trees that could provide suitable nesting habitat for these species. Similarly, the pallid bat is known from the vicinity of the proposed project site, and the great grey owl has been observed (potentially) to occur near or within portions of the study area associated with Phase 2 of the proposed project. The presence of both wet meadow habitat and adjacent forests with larger trees provides ideal nesting/roosting and foraging habitat for these two species. Common migratory birds also would be expected to nest throughout forested habitats in and surrounding Phase 1 and Phase 2 of the proposed project.

  The proposed project would remove some trees to use for log structures in Lacey Creek, and additional trees and shrubs would be removed, particularly during Phase 1 of the proposed project, to construct access roads. Trees and shrubs that are removed or salvaged for other project uses could support dens, nests or roosts of various wildlife species, and tree and shrub removal could result in the death of, on injury to, individuals occupying these dens, nests, or roosts. Similarly, as described above for meadow and riparian wildlife, the presence of construction personnel and construction equipment as well as the noise, vibrations, and refuse associated with construction activity also may lead, indirectly, to the death or injury of forest dependent wildlife, including dependent young through nest abandonment, forced fledging, increased predation, and similar factors. Species nesting or denning in close proximity to the proposed project site (i.e., within several hundred feet) are particularly susceptible to these impacts.

For the reasons summarized above, this impact is ***Significant*** for forest dependent wildlife. Implementation of mitigation measures BIO-1, BIO-2, and BIO-6 through BIO-8 will reduce this impact on forest dependent wildlife, including special-status species, to a less-than-significant level by increasing awareness among project construction personnel of these species, their habitat needs, and protection measures as well as by minimizing, or in most cases avoiding, the potential for forest dependent wildlife to be directly (e.g., killed, injured) or indirectly (e.g., through modification of behaviors in ways that result in injury or mortality) adversely affected by the proposed project through work timing or surveys and appropriate avoidance buffers.

- **Rare Plants.** The rare plants most likely to occur in the proposed Phase 1 and Phase 2 project areas are Davy's sedge, subalpine fireweed, rayless mountain ragwort, and alder buckthorn. Excavation, grading, construction of access roads, and other construction activities could cause the death of individual plants, or the loss of populations within work areas through crushing, excavation, and similar impacts. This impact is **Significant**. Implementation of measures BIO-1, BIO-9 and BIO-10 would reduce this impact to a less than significant level by increasing awareness among project construction personnel of these species, their habitat needs, and protection measures and by ensuring that any individuals or populations occurring in work areas are fully avoided or relocated and successfully established in suitable nearby habitats not impacted by the proposed project.

Impact 2: Adverse Modification of Special-Status Species Habitat. While the long-term net effect of the proposed project on habitat for special-status species would be beneficial, some amount of vegetation removal and ground disturbance would occur during construction of access roads, excavation of pilot channels, installation of log structures, and during the construction of other proposed project elements. Depending on the magnitude of these disturbances, the habitat values of the affected areas could be significantly reduced, or eliminated, at least in the short term until habitat naturally regenerated or was restored.

Additionally, ground disturbance and vegetation removal could create areas of bare ground that could be colonized by invasive plants, and the use of heavy equipment within the proposed project site could result in, or exacerbate, the introduction and spread of invasive plants within bare, disturbed areas. Few species of invasive plants currently occur in the proposed project site, but the introduction and spread of these species through construction activities could reduce or eliminate habitat values for special-status species, particularly species of rare plants, through competition for space, light, and soil nutrients.

For these reasons, this impact is considered ***Significant***. Implementation of mitigation measures BIO-3 through BIO-5 would reduce this impact to a less than significant level by minimizing areas of habitat disturbance and preventing the introduction and spread of invasive plants on the project site as well as by ensuring that disturbed areas are revegetated with native species.

Impact 3: Destruction or Adverse Modification of USFWS-designated Critical Habitat. Critical habitat for the Sierra Nevada yellow-legged frog, and all other USFWS-listed species, has not been designated in the proposed project site; therefore, there would be ***No Impact*** to designated critical habitat.

Criteria b) and c). The proposed project is intended to restore the historic riparian, aquatic, and wetland functions of Lacey Creek and Upper and Lower Lacey Meadow. Although the long-term, net impacts of the proposed project would be beneficial for the creek and associated meadows, temporary disturbances to the bed and bank of Lacey Creek would occur. For example, impacts would occur when installing log structures or constructing riffles, and areas of riparian willow scrub-shrub and meadow habitat may need to be removed to construct access roads, excavate pilot channels, and during construction of other elements of the proposed project. Additionally, shot-term alteration of the timing and quantity of water flowing through Lacey Creek, and temporary degradation of water quality, in terms of increased sedimentation and other impacts, would occur in some locations throughout the proposed project site during construction. Aside from these temporary impacts and disturbances during construction, permanent fill, in the form of constructed riffles within the Lacey Creek channel, would be placed in a few isolated locations. Additional fill would be placed in Lacey Creek in Upper Lacey Meadow to divert the creek from its current, modified channel back into its historic, natural channel within the meadow.

The bed and bank of Lacey Creek and riparian areas are subject to regulation by CDFW under Section 1600 et seq. of the California Fish and Game Code and by the Lahontan RWQCB under Section 401 of the Clean Water Act and under Porter-Cologne. Additionally, Lacey Creek and associated wet meadow and riparian wetlands may be determined to be waters of the United States and protected under Sections 404 of the federal Clean Water Act. Temporary and permanent impacts on streams, riparian areas, and wetlands are regulated under these various laws. Therefore, this impact is ***Significant***. Implementation of Mitigation Measures BIO-3 through BIO-5 and BIO-11 would reduce this impact to a less than significant level by revegetating bare areas (e.g., to discourage erosion and sediment input to Lacey Creek), minimizing the introduction and spread of invasive plants, and ensuring that the loss of wetland, stream, and other aquatic habitats is fully mitigated pursuant to relevant California and federal laws. Additionally, implementation of other measures to minimize soil erosion and protect water quality in Lacey Creek during project construction, not described here, would be implemented by the proposed project to further reduce the significance of this impact.

Criterion d). Wildlife movement corridors consist of areas of undisturbed vegetation that interconnect separate areas of habitat. Riparian areas, in particular, are important for maintaining terrestrial wildlife movement, as these areas provide cover, water, and other wildlife habitat elements, and owing to their linear nature along creeks and streams, provide natural interconnections among non-adjacent areas of wildlife habitats. The proposed project site includes creeks and riparian areas as well as open meadows and adjacent forested areas that are part of an extensive, unfragmented and undeveloped semi-wilderness landscape with only limited human presence and disturbance. Construction of the proposed project would cause temporary disturbance to riparian vegetation in limited locations, and the presence of construction workers and equipment, combined with construction-related noise and vibration and temporary vegetation disturbance, could temporarily deter wildlife movement through the site. However, wildlife would have ample opportunities to traverse through adjacent, undisturbed areas outside the project site, and the magnitude of temporary loss or reduction of wildlife movement through the project site itself, relative to the movement opportunities remaining in the surrounding landscape, would be very small. Therefore, the impact of the project with respect to terrestrial wildlife movement corridors is ***Less than Significant***, and mitigation measures are not required.

Streams and creeks also provide migration corridors for native fishes. Although nonnative game fish, such as brook trout and rainbow trout, are commonly observed in Lacey Creek throughout the proposed project site, it is possible that native fishes, such as Lahontan speckled dace or Paiute sculpin, also could occur in stream channels within the project site. Construction of Phase 1 of the proposed project would include rerouting Lacey Creek in Upper Lacey Meadow out of its current channel and into its historic channel. Rerouting the channel would require abandonment of portions of existing Lacey Creek in the upper meadow, stranding any native fishes occurring in the downstream, dewatered reach, and disrupting or eliminating migration corridors for stranded individuals. Because Lacey Creek, particularly in Lower Lacey Meadow, can become ephemeral during the period when project work will be undertaken (i.e., late July through October), with water persisting only in isolated pools, extensive channel dewatering is unlikely to be required for construction of the proposed project in the Lower Meadow; however, small areas of Lacey Creek may need to be dewatered in Lower Lacey Meadow as well (i.e., during Phase 2), potentially stranding any native fishes that occur downstream of dewatered reaches. Where stream dewatering or channel abandonment would occur, this impact would be ***Significant*** for native fishes. Implementation of Mitigation Measure BIO-12 below would reduce this impact to a less than significant level by capturing and translocating native fishes from dewatered stream reaches into nearby stream reaches that would not be affected by the proposed project.

With respect to wildlife nursery sites, as described above under Criterion a), the proposed project could directly or indirectly alter habitat suitability and wildlife behaviors in ways that either could permanently eliminate nursery sites (e.g., by removing trees used as bat maternity roosts or Sierra marten dens) or could cause adverse effects on nursery sites through premature abandonment or other factors (e.g., for nests of common raptors or other, common migratory birds). This impact is considered ***Significant*** with respect to wildlife nursery sites. Implementation of Mitigation Measures BIO-4 and BIO-5 would reduce this impact to less than significant levels by preventing the elimination of, and disruption to, native wildlife nursery sites.

Criteria e) and f). The proposed project would be consistent with all local Nevada County and Sierra County ordinances related to the protection of biological resources and, ultimately, implementation of the proposed project would be beneficial for biological resources in the project site through enhancement of stream, riparian, and meadow habitats. There are no adopted habitat conservation plans or natural communities conservation plans that include the project site. Also, for the small portion of the proposed project site that is located on USFS land, the proposed project is consistent with the standards and guidelines of SNFPA and, ultimately, would positively contribute toward attainment of the SNFPA's riparian conservation objectives. Therefore, there would be ***No Impact*** associated with Criteria e) and f), and mitigation measures are not required.

Recommended Mitigation Measures:

BIO-1: Provide Worker Environmental Awareness Training

TRWC shall ensure that a qualified biologist develops and provides a comprehensive worker environmental awareness training for the project. The training shall describe the biology and ecology of the special-status species that are known to occur, or that could occur, in the Study Area; describe ways to identify these species and their habitats; depict known or potential locations of these species and their habitats within the Study Area;

and describe the actions to be implemented by the project to minimize or avoid impacts on these species during project construction. Additionally, the training shall describe procedures to halt work and provide immediate notification to a qualified biologist in the event that special-status species are unexpectedly observed by construction personnel during project activities; the qualified biologist, working with TRWC, and in coordination with CDFW and/or USFWS as appropriate, shall determine the appropriate course of action to avoid impacts on special-status species. All project personnel shall complete the environmental awareness training prior to beginning work on the project site, and TRWC shall maintain a training log or similar proof that all appropriate personnel have completed the training as described above.

BIO-2: Collect and Remove Refuse

To avoid attracting predators on special-status species to the project site, TRWC shall ensure that all construction refuse, food wrappers, disposable beverage containers, and similar trash and refuse is immediately disposed of at designated locations; that onsite refuse disposal containers be wildlife and bear proof, and remain covered and protected prior to removal from the project site; and that all refuse is removed from the project site and disposed of at an approved landfill or similar authorized disposal site on a daily basis throughout project construction.

BIO-3: Minimize Vegetation Disturbance

TRWC shall ensure that areas of ground and vegetation disturbance are minimized during project construction. Access routes shall be sited and constructed to minimize vegetation disturbance and removal; particularly for large trees and snags equal to or greater than approximately 18 inches diameter at breast height, shrubs, and wet meadow vegetation. If access routes are required through wet meadows, meadow mats or similar protective measures shall be implemented by TRWC to minimize ground disturbance, compaction, rutting, and similar impacts on wet meadow vegetation and soils.

BIO-4: Revegetate Areas of Ground Disturbance

Immediately following completion of project construction, TRWC shall ensure that all areas of ground disturbance are temporarily stabilized (per the requirements of the SWPPP to be obtained) and revegetated with native species adapted to growing conditions on the project site. Mulch or similar erosion control materials that are free of invasive plant propagules shall be used to protect revegetation sites and minimize erosion. Revegetation requirements shall be incorporated into the final engineer's construction plans and specifications for project construction, and TRWC shall ensure that all measures are implemented as described on the plans at the conclusion of project construction.

BIO-5: Inspect and Clean Construction Equipment

TRWC shall ensure that all construction equipment is inspected when first brought onto the project site and cleaned to remove soil or other materials potentially containing weed propagules. Areas where construction equipment is inspected and cleaned shall be located and maintained to prevent runoff, erosion, and similar impacts on surrounding, undisturbed areas. These measures shall be incorporated into the final engineer's

construction plans and specifications for project construction, and TRWC shall ensure that all measures are implemented as described on the plans throughout project construction.

BIO-6: Observe Special-status Wildlife Work Windows

TRWC shall time all project activities, to the maximum extent practical, to occur during periods when special-status wildlife would not be adversely affected. If project activities are timed to occur outside the periods of time listed below for each species, implementation of Mitigation Measures BIO-7and BIO-8 shall not be required for that (those) species. However, if project activities cannot be so timed, TRWC shall implement Mitigation Measures BIO-7 and BIO-8 described below for those species. Additionally, TRWC shall implement Mitigation Measures BIO-7 and BIO-8 for the Sierra marten and pallid bat, as there are no work windows within which dens or roosts of these species are feasibly avoided.

- Bald Eagle: Feb 15 – August 15
- Northern Goshawk: February 15 – September 15
- California Spotted Owl: March 1- August 15
- Willow Flycatcher: June 1 – August 31
- All Other Species of Birds: March 1 – August 31
- Sierra Nevada Snowshoe Hare: March 1 – July 15

BIO-7: Conduct Special-status Wildlife Pre-construction Surveys

Prior to initiation of project construction, TRWC shall ensure that a qualified biologist completes pre-construction surveys for those special-status species that may occur in or around the areas within which each phase of the proposed project would occur and that would have the potential, based on their breeding phenology and planned work schedule, to be adversely affected. Surveys shall follow the guidelines and requirements of CDFW, USWFS, and/or USFS, in terms of survey methods, area, timing, and frequency. In the event that formal survey guidelines do not exist for any species, the qualified biologist shall coordinate with CDFW, USFWS, and/or USFS (as appropriate), to determine survey methods and guidelines. Surveys shall occur in suitable habitats for each species throughout the Study Area and in surrounding areas. The distance surrounding the project site to be surveyed, if not included in formal agency guidance, shall be determined by the qualified biologist based on the nature of planned project activities, the magnitude of disturbance associated with those activities, and each species' sensitivity to disturbance. In determining sensitivity to disturbance, the qualified biologist shall evaluate the presence of surrounding vegetation, topography, and other factors to act as visual or auditory barriers to disturbances from project activities. Following the surveys, the qualified biologist shall prepare a concise summary report describing survey methods, findings, and recommendations, which TRWC shall provide to the Lahontan RWQCB, CDFW, USFWS, and USFS (as appropriate) at least 7 days prior to construction initiation. TRWC shall provide the survey memo to other public agencies upon request.

BIO-8: Establish and Observe Special-status Wildlife Avoidance Buffers

TRWC shall ensure that a qualified biologist establishes appropriately-sized avoidance buffers as needed to protect special-status wildlife found within or near the areas within which each phase of the proposed project would occur. The size of the buffer shall be determined by the qualified biologist, in consultation with CDFW, USFWS and/or USFS (as appropriate), based on the nature and magnitude of project activities, each species' sensitivity to disturbance, presence of visual or auditory buffers between the project site and the species location, and other relevant factors. Buffer boundaries shall be delineated on the project site by TRWC using stakes, poly rope, flagging, silt fencing, or similar means (excepting plastic monofilament netting, which shall not be used) and shall be maintained to deter inadvertent access by construction equipment and construction workers at all times throughout project construction. A qualified biologist, in consultation with CDFW, USFWS, and/or USFS as appropriate, shall be solely responsible for determining when buffers may be removed and project construction equipment or personnel may be allowed inside the buffer.

If buffers cannot be observed, and work cannot be timed to occur when adverse effects on special-status wildlife would be avoided fully, TRWC shall consult with CDFW, USFWS, and/or USFS (as appropriate) to develop and implement avoidance measures. Examples of these measures include:

- Passively or actively relocating individuals outside the Disturbance Area, where construction-related impacts would not occur, pursuant to a relocation plan developed by a qualified biologist and reviewed and approved by CDFW prior to implementation;
- Allowing work to occur inside the buffer only with a qualified biological monitor present – the biological monitor shall have the authority to halt project activities at any time when the biologist determines that the activities have the potential to adversely affect special-status wildlife;
- Obtaining incidental take authorization under the federal Endangered Species Act or California Endangered Species Act, as appropriate, and implementing the mitigation and conservation measures required by those authorizations.

BIO-9: Conduct Surveys for Special-status Plants

TWRC shall ensure that a qualified biologist conducts a focused survey for special-status plants within the Disturbance Area prior to the initiation of construction activities. The surveys shall follow appropriate survey guidelines from CDFW and CNPS and shall occur at the appropriate time of year (i.e., during peak blooming period) to positively identify all species of special-status plants potentially occurring within the Disturbance Area. Following the surveys, the qualified biologist shall prepare a concise summary report describing survey methods, findings, and recommendations, which TRWC shall provide to the Lahontan RWQCB and to CDFW, USFS, or other public agencies upon request.

BIO-10: Avoid Special-status Plant Populations

In the event that special-status plants are discovered within the Disturbance Area, the TRWC shall develop a protection and implementation plan and undertake one or more of the following actions:

- Relocate construction actions to fully avoid special-status plant populations;
- Protect special-status plant populations by flagging or delineating the population with construction flagging or fencing and excluding construction activities where total avoidance is feasible;
- Implement protective measures such as access route padding (where appropriate protective mats are placed for temporary construction access in avoidance areas) or other construction methods designed to prevent impacts on special-status plants; or
- Relocate plants to suitable habitat that would not be impacted by the project. If relocation is proposed, TRWC shall ensure that a qualified biologist prepares a detailed relocation plan, in coordination with CNPS, CDWF, USFS, or species experts, describing methods of plant or propagule (e.g., seed) collection, planting techniques, and relocation site maintenance, annual monitoring, and annual reporting requirements to assess relocation success. The plan also shall describe adaptive management measures (e.g., additional relocation site maintenance, supplemental planting of propagules) that TRWC shall implement in the event that the initial relocation effort is not successful (i.e., in the event that the target species of rare plants are not successfully established at the relocation site, as determined through monitoring conducted by a qualified botanist). The relocation plan and copies of all annual monitoring reports shall be provided by TRWC to the Lahontan RWQCB, and to other public agencies upon request.

BIO-11: Obtain All Required Environmental Permits

Because avoidance of the wetlands/waters of the U.S./waters of the State or riparian areas is not practicable, TRWC shall apply for and obtain a CWA Section 404 Nationwide Permit and comply with the current U.S. Army Corps of Engineers (USACE) compensation schedule for any loss of waters of the U.S. TRWC shall work with USACE to ensure that the local, state, and federal "no net loss" of wetlands is properly upheld. In addition, for work within a stream or lake bed, riparian zone, or floodplain, TRWC shall apply for, obtain and comply with a CDFW Lake and Streambed Alteration Agreement. For all activities that trigger a USACE CWA 404 permit, the TRWC shall also apply for, obtain and comply with a Clean Water Act Section 401 Water Quality Certification from the Lahontan Water Board. TRWC shall be responsible for ensuring compliance with each permit, including any permit-required compensatory mitigation, monitoring, and reporting.

BIO-12: Relocate Native Fishes

Within dewatered reaches of Lacey Creek, TRWC shall ensure that a qualified biologist captures and relocates all native fishes using electrofishing, beach seines, or similar methods to capture fish without injury or mortality. Captured fish will be placed in large buckets or large coolers containing cool, oxygenated water and immediately transported and released into the nearest suitable waterbody not affected by the proposed project, which will have been identified and reviewed by a qualified biologist to verify habitat suitability prior to fish capture.

Following completion of the relocation effort, the qualified biologist will prepare a brief memo summarizing relocation methods, number and species of native fishes relocated, and the disposition of relocated fish. Representative photographs of the relocation effort, including individual fish captured, the capture site(s), and relocation site(s) along with a map showing the capture and location sites, will be included with the memorandum. The relocation memo will be provided by TRWC to the Lahontan Water Board and may be provided to other public agencies upon request.

References

Anthony, R. G. and F. B. Isaacs. 1981. Characteristics of Bald Eagle Nest Sites in Oregon. Report to Crown Zellerbach Corp. and U.S. Fish and Wildlife Service. Contract No. 14-16-001-77028. Portland, Oregon.

Anthony, R. G., R. L. Knight, G. T. Allen, B. R. McClelland, and J. I. Hodges. 1982. Habitat Use by Nesting and Roosting Bald eagles in the Pacific Northwest. Transactions of the North American Wildlife and Natural Resources Conference 47:332-342.

Balance Hydrologics, H. T. Harvey & Associates, and Susan Lindström. 2013. Lacey Meadows Watershed Assessment. Prepared for the Truckee River Watershed Council. Truckee, California.

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken. 2012. The Jepson Manual: Vascular Plants of California, 2nd edition. University of California Press, Berkeley.

Beck, T. W., and J. Winter. 2000. Survey Protocol for Great Gray Owl in the Sierra Nevada of California. U. S. Department of Agriculture, Forest Service, Pacific Southwest Region. Vallejo, California.

Bombay, H. L, T. M. Benson, B. E. Valentine, and R. A. Stefani. 2003. A Willow Flycatcher Survey Protocol for California. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region. Vallejo, California.

Borgmann, K. L. 2010. Mechanisms Underlying Intra-Seasonal Variation in the Risk of Avian Nest Predation: Implications for Breeding Phenology. Ph.D. Dissertation. University of Arizona. Tucson, Arizona.

Cain, J. W. III and M. L. Morrison. 2003. Reproductive ecology of dusky flycatchers in montane meadows of the central Sierra Nevada. Western North American Naturalist 63:507-512.

Cain, J. W., III, M. L. Morrison, and H. L. Bombay. 2003. Predator activity and nest success of willow flycatchers and yellow warblers. Journal of Wildlife Management 67:600-610.

Calflora. 2020. Information on California plants for education, research and conservation. [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. <https://www.calflora.org/>. Accessed August 2020.

[CCH] Consortium of California Herbaria. 2020. [online] http://ucjeps.berkeley.edu/consortium/. Accessed September 2020.

[CDFW] California Department of Fish and Wildlife. 2010. A Status Review of the Fisher (*Martes pennanti*) in California. Sacramento, California.

[CDFW] California Department of Fish and Wildlife. 2016. Map of known bald eagle nesting territories 2010-2016. Available <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=112194&inline>. Accessed September 2020.

[CDFW] California Department of Fish and Wildlife. 2020. Special Animals List, July 2020 Version. State of California Natural Resources Agency. Sacramento, California.

Cicero, C. 1997. Boggy meadows, livestock grazing, and interspecific interactions: influences on the insular distribution of montane Lincoln's sparrows (*Melospiza lincolnii alticola*). Great Basin Naturalist 57:104-115.

[CNDDB] California Natural Diversity Database. 2020. RareFind 5 (online edition). Available <https://apps.wildlife.ca.gov/myaccount/login?ReturnUrl=%2frarefind%2fview%2fRareFind.aspx>. Accessed September 2020.

[CNPS] California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California. Version 8-03 0.39. <http://www.rareplants.cnps.org>. Accessed August 2020.

Davis, J. N. and C. A. Niemela. 2008. Northern Harrier (*Circus cyaneus*). *In* W. D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Erman, N. A. 1984. The Use of Riparian Systems by Aquatic Insects. *In* R. E. Warner and K. Hendrix, editors California Riparian Systems: Ecology, Conservation, and Productive Management. University of California Press. Berkeley, California.

Erman, N. A. 1996. Status of aquatic invertebrates. *In* D. C. Erman, editor. Sierra Nevada Ecosystem Project: Final Report to Congress, Vol. II, Assessments and Scientific Basis for Management Options. Centers for Water and Wildland Resources. University of California, Davis.

Ferguson, H. and J. M. Azerrad. 2004. Pallid Bat (*Antrozous pallidus*). *In* Management Recommendations for Washington's Priority Species. Volume V. Mammals. Washington Department of Fish and Wildlife, Olympia.

Freel, M., and R. E. Stewart. 1991. A Literature Review for Management of the Marten and Fisher on National Forests in California. U.S. Department of Agriculture, Forest Service, Pacific Southwest Region.

Gaines, D. 1992. Birds of the Yosemite Sierra. Artemisia Press. Lee Vining, California.

Gaither, J. 2011. Webber Lake Property Eastern Sierra County, California. Ecological Assessment. The Nature Conservancy. San Francisco, California.

Gannon, W. A. 2003. Bats - Vespertilionidae, Molossidae, Phyllostomidae. *In* G. A. Feldhamer, B. C. Thompson, and J. A. Chapman, editors, Wild Mammals of North America: Biology, Management and Conservation. Johns Hopkins University Press. Baltimore, Maryland.

Google Earth. 2020. Google Earth Color Aerial Imagery. Accessed September 2020.

Gray, L. J. 1993. Response of insectivorous birds to emerging aquatic insects in riparian habitats of a tallgrass prairie system. American Midland Naturalist 129:288-300.

Green, G. A., H. L. Bombay, and M. L. Morrison. 2003. Conservation Assessment of the Willow Flycatcher in the Sierra Nevada. U.S. Department of Agriculture, Forest Service, Region 5. Sacramento, California.

Gregory, S. V., F. J. Swanson, W. A. McKee, and K. W. Cummins. 1991. An ecosystem perspective of riparian zones. Bioscience 41:540-550.

Grinnell, J., J. S. Dixon, and J. M. Linsdale. 1937. Fur-Bearing Mammals of California. University of California Press. Berkeley, California.

Grinnell, J. and A. H. Miller. 1944. The distribution of the birds of California. Pacific Coast Avifauna 27:1-617.

Gutiérrez, R., A. Franklin, and W. LaHaye. 1995. Spotted Owl (*Strix occidentalis*). *In* A. Poole, & F. Gill, editors, The Birds of North America No. 179: Life Histories for the 21st Century. The Philadelphia Academy of Sciences and The American Ornithologists' Union. Washington, D.C.

H. T. Harvey & Associates. 2020a. Preliminary Delineation of Wetlands and Other Waters of the United States: Lacey Meadows Restoration Project. Prepared for Truckee River Watershed Council. Truckee, California.

H. T. Harvey & Associates 2020b. Draft Webber Lake Livestock Grazing Plan. Prepared for Truckee River Watershed Council. Truckee, California.

Hall, E, R. 1981. Mammals of North America. Second edition. Vol. 1. John Wiley & Sons. New York, New York.

Harris, J. H., S. D. Sanders, and M. A. Flett. 1987. Willow flycatcher surveys in the Sierra Nevada. Western Birds 18:27–36.

Hatfield, R. G., and G. LeBuhn. 2007. Patch and landscape factors shape community assemblage of bumble bees, *Bombus* spp. (*Hymenoptera: Apidae*), in montane meadows. Biological Conservation 139:150-158.

Heath, S. 2008. Yellow Warbler (*Dendroica petechia*). *In* W. D. Shuford and T. Gardal, editors. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Heath, S. K. and G. Ballard. 2003. Patterns of breeding songbird diversity and occurrence in riparian habitats of the Eastern Sierra Nevada. *In* P. M. Faber, editor, California Riparian Systems: Processes and Floodplain Management, Ecology, and Restoration, Riparian Habitat and Floodplains Conference Proceedings, Riparian Habitat Joint Venture. Sacramento, California

Hermanson, J. W. and T. J. O'Shea. 1983. *Antrozous pallidus*. Mammalian Species 213:1-8.

Holt, D. W. and S. M. Leasure. 1993. Short-Eared Owl (*Asio flammeus*). *In* A. Poole and F. Gill, editors, The Birds of North America No. 179: Life Histories for the 21st Century. The Philadelphia Academy of Sciences and The American Ornithologists' Union. Washington, D.C.

Hull, J. M., J. J. Keane, W. K. Savage, S. A. Godwin, J. A. Shafer, E. P. Jepsen, R. Gerhardt, C. Stermer, and H. B. Ernest. 2010. Range-wide genetic differentiation among North American great gray owls (*Strix nebulosa*) reveals a distinct lineage restricted to the Sierra Nevada, California. Molecular Phylogenetics and Evolution 56:212-221.

Ingles, L. G. 1965. Mammals of the Pacific States. Stanford University Press. Stanford, California.

Ivey, G. L. and C. P. Herziger. 2001. Distribution of greater sandhill crane pairs in California 2000. California Department of Fish and Game. Sacramento, California.

Jaramillo, A. 2008.Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*). *In* W. D. Shuford and T. Gardali, editors, California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Johnston, D. Senior bat biologist, H. T. Harvey & Associates. Personal observations regarding bat species occurring near Webber Lake.

Johnston, D. S. and M. B. Fenton. 2001. Individual and population-level variability in diets of pallid bats (*Antrozous pallidus*) Journal of Mammalogy 82:362-373.

Johnston, D. S., B. Hepburn, J. Krauel, T. Stewart, and D. Rambaldini. 2006. Winter roosting and foraging ecology of pallid bats in Central Coastal California. Bat Research News 47:115.

Keane, J. 2008. Northern Goshawk (*Accipiter gentilis*). *In* W. D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: A Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Knapp, R. A. 1996. Non-Native Trout in Natural Lakes of the Sierra Nevada: An Analysis of Their Distribution and Impacts on Native Aquatic Biota. *In* D. C. Erman, editor, Sierra Nevada Ecosystem Project: Final Report to Congress, Vol. III, Assessments, Commissioned Reports, and Background Information. Centers for Water and Wildland Resources. University of California, Davis. Davis, California.

Knapp, R. A., P. S. Corn, and D. E. Schindler. 2001. The introduction of nonnative fish in wilderness lakes: good intentions, conflicting mandates, and unintended consequences. Ecosystems 4:275-278

Knopf, F. L. and J. L. Kennedy. 1980. Foraging sites of white pelicans nesting at Pyramid Lake, Nevada. Western Birds 11:175-180.

Kucera, T. E., W. J. Zielinski, and R. H. Barrett. 1996. Current distribution of the American marten, *Martes americana*, in California. California Fish and Game 81:96-103.

La Rivers, I. 1994. Fishes and Fisheries of Nevada. University of Nevada Press. Reno, Nevada.

[Lahontan RWQCB] Lahontan Regional Water Quality Control Board. 1995. Water Quality Control Plan for the Lahontan Basin, North and South Basins. South Lake Tahoe and Victorville, California.

Lehman, R. N. 1979. A Survey of Selected Habitat Features of 95 Bald Eagle Nests in California. California Department of Fish and Game. Wildlife Management Branch Administrative Report 79-1. Sacramento, California.

Lehman, R. N., D. E. Craigie, P. L. Colins and R. S. Griffen. 1980. An Analysis of Habitat Requirements and Site Selection Criteria for Nesting Bald Eagle in California. Prepared for U.S. Department of Agriculture, Forest Service, Region 5. San Francisco, California.

Lindström, S. G. 2012. Lacey Meadow/Webber Lake Work Book: A Contextual Overview of Human Land Use and Environmental Conditions. Prepared for Truckee River Watershed Council. Truckee, California.

Littlefield, C. D. 1989. The Status of Greater Sandhill Crane Breeding Populations in California, 1988. Nongame Bird and Mammal Section Report, California Department of Fish and Game, Wildlife Management Branch. Sacramento, California.

Littlefield, C. D. 1982. The Status and Distribution of Greater Sandhill Cranes in California, 1981. California Department of Fish and Game. Sacramento, California.

Loffland, H. Meadow Bird Specialist, Institute for Bird Populations. Personal observations regarding bird species occurrences in Lacey Meadows.

Loffland, H. L. 2019. Memorandum summarizing bird and bumble bee survey results for 2019 in the Lacey Meadows restoration project area. Dated December 3 to Beth Christman, Director of Watershed Restoration Programs, Truckee River Watershed Council. Truckee, California.

Loffland, H L. and R.B. Siegel. 2014. 2014 Willow Flycatcher Surveys in East-Side Meadows on the Tahoe National Forest. The Institute for Bird Populations. Point Reyes Station, California.

Loffland, H. L, R. B. Siegel, and R. L. Wilkerson. 2011. Avian Monitoring Protocol for Sierra Nevada Meadows: a Tool for Assessing the Effects of Meadow Restoration on Birds. Version 1.0. The Institute for Bird Populations. Point Reyes Station, California.

Lynn, S., M. L. Morrison, A. J. Kuenzi, J. C. C. Neale, B. N. Sacks, R. Hamlin, and L. S. Hall. 1998. Bird use of riparian vegetation along the Truckee River, California and Nevada. Great Basin Naturalist 58:328-343.

MacWhirter, R. B. and Bildstein, K. L. 1996. Northern Harrier (*Circus cyaneus*). *In* A. Poole and F. Gill, editors, The Birds of North America No. 179: Life Histories for the 21st Century. The Philadelphia Academy of Sciences and The American Ornithologists' Union. Washington, DC.

Mathewson, H. A., M. L. Morrison, H. L. Loffland, and P. F. Brussard. 2012. Ecology of willow flycatchers (*Empidonax traillii*) in the Sierra Nevada, California: effects of meadow characteristics and weather on demographics. Ornithological Monographs 2012(75):1-32.

McCreedy, C. and S. Heath. 2004. Atypical willow flycatcher nesting sites in a recovering riparian corridor at Mono Lake, California. Western Birds 35:197-205.

Moyle, P. B., R .M. Yoshiyama, and R. A. Knapp. 1996. Sierra Nevada Ecosystem Project: Final Report to Congress, Vol. II, Assessments and Scientific Basis for Management Options. Centers for Water and Wildland Resources. University of California, Davis. Davis, California.

Nevada County. 2016. Nevada County General Plan. Nevada City, California.

Orr, R. T., and J. Moffitt. 1971. Birds of the Lake Tahoe Region. California Academy of Sciences. San Francisco, California.

Ray, S. M. 1903. Land birds of Lake Valley, California. Auk 20:185.

Roberson, D. 2008. Short-Eared Owl (*Asio flammeus*). *In* W. D. Shuford and T. Gardali, editors. California Bird Species of Special Concern: a Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Sedgwick, J. A. 2001. Geographic variation in the song of willow flycatchers: differentiation between *Empidonax traillii adastus* and *E. t. extimus*. Auk 118:366-379.

Sherwin, R. and D. A. Rambaldini. 2005. Species Account for *Antrozous pallidus*, Pallid Bat. Western Bat Working Group. Rapid City, South Dakota.

Shuford W. D. 2005. Historic and current status of breeding American white pelicans in California. Waterbirds 28(Special Publ. I):35-47.

Shuford W. D. 2008a. Black Tern (*Chlidonias niger*). *In* W. D. Shuford and T. Gardali, editors, California Bird Species of Special Concern: a Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Shuford W. D. 2008b. American White Pelican (*Pelecanus erythrorhynchos*). *In* W. D. Shuford and T. Gardali, editors, California Bird Species of Special Concern: a Ranked Assessment of Species, Subspecies, and Distinct Populations of Birds of Immediate Conservation Concern in California. Studies of Western

Birds 1. Western Field Ornithologists and California Department of Fish and Game. Camarillo and Sacramento, California.

Siegel, R. B., R. L. Wilkerson, and D. F. DeSante. 2008. Extirpation of the willow flycatcher from Yosemite National Park. Western Birds 39:8-21.

Sierra County. 1996. Sierra County General Plan. Downieville, California.

Spencer, W. D., R. H. Barrett, and W. J. Zielinski. 1983. Marten habitat preference in the northern Sierra Nevada. The Journal of Wildlife Management 47:1181-1186.

Svahn, J. 2020. Associate Director Truckee Donner Land Trust. Email correspondence dated September 9 with Matt Wacker of H. T. Harvey & Associates regarding fish stocking programs in Webber Lake.

Taylor, M. 2000. Subalpine fireweed (*Epilobium howellii*). *In* D. Murphy and C Knopp, editors, Lake Tahoe Watershed Assessment: Volume II. General Technical Report PSW-GTR-175. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. Albany, California.

[TNF] Tahoe National Forest. 2020. Natural Resources Information System query of records within the Prosser Creek Watershed [database application]. Information provided by the Truckee Ranger District, Tahoe National Forest.

UC Davis. 2017. Geospatial data depicting the locations of meadows in the Sierra Nevada. Available at: https://meadows.ucdavis.edu/meadows/map. Accessed September 2020.

[USFS] United States Forest Service. 2004. Record of Decision for the Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement (R5-MB-046). United States Department of Agriculture, Forest Service Pacific Southwest Region. Vallejo, California.

[USFS] United States Forest Service. 2013. Invasive Weeds of the Tahoe National Forest: A Comparison Guide to Non-native Invasive Plants and Common Lookalikes. U. S. Forest Service publication R5-TP-024, 2013. <https://www.truckeeriverwc.org/images/documents/TNFWB_Web8-7-09.pdf>. Accessed September 2020.

[USFS] United States Forest Service. 2017. Existing Vegetation: Region 5 – North Sierra (Feature Layer). US Forest Service Enterprise Map Services Program. <https://enterprisecontentnew-usfs.hub.arcgis.com/datasets/0815c3f5fda44584a34fc7d82d44dfb2_7>. Accessed September 2020.

[USFS] United States Forest Service. 2018. Draft Conservation Strategy for the California Spotted Owl, Version 1.0. Pacific Southwest Region. Vallejo, California.

[USFWS] United States Fish and Wildlife Service. 1986. Recovery Plan for the Pacific Bald Eagle. Portland, Oregon.

[USFWS] United States Fish and Wildlife Service. 2020. Information for Planning and Consultation [website] https://ecos.fws.gov/ipac/. Accessed September 2020.

Verner, J., R. Gutiérrez, and G. Gould Jr. 1992. The California spotted owl: general biology and ecological relations. Pages 55–77 *in:* J. Verner, K. McKelvey, B. Noon, R. Gutiérrez, G. Gould Jr, and T. Beck, editors, The California Spotted Owl: a Technical Assessment of its Current Status. General Technical Report PSW-GTR-133. U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station. Albany, California.

Wilson, D. E. and S. Ruff. 1999. The Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington, D.C.

Winter, J. 1986. Status, Distribution, and Ecology of the Great Gray Owl *(Strix nebulosa)* in California. M.S. Thesis. San Francisco State University. San Francisco.

Witham, C. 2000. Current Knowledge and Conservation Status of *Ivesia webberi* Gray (Rosaceae), the Webber Ivesia, in Nevada. Prepared for Nevada Natural Heritage Program and U.S. Fish and Wildlife Service. Carson City and Reno, Nevada.

Wolff, J. 1980. The role of habitat patchiness in the population dynamics of snowshoe hares. Ecological Monographs 50(1):111-130.

Zeiner, D. C., W. F. Landenslayer, Jr., K. E. Mayer, and M. White, editors. 1988-1990. California's Wildlife. Vol I-III. California Department of Fish and Game. Sacramento, California.

Zielinski, W. J., K. M. Slauson, C. R. Carroll, C. J. Kent, and D. G. Kudrna. 2001. Status of American martens in coastal forests of the Pacific states. Journal of Mammalogy 82:478-490.

PHASE I ARCHAEOLOGICAL INVENTORY REPORT FOR THE LACEY MEADOWS RESTORATION PROJECT SIERRA AND NEVADA COUNTIES, CALIFORNIA

SUBMITTED TO:

H.T. Harvey & Associates
983 University Avenue,
Building D
Los Gatos, CA 95032

PREPARED FOR:

Truckee River Watershed
Council
PO Box 8568
Truckee, CA 96162

PREPARED BY:

DZC Archaeology & Cultural Resource Management
Dimitra Zalarvis-Chase M.A., R.P.A.
Steven Brewer, B.A.
October 2020

USGS 7.5-Minute Series Webber Peak
Township 19 North, Range 14 East, Sections 28, 29, 32, & 33;
and Township 18 North and Range 14 East, Section 5, 6, 7, 8.
77-acre study area

Keywords: Lacey Valley, Washoe, Webber Lake, Sierra County, Nevada County

STATEMENT OF CONFIDENTIALITY

This version of the report excludes the locations of cultural resource sites. Disclosure of such information to the public may be in violation of both federal and state laws. Applicable United States laws include, but may not be limited to, Section 304 of the National Historic Preservation Act (16 U.S.C. 470w-3), the Archaeological Resources Protection Act [16 U.S.C. Section 9(a) and Section 470(hh)], and Executive Order 13007. In California, such laws include, but may not be limited to, Government Code Section 6254.10. Site location information is confidential and is not for public disclosure.

Additionally, records maintained or in the possession of the Native American Heritage Commission or state and local agencies that are exempt from public disclosure include those that contain information on Native American graves, cemeteries, and sacred places, and include records obtained during consultation with Native Americans (California Government Code §6254(r) and §6254.10).

LIMITATIONS STATEMENT

This report has been prepared based on certain key assumptions made by DZC Archaeology and Cultural Resource Consulting, LLC that substantially affect the conclusions and recommendations of this report. These assumptions, although concluded to be reasonable and appropriate, may not prove to be true in the future. The conclusions and recommendations of DZC Archaeology and Cultural Resource Consulting, LLC are conditioned upon these assumptions.

These assumptions include confidential information provided by the Native American Heritage Commission on October 13, 2020, by the North Central and North Eastern Information Centers on September 22, 2020, and by direct observation of site conditions and other information that is generally applicable as of October 14, 2020. The conclusions and recommendations herein are therefore applicable only to that timeframe. Information obtained from these sources in this timeframe is assumed to be correct and complete. DZC Archaeology and Cultural Resource Consulting, LLC will not assume any liability for findings or lack of findings based upon misrepresentation of information presented to the Project team or for items not visible, made available, accessible, or present at the site at the time of the Project site survey.

MANAGEMENT SUMMARY

On behalf of the Truckee-Donner Land Trust (TDLT), the Truckee River Watershed Council (TRWC) retained the services of DZC Archaeology and Cultural Resource Consulting, LLC (DZC) to conduct cultural resource studies in support of the Dry Creek Watershed Restoration - Site 8. The purpose of the Project is to conduct meadow and stream restoration projects throughout the Upper and Lower Lacey Meadows near Truckee California. Proposed activities include the placement of logs and riffles, grading and contouring, creation and decommissioning of temporary access roads, and the use of staging areas for mechanical equipment and restoration supplies.

DZC is a cultural resource consulting firm with over 10 years of experience with projects throughout northern California. DZC conducts cultural resource studies in accordance with the Secretary of the Interior's standards and in compliance with all applicable federal, state, and local codes, acts, regulations, and orders relating to cultural resources, where applicable. This cultural resource inventory report was prepared by Dimitra Zalarvis-Chase, a Registered Professional Archaeologist, who meets the Secretary of the Interior's Professional Qualifications Standards in Prehistoric and Historic Archaeology, with contributions by Steven Brewer (BA).

The study area is located in Sierra and Nevada Counties in Township 19 North, Range 14 East, Sections 28, 29, 32, & 33, and Township 18 North and Range 14 East, Section 5, 6, 7, 8, on the USGS 7.5-Minute Series Webber Peak Quadrangle. While the majority of the Project is located on private lands of the Truckee-Donner Land Trust, a small portion of the main access road and some restoration activities would take place on lands owned by the United States Forest Service (USFS). Additionally, the Lahontan Regional Water Quality Control Board (Lahontan) is the Lead Agency via issuance of a Federal Clean Water Act Section 401 water quality certification for the project. Therefore, the Project is subject to the California Environmental Quality Act (CEQA), Section 106 of the National Historic Preservation Act (NHPA), and the *Programmatic Agreement among the USDA Forest Service, Pacific Southwest Region, (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the Process for Compliance with Section 106 of the national Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region* (R5PA).

Project activity locations where ground disturbance will take place are identified as the Area of Direct Impacts (ADI). A fifty-foot buffer was placed around all activity areas to delineate the Area of Potential Effects (APE). A one-quarter-mile radius around the APE delineates the Environmental Study Limits (ESL) which defines the geographical extent of select aspects of Project research.

Prior to conducting the field survey, historic research was completed by DZC at the Northeast Information Center and the north Central Information Center of the California Historic Resources Information System, and at the Tahoe National Forest in September of 2020. The research identified no previously recorded resources within the APE and seven resources within the ¼ mile ESL (P-46-000165 Webber Lake Ranger Station; P-46-000166 Lacey Valley Petroglyphs; P-46-000167 Bedrock Mortar; P-29-000427 Bedrock grinding Slick; P-46-00714 Ridenger Dairy; NPS-SG100003281-0000 The Webber Lake Hotel, CA BERD 685387; California Historic Landmark No. 421 Henness Pass Road). Two prior survey reports were identified as partially intersecting the APE while eight additional reports are recorded as occurring within the ESL. Additional research included a positive Sacred Lands File Search request (9/22/2020); Native American outreach and request for comment (10/23/2020); a review of local, state and National Registers, historic maps, and aerial photos; and additional archival directories, all of which indicated a high level of landscape-level historic era activity within the ESL.

The field work portion of this project was undertaken on October 11, by Staff Archaeologist Steven Brewer (BA) and Archaeological Technician Francisco Vargas (BA in progress). The survey resulted in intensive coverage of 232 of the 420-acre APE in transects of 10-20 meters. Modern refuse (c1970-c2020) in the form of bottles, cans, and miscellaneous metal fragments were observed throughout the Project area, mainly along the primary access road. As a result of this survey four new resources were recorded: LV-01 Johnson Family Homestead; LV-02 Little Hilltop Refuse; LV-03 Meadow Refuse, and LV-04 Cold Camp. The resource boundary for LV-01 and LV-02 intersect with the APE but not with the ADI. Resources LV-03 and LV-04 are immediately adjacent

to, but not within, the APE. As the project has the potential to impact resources, Mitigation Measures (CULs) are recommended to eliminate or reduce impacts to a level that is less than significant for all four resources.

This cultural resources inventory is intended to satisfy the requirements of the National Environmental Policy Act (NEPA) of 1969 and Section 106 of the National Historic Preservation Act (NHPA) of 1966 (all as amended), and the Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region (PA) (R5PA 2018).

This report recommends a **Finding of No Historic Properties Affected**, as defined by the NHPA and a **Finding of No Impacts** as defined by CEQA. Additional surveys will be required if the project changes to include areas not previously surveyed. Additional surveys will be required if the project changes to include areas not previously surveyed.

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

LIST OF ABBREVIATED TERMS

AB 52	Assembly Bill 52 - Native Americans: California Environmental Quality Act
APE	Area of Potential Effects
CCR	California Code of Regulations
CFR	California Environmental Quality Act
CFR	Code of Federal Regulations
CHRIS	California Historical Resources Information System
DZC	DZC Archaeology & Cultural Resource Consulting, LLC
FEMA	Federal Emergency Management Administration
GLO	General Land Office
NAHC	Native American Heritage Commission
NETR	National Environmental Title Research, LLC
NHPA	National Environmental Policy Act
NRHP	National Register of Historic Places
NCIC	Northcentral Information Center
NEIC	Northeastern Information Center
R5PA	*Programmatic Agreement among the USDA Forest Service, Pacific Southwest Region, (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the Process for Compliance with Section 106 of the national Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region.*
ESL	Environmental Study Limits
SB 18	Senate Bill 18 – Traditional Tribal Cultural Places
TCR	Tribal Cultural Resources
THPO	Tribal Historic Preservation Officer
USC	United States Code
USDA	United States Department of Agriculture
USGS	United States Geological Survey

1.0 INTRODUCTION

On behalf of the Truckee River Watershed Council (TRWC), DZC Archaeology and Cultural Resource Consulting (DZC) was retained to conduct a Phase I Cultural Resource Inventory for the proposed Lacey Meadows Restoration Project (Project). The seasonal stream channel through the valley has been altered through historic land uses, causing incision, erosion, and degradation of the adjoining meadow habitat. The Project proposes to conduct meadow and stream restoration activities throughout the Upper and Lower Lacey Meadows complex on lands owned by the Truckee Donner Land Trust (TDLT) and the U.S. Forest Services, Tahoe National Forest.

The Project is subject to the California Environmental Quality Act (CEQA) and the *Programmatic Agreement among the USDA Forest Service, Pacific Southwest Region, (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the Process for Compliance with Section 106 of the national Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region*. As such, the Lahontan Regional Water Quality Control Board (Lahontan) will be the CEQA lead agency via issuance of a Federal Clean Water Act Section 401 water quality certification for the project.

This project has the potential to adversely affect historic properties that may be located within the project area. A good faith effort was therefore made to identify any cultural resources within and immediately adjacent to the Area of Potential Effects (APE) and within the Area of Direct Impacts (ADI). This cultural resource inventory was conducted to satisfy requirements of CEQA of 1970 (all as amended). The purpose of this effort was to identify and evaluate any historic properties that may exist within the APE.

This cultural resource inventory report was prepared by Dimitra Zalarvis-Chase, a Registered Professional Archaeologist, who meets the Department of the Interior's Professional Qualifications Standards in Prehistoric and Historic Archaeology, with contributions by Steven Brewer (B.A.) & Francisco Vargas, all of DZC. DZC is an archaeological and cultural resources consulting firm with over 10 years of experience with projects throughout northern California. DZC conducts cultural resource studies in accordance with the U.S. Secretary of the Interior's standards and in compliance with all applicable federal, state, and local codes, acts, regulations, and orders relating to cultural resources, where applicable.

1.1 PROJECT LOCATION

The Project comprises 60 (ac) of private lands and a small amount of land within the U.S. Forest Service Tahoe National Forest, in the Lacey Valley, which straddles both Nevada and Sierra counties in central eastern California. The specific location of work is referred to as the Lacey Meadows Restoration Project. The watershed associated with Dry Creek/Lacey Valley is a tributary to Boca Reservoir.

The legal location of the Project area is Township 19 North, Range 14 East, Sections 28, 29, 30, 32 30, 32 and 18N 14E Section 5, 6, 7, 8 on the USGS Webber Peak (1986) 7.5-Minute Series Quadrangle of the Mount Diablo B.M. (Figure 2).

1.2 PROJECT DESCRIPTION

The Dry Creek Watershed Assessment (USDA, 2013) identified the impacts of past and current land use on the natural hydrology and habitat of the watershed. The road and skid trail network (including historic railroad grades) have interrupted, captured, and re-routed flows in the project area. Meadows in the project area have been impacted by this transportation network as well as by reservoir operations. Incision of stream channels through the meadows has decreased floodplain connectivity, reduced filtering capacity, lowered the seasonal water table, and impacted riparian and aquatic habitat.

Lacey Meadows is in the Upper Little Truckee River watershed. There are two primary meadows, the Upper Lacey Meadow, and the Lower Lacey Meadow. Lacey Creek runs from south to north through the two Lacey meadows to Webber Lake. Both meadows have been degraded through past land uses including logging, grazing, road building, and recreation.

Upper Lacey Meadow has been reduced from a historic size of approximately 100 acres to 72 acres. The stream channel is not in its natural alignment, and the channel has been modified. Gravel piles or push-up dams observed in remnant channels suggest they were placed to dam channels and divert flow. Historical aerial imagery between 1952 and 1966 indicates that channel abandonment was encouraged to divert the channel in the Upper Meadow, probably to support drier conditions in the meadow for grazing.

Lacey Creek in Lower Lacey Meadow is incised. Historically, removable fish screens were used to minimize stocked fish from migrating downstream from Webber Lake. When the fish screens were periodically removed for cleaning, rapid and large fluctuations in lake levels occurred. These fluctuations often resulted in a change in the shoreline location of about 2,000 feet. It appears that these water level changes in Webber Lake have caused knickpoint erosion and head-cut migration in Lacey Creek through the Lower Meadow. While the fish screens are no longer used, the incision through Lower Lacey Meadow persists. These changes resulted in lowered groundwater levels, decreased groundwater retention and an overall drying of Lower Lacey Meadow.

The restoration of Upper Lacey Meadow and the restoration of Lower Lacey Meadow will be completed in two separate phases. In Upper Lacey Meadow (Phase I), the Project will re-engage the historic stream channels on the meadow surface through construction of log and debris jams and selective channel fill placement. Some minor pilot channels will be excavated to reconnect historic flow paths. In Lower Lacey Meadow (Phase II), the project will arrest stream channel incision and promote aggradation through selective installation of log and debris jams and constructed riffles. The Project also includes minor excavation to re-engage historic high flow paths. Webber Lake Road, which runs through Lower Lacey Meadow, will be maintained to improve flow across the meadow.

The Project will improve habitat for a variety of mammals, and birds, including the threatened willow flycatcher and greater sandhill crane. The Project will provide water quality benefits including decreased erosion, improved late season base flows, and elevated groundwater tables.

Specifically, the Project will include:

Instream Debris Jams: Debris jams will be used throughout the Project to promote aggradation of the incised stream channel. Aggradation will increase the frequency of overbank flow and rewatering of meadow habitat in areas where remnant channels exist. Thirteen of the debris jams are smaller "bundles" composed of small diameter trees and branches that are constructed and placed by hand in tributary channels to Lacey Creek. The remaining 45 debris jams will include a minimum of two key logs (16 – 18" diameter) with rootwads attached and will be constructed with machinery.

Buried Log Structures: Constructed in Lower Lacey Meadow at locations where historical Webber Lake water level fluctuations have caused development of knickpoints and head-cuts. These buried log structures will be placed upstream of existing head-cuts to protect upstream meadow habitat from further erosion and desiccation.

Engineered Riffles: Nine riffles will be placed in Lower Lacey Meadow. The riffles will serve similar function to the debris jams, that is, to promote more frequent overbank flows and increase channel bed aggradation.

Historic Channel Re-engagement: To restore flow to the natural flow paths in Upper Lacey Meadow, some minor excavation will be required to create pilot channels to move the stream back into the original alignment. In some areas, gravel push up dams and levees constructed to keep the flow out of the meadow channels will be removed. In Lower Lacey Meadow, selective placement of debris jams and riffles will help to re-engage historic high flow channels at two locations.

Channel Fill: In Upper Lacey Meadow, fill will be placed in the existing, non-historic stream channel to prevent flow recapture once historic channels are restored. Fill, sourced from the adjacent hillside, will be placed in two specific channel locations. The total area of disturbance for the cut and fill is approximately two acres.

Road Reconstruction: The elevation of Webber Lake Road is below the meadow surface and thus captures flow. Minor grading is proposed to prevent stream capture and restore flow paths across the meadow.

Short-Term Temporary Construction: The project will have short-term temporary construction impacts to approximately 17 acres that will be restored with native vegetation. It is anticipated that construction will be completed with excavators, loaders, water trucks, dump trucks, and other smaller equipment. Revegetation of disturbed areas will take place immediately after work at each location is finished. Construction of Phase I is anticipated to take place in late summer and early fall of 2021 or 2022. Construction of Phase II has not yet been scheduled. Construction of each phase will likely last 4 – 8 weeks.

1.3 Delineation of the Area of Direct Effects (ADI), the Area of Potential Effects (APE), and the Environmental Study Limits (ESL)

To determine a survey approach that addresses the history of past use, resources present, and assesses the potential for impacts to those resources, this analysis examines the nexus of three distinct spatial locations.

Physical locations involving any ground disturbing activities are delineated as the Area of Direct Impacts (ADI). The ADI includes the extent of all areas identified for log placement, riffle installation, grading, water-bar installation, and proposed (but temporary) access roads plus a 50-ft buffer (Figures 2-5).

The physical location with the *potential* for impact to archaeological resources is designated as the Area of Potential Effects (APE). An APE varies depending on the potential impacts of the project, the type of environmental clearance required, and the specific requirements of the Lead Agency. The APE completely encompasses the Area of Direct Impacts (ADI).

The APE was collaboratively established by the Truckee River Watershed Council and H. T. Harvey & The horizontal APE measures approximately 2 miles long (north to south) and varies from 40 ft wide to 330 ft wide (east to west). Therefore, the horizontal APE encompasses all existing (E) ingress/egress roads, proposed (P) access roads, and activity areas (AA). The vertical APE is associated with the engineering and visual elements of the Project. The vertical APE for this project ranges from + 6 ft above grade to -12 inches (in.) to -18 in. below grade in most non-paved areas. However, the vertical APE will extend up to up to -4 ft below grade.

The Environmental Study Limits (ESL) ESL defines the extent of select archival and research efforts in relationship to the APE. The ESL was established by DZC and constitutes a ¼ mile radius around the APE. The APE, ADI, and ESL are illustrated in Figures 2-5.

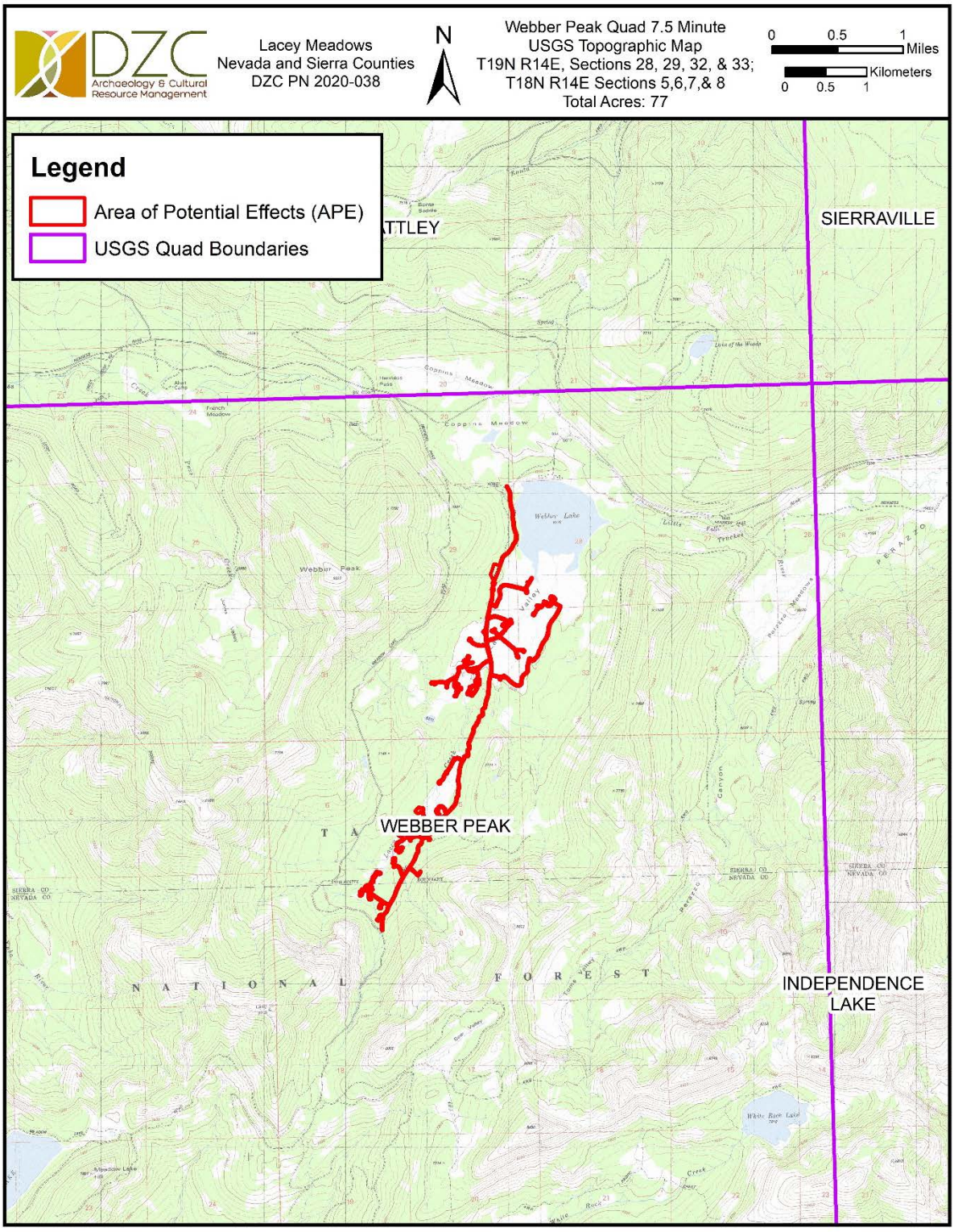


Figure 1 Project Vicinity near Truckee, California

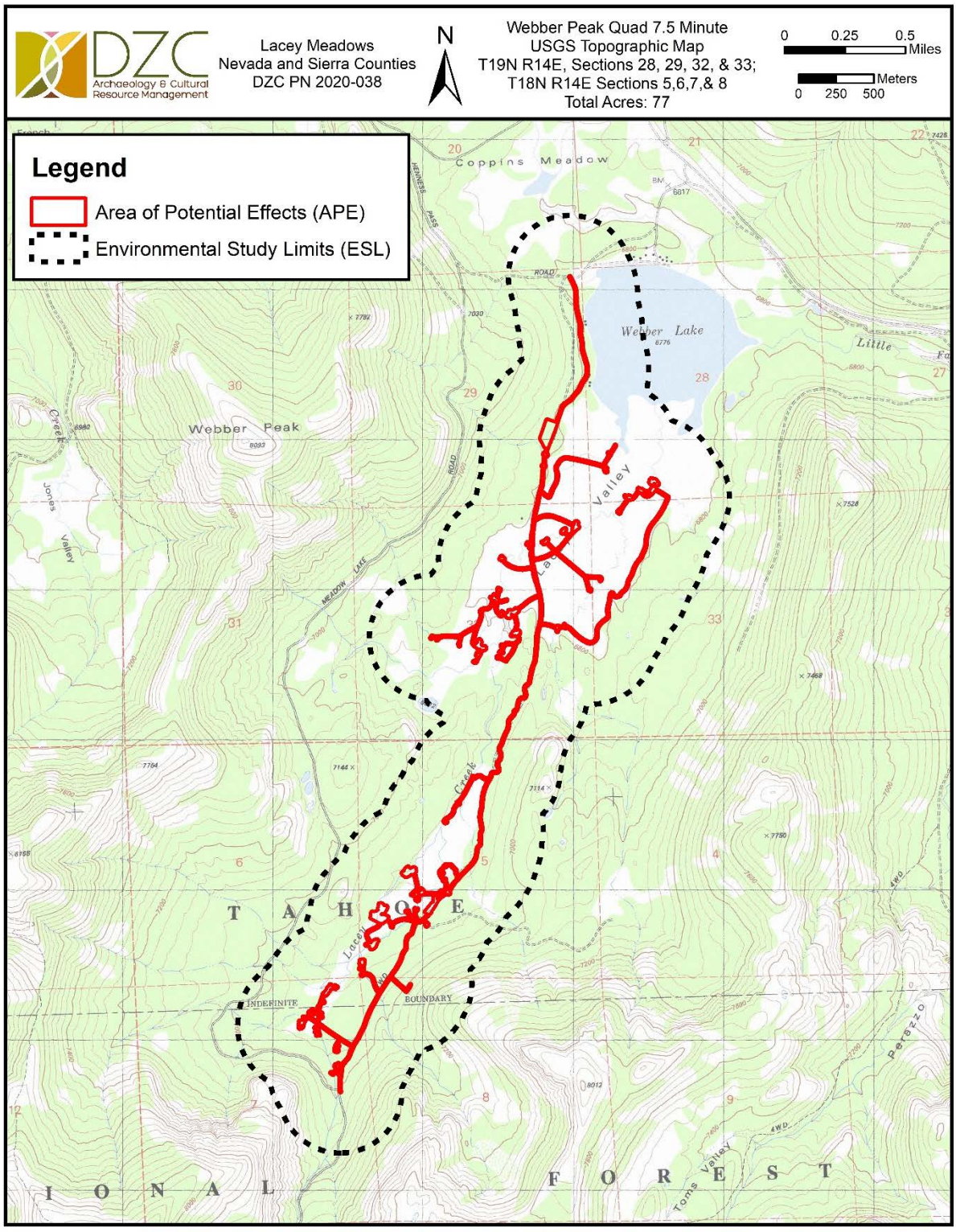


Figure 2 Overview of the Area of Potential effects (APE) and Environmental Study Limits (ESL)

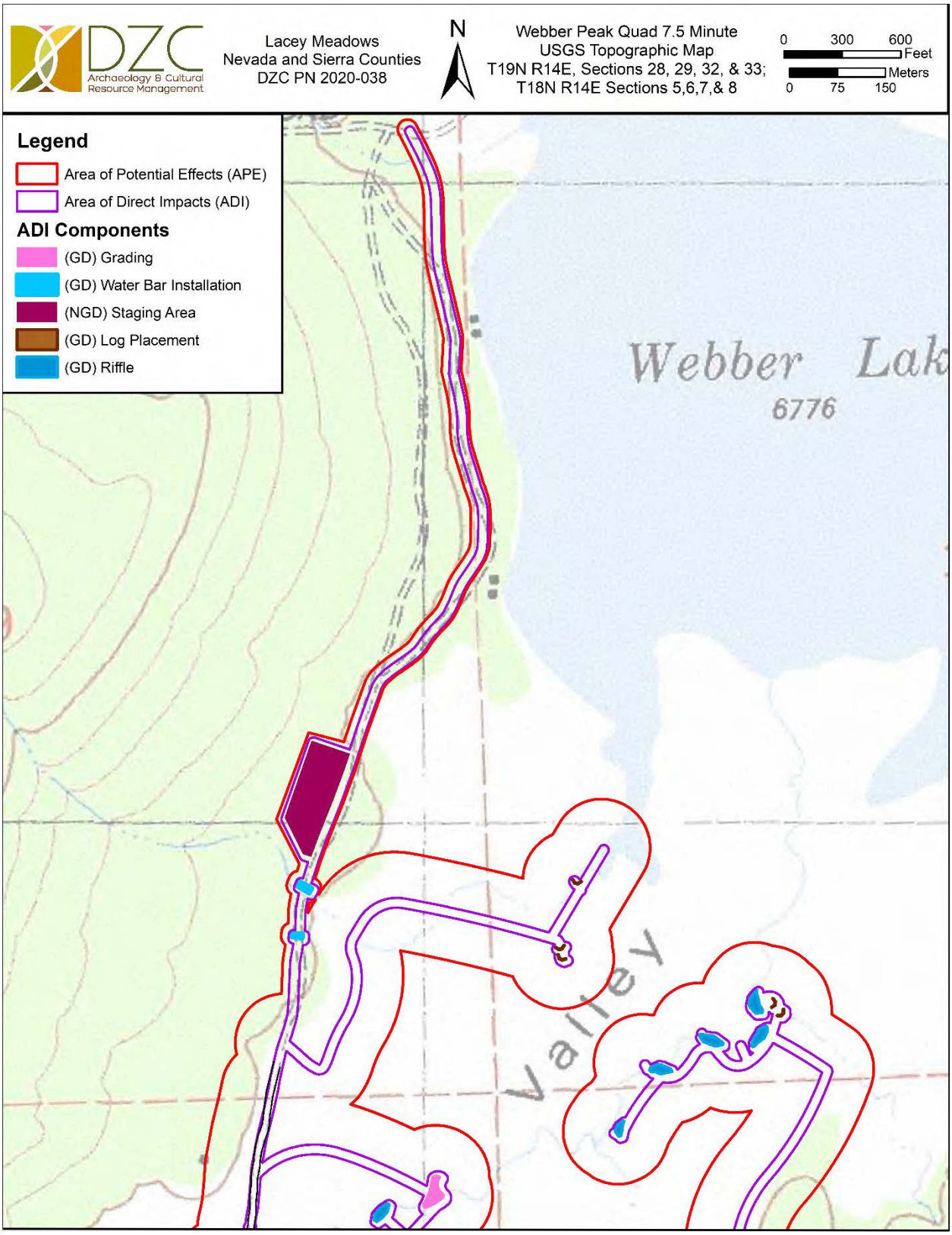


Figure 3 Detail of Project Components - North APE

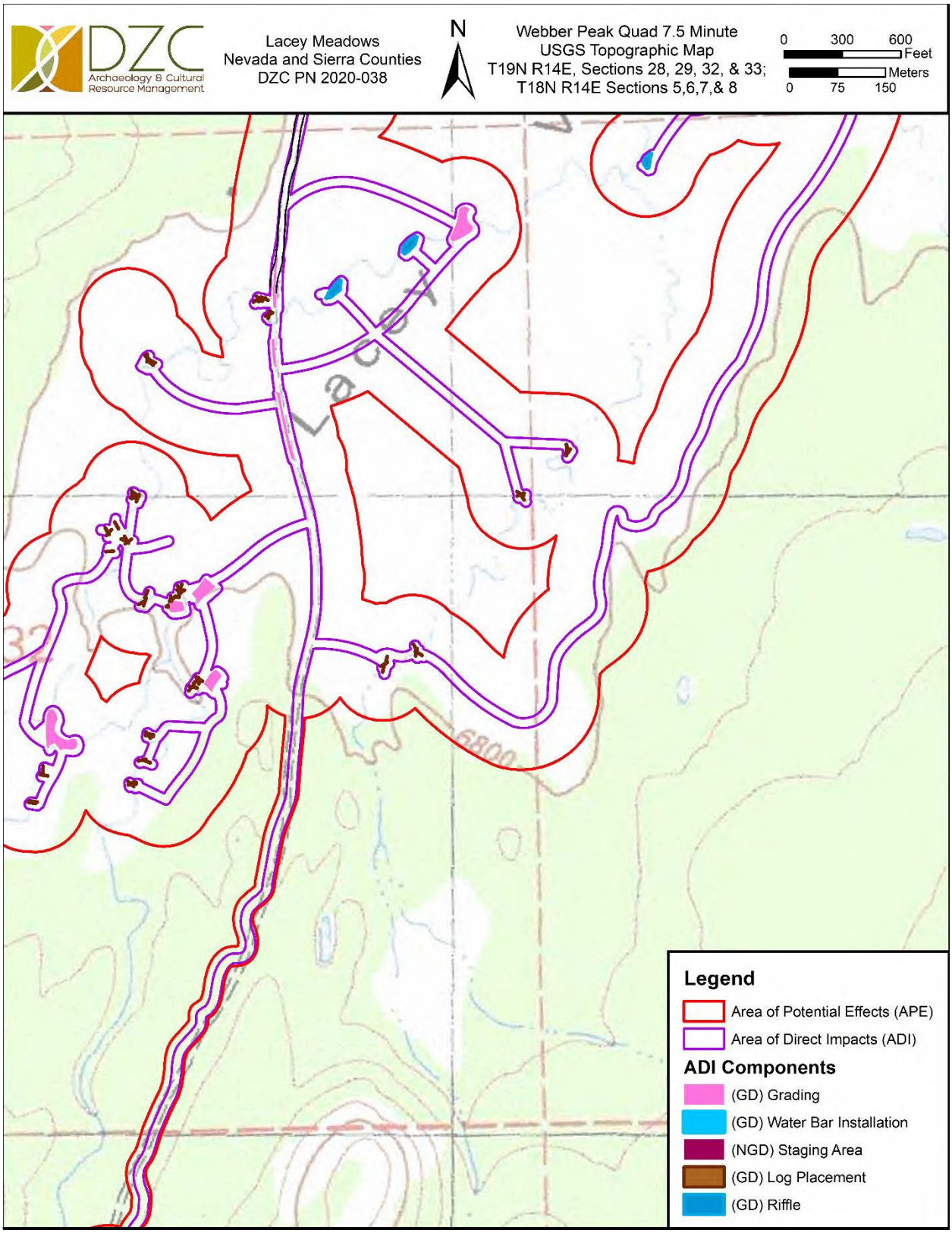


Figure 4 Detail of Project Components - North Central APE

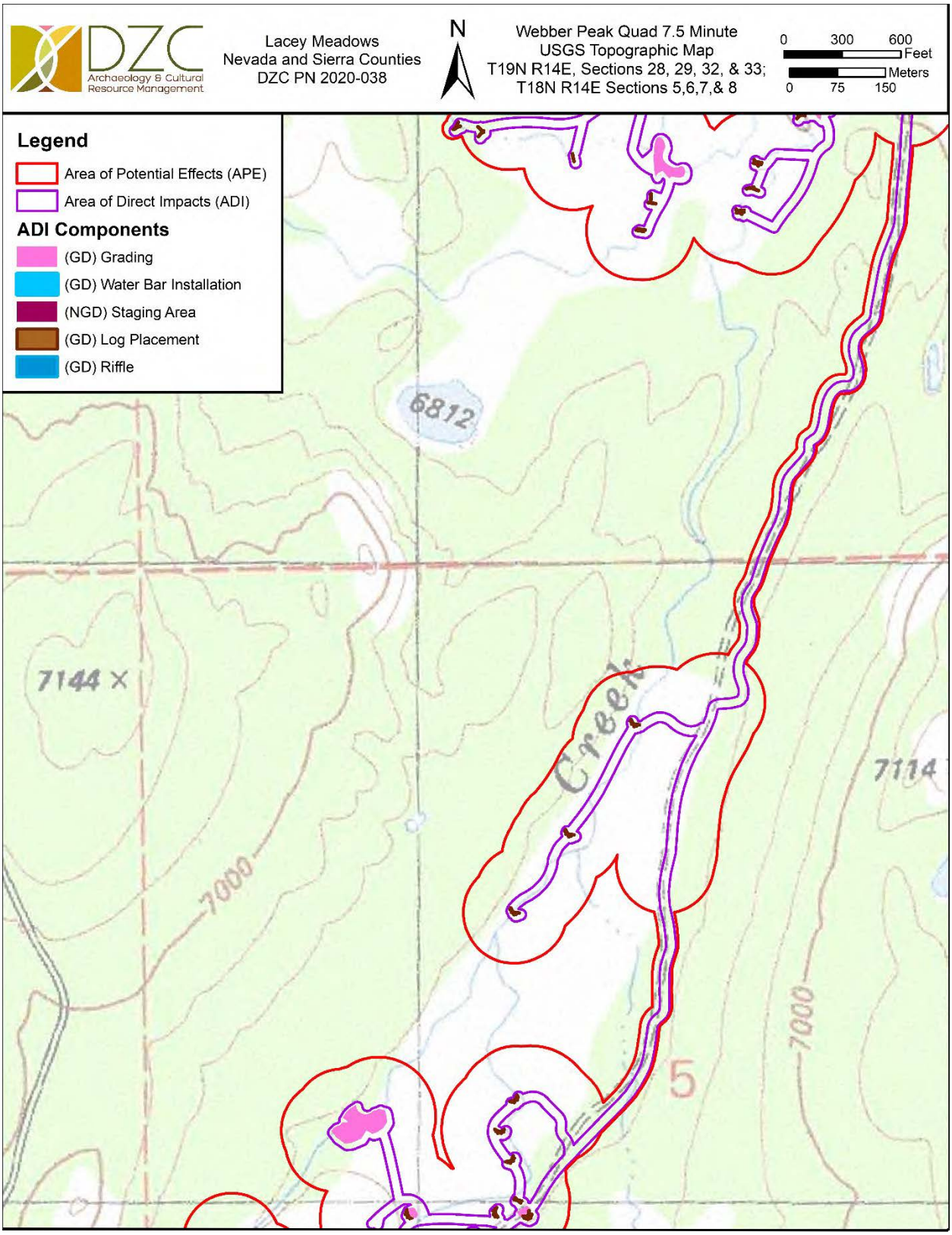


Figure 5 Detail of Project Components - South Central APE

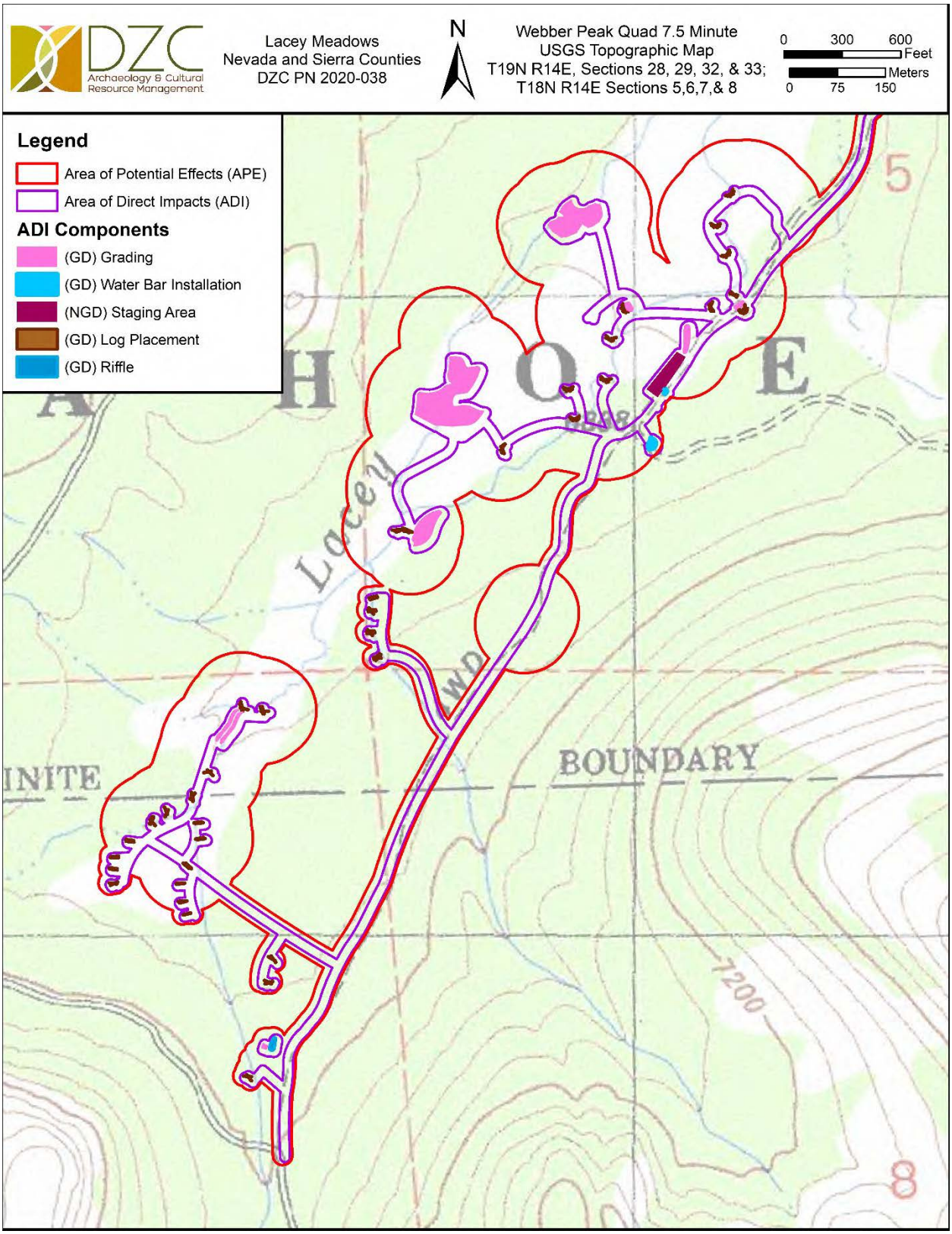


Figure 6 Detail of Project Components - South APE

2.0 REGULATORY SETTING

2.1 FEDERAL

Prehistoric and historical cultural resources, as well as areas of traditional religious and cultural importance to Native Americans, are protected during federal undertakings under Section 106 of the National Historic Preservation Act (NHPA) of 1966 as amended (36 Code of Federal Regulations [CFR] 800), as well as Section 101(d)(6)(A) of the NHPA and through the National Environmental Policy Act (NEPA).

Section 106 requires Federal agencies to consider the impact that any federal undertakings may have on historic properties, and to provide the Advisory Council on Historic Preservation a reasonable opportunity to comment on these potential impacts. Historic properties are defined as any district, site, building, structure, or object that is included or eligible for inclusion in the National Register of Historic Places (NRHP). Eligibility for inclusion in the NRHP is determined based on the following criteria:

"The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association and:

1. That are associated with events that have made a significant contribution to the broad patterns of our history; or
2. That are associated with the lives of persons significant in our past; or
3. That embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. That have yielded, or may be likely to yield, information important in prehistory or history. (National Register Bulletin, Section II, 1995)"

Cultural resources are considered significant if they are eligible for listing in the NRHP. Project impacts that physically damage or destroy all or part of a significant resource; impacts that that change the character or use of a significant resource; impacts to physical features within a significant resource which contribute to its significance, or introduces visual, atmospheric, or audible elements that diminish the integrity of a significant resource are considered significant impacts to the environment, and steps to mitigate these impacts must be taken.

2.2 STATE OF CALIFORNIA

2.2.1 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The Lead Agency for this project is the Lahontan Regional Water Quality Control Board. CEQA requires a Lead Agency to determine whether a project may have a significant effect on cultural or historical resources, pursuant to California Public Resources Code (PRC) sections 21083.2 and 21084.1. If it can be demonstrated that a project will cause damage to resources *eligible for* or *listed in* the California Register of Historical Resources (CRHR), Tribal Cultural Resources (TCRs), other resources on local County or other local lists, or those determined by the lead agency to be significant, the Lead Agency may require reasonable efforts be made to permit any or all of the resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2[a], [b], and [c]).

Section 21083.2 (g) defines a unique archaeological resource as an archaeological artifact, object, or site about which 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:

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

A historical resource is a resource listed in, or determined to be eligible for listing, in the CRHR (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a Lead Agency determines to be historically significant (Section 15064.5[a][3]).

PRC Sections 5024.1, 21083.2, and 21084.1, and Section 15064.5 of the CEQA Guidelines were used as the basic for this cultural resource study. PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the National Register of Historic Places (NRHP), enumerated below.

According to PRC Section 5024.1 (c) (1–4), a resource is considered historically significant if it (i) retains "substantial integrity," and (ii) meets at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed on or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired" (CEQA Guidelines, Section 15064.5 [b] [1], 2000). Material impairment is defined as demolition or alteration "in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the California Register…" (CEQA Guidelines Section 15064.5[b] [2] [A]).

2.2.2 Assembly Bill 52 (AB 52) Native American Consultation & CEQA

In 2016, AB 52 amended CEQA to define a new set of resources to be evaluated, Tribal Cultural Resources. AB 52 also requires a consultation process with all California Native American Tribes, including both federally and non-federally recognized tribes that are historically connected and culturally affiliated with the project location for any project that must comply with CEQA. This bill has established the TCR classification and requires consideration of Tribal Cultural Values in determination of project impacts and mitigation, requires notification of tribes, and requires meaningful consultation.

In accordance with PRC Section 21080.3.2 (b), consultation ends when either or both parties agree to mitigation measures, other agreements to avoid a significant effect on TCR's, or, when a party, acting in good faith and after reasonable effort concludes that mutual agreement cannot be reached.

3.0 BACKGROUND

The following sections provide context on the environmental and cultural history of the APE and ESL.

3.1 ENVIRONMENTAL SETTING

The climate of mountainous portions of Sierra and Nevada Counties provides moderate to cold temperatures year around. The mountainous area of Truckee is classified as cold-summer Mediterranean climate in the Köppen Climate System (Köppen 1936). With the coldest month averaging above 0 °C (32 °F) and 1–3 months averaging above 10 °C (50 °F).

3.1.1 SOILS AND GEOLOGIC COMPOSITION

The Project area is situated in Sierra and Nevada Counties in east central California. The APE is in the Sierra Nevada Mountain range in Central-Eastern California elevating to over 14,000 feet. The Sierra is a tilted fault block nearly 400 miles long (Wagner 2002). Its east face consists of high, rugged multiple scarps, contrasting with the western side's gentle (less than 2-degree) slopes that disappears under sediments of the Great Valley (Wagner 2002). The metamorphic bedrock (still partly capped by Tertiary volcanics), contains gold-bearing veins; a north-south structural trend is predominant in the western flank and northern end of the Sierra (Wagner 2002). The northern Sierra boundary is marked where bedrock disappears under the Cenozoic volcanic cover of the Cascade Range.

A review of the USDA Soil Survey Geographic Database Soil Series for Humboldt County, Central Part, California (CA600) revealed that the APE consists of four soil types (USDA 2020) (Table 3).

Table 1 Soil Composition within the APE

Dominant Soil Family	***Primary and Secondary Landforms; Parent Material***	***Depth to first restrictive feature***	***Drainage class***	***Percentage (%) of APE***
Celio-Gefo-Aquolls complex 2-30% slopes	Alluvium fans and outwash plains	Greater than 60 in.	poorly drained	27.40%
Aquolls and Borolls, 0-5% slopes	marshes and valley	Greater than 60 in.	very poorly drained	25.90%
Ahart-Waca, rhyolitic substratum-Cryumbrepts, 2-30% slopes	ridges and mountains	Greater than 31-50 in.	Well drained	2.50%
Rock outcrop, granitic	Mountains, rock outcrops, alluvial fans	0 in	Very poorly drained	1.30%

3.1.2 HYDROLOGY OF THE APE AND ESL

With reference to the USGS 7.5-minute Topographic Maps (Webber Peak; 1986) the directional groundwater through the APE is westward. Federal Emergency Management Agency (FEMA) national flood hazard map indicates the APE to be within the path of a 100-year flood event (FEMA 2020).

3.2 PRECONTACT CHRONOLOGY

The following Environmental Context is excerpted from the Bureau of Reclamation's Cultural Resources Investigation for the Stampede Dam Safety of Dams Modification Project (Barnes 2012) and Cultural Resources Evaluation Report for the Stampede Dam Safety of Dams Modification Project (Waechter and Clay 2018).

Late Pleistocene & Early Holocene (12,500 – 8,000 BEFORE PRESENT [B.P.)

The earliest human occupation of the upper elevations in northeastern California and northwestern Nevada is generally agreed to have occurred around the terminal Pleistocene/early Holocene (approximately 12,500-8,000 years before present [BP]) after about 10,000 BP. Climate data indicate that alpine vegetation had retreated from the Tahoe basin by about 10,000 BP. Radiocarbon dates from two sites located between Truckee and Tahoe City indicate use of the upper elevation environment between 8,000 and 9,000 BP (CA- PLA-164 on Squaw Creek and Alder Hill basalt quarry the Truckee River). The assemblages of sites studied in this region include Great Basin stemmed points made from a variety of stone materials, including basalt from Steamboat Hills, Alder Hill, and Watson Creek; chert and "greenstone" possibly from the western Sierra Nevada foothills; and obsidian from Bodie Hills. The wide range of material and sources suggests a foraging area that encompassed the east and west slopes of the Sierra Nevada range. The consistent use of sites as primarily hunting and/or resource procurement camps or task areas, including seed processing, rather than as more permanent residential locations suggests mobile groups with no systematic dependence on storage (Waechter and Lindström 2007:4-5: Rosenthal et al. 2007:171).

The Middle Holocene (8,000-5,500 B.P.)

Paleoclimatic data indicates that the climate between about 7,500 to 4,500 BP became significantly warmer and drier than any time before or since. Lake Tahoe receded, reducing, or periodically eliminating flows into the Truckee River, which undoubtedly impacted the availability of fish resources. Valley-floor marshes, such as those in Sierra Valley, Sardine Valley, and Stampede Valley, probably dried up. In addition, the eruption of Mount Mazama about 7,000 BP likely disrupted ecological patterns and consequently, cultural land use. The quantity of sites dating to this period generally decreases. The lack of sites may be partially a product of imprecise dating techniques and post-depositional processes, including inundation, burial, and/or erosion of older sites that may have been located around the reduced shores of Lake Tahoe and other Sierra lakes after about 4,500 BP, as well as a lack of surveys. The general cultural pattern is thought to likely include small game hunting, increased hard seed milling, and a forager collector subsistence strategy. The presence of Pinto (Gatecliff) split stem series and Humboldt series projectile points have also been associated with this period (Elston 1986; Waechter and Lindström 2007:5-6).

The "Early" Late Holocene (5,500-2,000 BP)

Generally cooler temperatures and increased moisture in the Sierra Nevada Mountains, beginning by approximately 5,500 BP, promoted a relatively rapid increase in water levels in Lake Tahoe and the Truckee River, as well as in valley lakes, marshes, and creeks. The subalpine conifer forests expanded and begin to resemble the modern Sierra forest community. There is a significant increase in the number of identified sites dating between about 5,500 and 2,000 BP, and in the diversity of habitats where they are found. An increase in "cultural complexity and elaboration" is suggested by the occurrence of larger house structures, apparent craft specialization, stylistic variety in projectile point types, seed procurement and processing tools (ground stone implements), a variety of perishable items such as textiles, and trans-Sierra trade. Assemblages in the eastern Sierra Nevada, including the Tahoe reach of the Truckee River, that date to this time are characterized by large basalt bifaces and dart points of the Martis contracting-stem and split-stem types, as well as Steamboat points. Basalt is the most common tool material and recent studies at the Alder Hill basalt quarry near Truckee indicate intensified tool stone acquisition and biface production during this time period, which corresponds to Elston's

Martis Complex (or Martis Tradition) (Waechter and Lindström 2007:6-7; Rosenthal et al. 2007:171172; Elston 1986:143).

The "Middle" Late Holocene (2,000-1,000 BP)

After about 2,000 BP, paleoclimatic data suggest a warming and drying trend in the western Great Basin, and a drop in winter precipitation. The archaeological record for this period in the Tahoe basin and the adjoining western Great Basin shows dramatic technological changes. The bow and arrow, inferred by the presence of smaller and lighter projectile points, appeared in the region. Fine-grained stone tools like chert and obsidian become more common than basalt, although basalt continues to be used, likely because of its local availability. People expanded into previously lesser-used habitats, presumably in search of new sources of food. The presence of mortars, pestles, manos, metates, and grinding slabs generally become more frequent. This trend continued up to, and after, about 1,000 BP (Waechter and Lindström 2007:7).

The Late Archaic and The Medieval Climatic Anomaly (POST-1,000 BP)

A period of frequent and dramatic fluctuations in both temperature and cycles of precipitation occurred between about 1,000 BP and 500 BP where prolonged and severe droughts were interrupted by short episodes of increased effective moisture. Significant, documented shifts in subsistence strategies in many areas of California and the Great Basin coincide with this period. A great deal of evidence suggests that 1,000 BP is a turning point throughout the northern and western Great Basin, as well as in California. The increase in population, along with extremely dry, warm conditions, would have severely depleted the food resources in each area and caused people to begin exploiting foods they had previously ignored.

3.3 ETHNOGRAPHIC CONTEXT - THE WASHOE

The project area lies within the ethnographic territory of the Washoe, and adjacent to the Maidu and Sierra Miwok see figure. The following description is excerpted from "A Cultural Resource Overview of the Sierra Valley Preserve, County: Plumas Zalarvis-Chase et al 2017).

The Washoe belong to the family of Hokan speakers (Sapir 1917), which is a loose family of languages that is found in California, Arizona, and Baja California. As defined by Sapir (1925), the Hokan family includes 3 subgroups: Northern, Californian, and Esselen-Yuman (Golla 2011: 83). The Hokan speaking groups include the Shastan, Chimariko, Karuk, Pomo, Yana, Esselen, Salinan, Yuman, Washoe, Seri, and Chontal (Sapir 1917). The Washoe belong to the Northern Hokan speaking sub-family (Golla 2011).

The Washoe share their borders with the Mountain Maidu to the northwest, Paiute to the east, Nisenan to the west, and the Miwok to the southwest (Golla 2011). Variable estimates have been given about the population of the Washoe at the time of Euro-American contact which range in number from 1,500 (Kroeber 1925) to 1,000 individuals (d'Azevedo 1986). By the 1910 census, a population of only 819 individuals remained.

Modern researchers acknowledge the southern shores of Honey Lake as the northern extent of the Washoe territory, the west fork of the Walker River drainage as the southern edge, the Pine Nut Mountains as the eastern edge, and the western shores of Lake Tahoe as the western edge. They also ranged as far as Mono Lake, the Lower Truckee River, Pyramid Lake, and the foothills of the western Sierra Nevada Mountains.

The Washoe practiced a seasonal subsistence strategy (Elston 1979; Kowta 1988; Price 1962; Siskin 1938). In the winter, the Washoe occupied lower mountain valleys and subsisted on food that had been dried and stored in previous seasons. In the warmer months, the Washoe would move into the upper Sierra Nevada Mountain valleys. During mild winters, it is possible that the Washoe would remain in their summer villages (Elston 1986; Bloomer and Linstrom 2006).

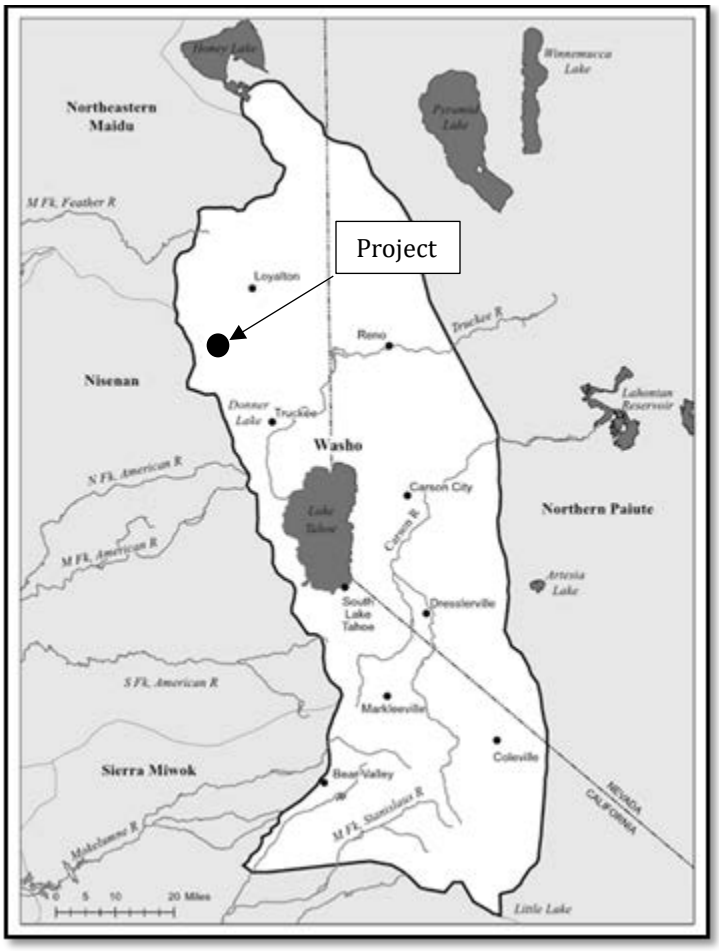


Figure 7 Washoe Aboriginal Territory

3.3.1 EUROPEAN CONTACT

The onset of Euro-American settlement was devastating to the Washoe way of life. For the first half of the 19th century, the Washoe avoided Euro-American interactions, often retreating into the mountains when they received word of strangers in the region (d'Azevedo 1986). Contact between the Maidu and Euro-Americans and Spanish explorers and fur trappers began as early as 1808, without changing the essential culture of the Maidu (Westwood and White 2002). A malaria epidemic in 1833, the discovery of gold at Coloma in 1848, and the subsequent massacre of Native Americans, however, provided the catalysts by which Euro-American activities would threaten the very existence of Maidu culture. A State Legislature Act (the Indenture Act) of 1850 decreed that any unemployed Indian could be declared a vagrant and forced to perform community service or forced into indentured slavery. During this time, the U.S. Government established military reservations. The establishment of these reservations, in addition to the rising occurrences of Indian-Euro-American conflict, resulted in the banishment of Native Americans in Tehama, Butte, and other northern California counties to reservations. With the arrival of Euro-Americans settlers, traditional Washoe lands were turned into farms and ranches forcing the Washoe to choose between starvation and working on the intrusive ranches and farms. Today, many of the remaining Washoe are members of the Washoe Tribe of Nevada and California.

3.4 HISTORICAL OVERVIEW

The development of highways, trails, and railroads significantly contributed to settling the west and conveying miners to the gold fields. It also laid the foundation for the economic development of timber and ranching in the Truckee River region and its connection to national and international communities and markets. The following section highlights those themes of economic development within the region which relate to activities and developments in the Lacey Valley.

Trails and Roads

One of the primary roads developed near Lacey Valley area was a wagon road that connected Henness Pass Road (north of study area) with Truckee (south of the study area). Around 1848 and 1849 the Henness Pass route was mapped as an easier wagon road that bypassed the Truckee River canyon and was an important route connecting the Comstock mines with the Sierra Nevada mines. The trail diverged from the Truckee River route at Verdi to continue up to Dog Valley and across the southern edge of Sardine Valley (north of Stampede Reservoir), along Davies Creek to present day Kyburz Flat, west to Little Truckee Summit along the little Truckee River to the north edge of Webber Lake, over Henness Pass through Jackson Meadows and down the ridge between the North and Middle Forks of the Yuba River toward Nevada City. Nevada City formed the Henness Pass Turnpike Company on December 3, 1859 to collect tolls to improve the route between Nevada City and Henness Pass. The Truckee Turnpike Company was formed to collect tolls to improve the road through Henness Pass and connect with an existing road from Marysville to North San Juan. Both companies jointly improved the road from Henness Pass to Virginia City. The road was extensively used by freighters and stages between 1860 and 1868 (Jackson 1967:22,25; Barry-Meisenbach 1994:3-6).

Logging in the Truckee Basin

Historic use of the Truckee region included a thriving logging industry. As the nearest large city, Truckee was the center of logging commerce for production and distribution of wood products, particularly with the Truckee Lumber Company manufacturing furniture, sash and doors, and boxes while still making large shipments of lumber by the 1880s. The expanding fruit industry increased the demand for wooden slats to make boxes to ship fruit in the 1880s. Products were shipped to southern California, Utah, Texas, and Central America (Barry-Meisenbach 1994:26; Wilson 1992:34-36). Lumber companies expanded their businesses to include finished products, such as boxes and doors, which were marketed to communities in the Truckee and Lake Tahoe area, as well as those in Nevada, California, and further abroad. By 1910, most of the timber in the Truckee Basin was stripped except for a few various holdings. Much of the cutover property in the Truckee Basin was sold to the USFS during the Depression (Jackson 1982;136; Barry-Meisenbach 1994:28). More efficient logging methods and transportation of raw and finished wood products developed concurrently with the logging industry until the inevitable decline of virgin and second growth timber ended large scale logging in the Truckee basin in the 1930s.

Dairies

Large scale dairy ranches in the Truckee Basin flourished from about 1860 until about 1930. Livestock enterprises developed around the stream meadows and logged tracts that provided temporary feed. Many dairy businesses produced and shipped products, especially butter, well beyond the Truckee basin. Mining camps, and later lumber camps and sawmills, were a ready market for milk, cheese, and butter (McGlashan 1982:13; Wilson 1992:45).

When the summer pasture and water began drying up, foothill ranchers drove their stock up a variety of mountain trails, one of which was the "Colfax grade" (which became Highway 40/I-80) to the alpine meadows. In October, stock was driven back down. Several families usually moved livestock from the foothills to the mountain ranches together and usually took five to six days. The move involved packing four-horse wagons,

spring wagons, buggies, and carts with food and all necessary household goods and supplies. Chickens and pigs were transported in crates on carts. Bells were put around the cow's necks. Ranchers walked their stock through the main streets of Auburn, Colfax, Dutch Flat, and Truckee.

The summer ranch generally had a milk house, fenced enclosures, one or more cellars, and a family house. The wood burning stoves in the house were used to cook and heat water to sterilize the milking equipment. All the ranch buildings and fences were restored and cleaned upon arrival each year (McGlashan 1982:13- 15). Cows were milked into circular pans that were stored by the hundreds in racks. The milk stood overnight and was then skimmed. Milking was done in corrals rather than barns. Calves typically arrived in January and were driven with their mothers into the corrals where a milker with a one-legged stool strapped to himself would rope the cow and extract surplus milk. The calf was taught to drink milk from a bucket soon after birth. Skim-milk was fed to the calves and clabbered milk (buttermilk) went to the pigs, which were always part of a dairy farm. A butter churn took four men to turn it and the butter was packed into 30-pound kegs, and later in 2-pound blocks when kegs disappeared. Wheels of cheese were wrapped in cheese cloth and cream was shipped in cans. The cheese and butter were kept in cool, dark cellars (McGlashan 1982:13-14, 16).

Ranching and Agriculture

By 1866, thirty-two ranches, including way stations, were in Smith's Neck, Dog Valley, Sardine Valley, and along the Henness Pass and Dutch Flat and Donner Lake wagon roads. Several thousand head of sheep and cattle were grazed on private and railroad-owned lands in the vicinity of Truckee around that time. These mountain ranch lands (of both dairy and beef/sheep operations) were also cultivated, and produced primarily hay, barley, oats, and wheat from about the 1860s through the early 1900s. Meat, wool, hay, and grain were exported to the Sierra and Comstock mines, and later sold locally to the logging camps and mills. Outside of private lands, grazing was later managed by the U.S.F.S. after the Tahoe Forest Reserve was created in 1905. The U.S. Forest Service implemented the first grazing regulations, including allotment boundaries, apportionment of grazing privileges, and adjudication of disputes (Barry Meisenbach 1994:12, 16, 17; Jackson et al. 1982).

Sheep grazing was a major operation in the 1850s, when more than 500,000 sheep crossed Nevada on their way to California markets. By the 1860s the trend had reversed, as millions of California sheep were driven to the mining camps of the Great Basin and railheads in the plains (Douglass and Bilbao 1975:214). Bands were large, numbering at least 1,000 (Mallea-Olaetxe 1992:30), and seasonal transhumance of the herds sometimes involved treks of several hundred miles. "From June until October every mountain side is covered with droves of sheep driven here by the wool growers to take advantage of the excellent pasture…Truckee is the supply point and headquarters of these drovers and herders" (Edwards 1883:76). Once the railroad arrived, sheep (and cattle) were transported by rail to and from Truckee; later, sheep were trucked out of Hobart Mills, between Truckee and Stampede Valley.

Most of the herding was done by Basque shepherds. Many young Basque men from Spain and France had emigrated in search of better job opportunities and found work as herders in the sheep industry in the western United States; some eventually acquired herds of their own. Basque sheepherders had become indispensable to large stockowners by the 1900s, and they dominated the industry from the 1890s until the 1970s. The Basque also left archaeological signatures of their passing in the form of carved aspens. Names, dates, narratives, and art inscribed into the trees chronicled historic-period land use and provide modern researches with a general idea of land capacity, forage yield and overuse (Baldrica and Smith n.d.; Lindström and Waechter 1995, 1996; Lindström et al. 2002).

Dr. David Gould Webber

Dr. David Gould Webber was born in Livingstone County, New York on September 12, 1809 to Scottish Irish parents William Webber and Susanna Gold (Sierra Historical Society 2018). He interned with a physician in

Springfield, Pennsylvania and in 1833 married Margaret Brandish and had a son and adopted daughter (Sierra Historical Society 2018). In 1843, his wife passed away and by 1849 with gold being discovered by John Marshall at Sutter's Fort the previous year Dr. Webber left to the frontier with his children (Sierra Historical Society 2018). He would design the Sierra County Courthouse, Sierra County Jail, and Durgan Flat Bridge (Sierra Historical Society 2018).

Dr. Webber was known as a frontier doctor, often mending broken bones of miners, trappers, and others that came by his hotel. He is credited with having his own special medication which he called "Webber Pills" that he actively pushed for all ailments (Sierra Historical Society 2018). By 1852 he began purchasing land near Webber Lake, and by 1854 built a ranch on the property (NRHP Application: Webber Lake Hotel). Historical records indicate he also owned property near Monte Cristco, Loyalton, and Randolph/Sierraville. It was not until 1860 that the current Webber Lake Hotel that he would become known for would be built and become a regular stop on the Henness Pass (Sierra Historical Society 2018). Local accounts indicate that it was Webber himself that stocked the lake with fish, leading many to come to fish and hunt for deer, mountain lion, bear, and other animals (Sierra Historical Society 2018). He would go on to have a soft spot for many of the orphaned or abandoned children in the area, adopting or supporting them by paying for education even until college (Sierra Historical Society 2018). There is no accurate account of how many children that he helped but some believe the number to be around fifty (Sierra Historical Society 2018). He also helped those that were too poor for medical aid free of charge at his resort, leading the notable biologist J.G. Lemmon to name three plants after him, (Webber Needle Grass (Achnatherum webberi), Webber's Milkvetch (Astragalus webberi), and Webber's Ivesia (Ivesia webberi). Lemmon would also name the lake, the nearest mountain, a flat, and waterfall, all near his hotel, after him. There is also a monument to him on the eastern side of the lake in a thicket of trees.

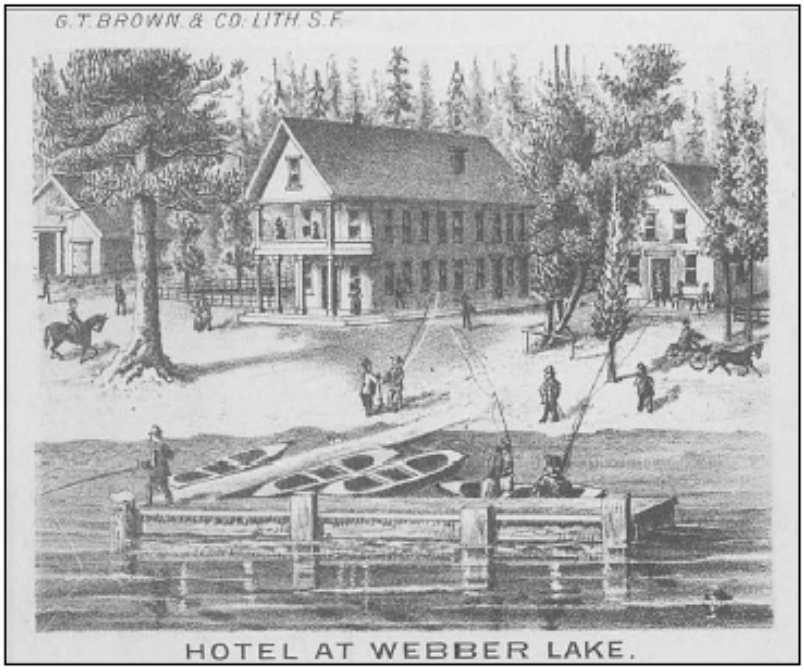


Figure 8 "Hotel at Webber Lake" (NHRP 2020)

Mr. Webber died in 1883 from rheumatism and "general health decay" and was laid to rest by request in the Loyalton's Mountain View Cemetery, next to his second cousin who followed him to California (Sierra Historical Society 2018).

3.4.6 Notable Incidents of Lacey Valley

A few notable incidents have occurred in the Lacey Valley, including the shooting of John Woodward, shot by a disgruntled Webber ranch hand named James O'Neil over a pay dispute on August 23rd, 1879. O'Neil ran and was eventually tried and convicted of first-degree murder. The press covered the trial and incident with stories reaching across California and into Oregon. A petition was made to save his life, but ultimately failed. He would be the last person to be hung in Sierra County. The pistol that he used was not recovered for many years, as he had been believed to have tossed it in the nearby well on the ranch. The pistol of the right age and make and believed to be the gun that was used in the shooting, was recovered and is now displayed in the Downieville museum (Bunker 2018). Other incidents happened with the owners of property over the years. A teacher, Mrs. Danville is believed to have committed suicide in the lake while working for Mr. and Mrs. Anderson on August 23, 1879. The story was chronicled in newspapers throughout California and Nevada (NRHP Application).

4.0 SOURCES CONSULTED

To obtain historical and archaeological background information, archival research included an examination of multiple sources concerning known archaeological sites, historic properties, and historic activities within and/or adjacent to the APE.

It must be noted that key archives were not available at the time of this report due to Covid-19 limitations. Specifically, the Truckee Historical Society and the Old Jail Museum (Truckee, CA.) were inaccessible at this time. DZC contends that additional background information and records, especially regarding historical individuals, may contribute further to this study when again available to the public.

DZC consulted the following repositories and agencies:

- The California Historical Resources Information System (CHRIS) accessible at the Northeast (NEIC) and North Central (NCIC) Information Centers
- The Native American Heritage Commission
- The Washoe Tribe of California and Nevada
- The Humboldt County Assessor's Office
- Tahoe National Forest

A Record Search request was sent to the NEIC and the NCIC of the CHRIS on September 19th, 2020. The search for previously recorded archaeological sites and previous surveys included a ¼ mile ESL around the APE. All correspondence with the NEIC and NEIC is included in Appendix A.

The following CHRIS resources were evaluated by DZC staff:

- National Register of Historic Places – Listed and Determined eligible Properties (2012)
- California Register of Historical Resources (2012)
- California Points of Historical Interest (2012)
- California Historical Landmarks (2012)
- Directory of Properties in the Historic Property Data Files for Sierra County and Nevada County (2012)
- Handbook of North American Indians, Vol. 8, California (1970)
- Gold Districts of California (2005)

4.1 SUMMARY OF RESEARCH RESULTS

4.1.1 PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN THE APE AND ESL

The record and literature search via CHRIS and the NEIC and the NCIC revealed four formally recorded cultural resources within the ESL and none within the APE.

Table 2 Previously Recorded Resources within the ESL

Resource Identifier & Source	Description	Date Recorded and By Whom	NRHP/ CRHR Status?	Within the APE or ESL?
P-46-000165 CA-SIE-165H 05-17-56-00038 (NEIC)	Webber Lake Ranger Station	1976 (Louis A. Payen)	*7R	ESL
P-46-000166 CA-SIE-166 05-17-56-00039 (NEIC & USFS)	Precontact; Lacey Valley Petroglyphs; camp with 20 petroglyph panels, lithic scatter, bedrock mortar	1976 (Louis A. Payen, Tahoe National Forest); 2003 (John Betts, Consulting Archaeologist)	^3S	ESL
P-46-000167 CA-SIE-167 05-17-56-00040 (NEIC)	Precontact; Bedrock Mortar	1976 (Louis A. Payen, Tahoe National Forest)	*7R	ESL
P-29-000427 CA-NEV-369 05-17-56-075	Precontact; Bedrock grinding slick	Flaws 1976; Updated Sutherland 1992	*7R	ESL
P-46-00714 CA-SIE-000714H (NEIC)	Ridenger Dairy	1991 (Mike Drews, Eric Ingbar, Mike Drews Archaeology)	*7R	ESL
CHL No. 421	Hennes Pass Road; Historical Stagecoach Road			APE/ESL
NPS-SG100003281-0000; CA BERD 685387	Webber Lake Hotel; Built 1860	2018; Author unknown	~1S	ESL

~Individual property listed on the NR by the Keeper; Listed in the CR
^3S Appears Eligible for the NR as an individual property through survey evaluation
*7R Identified in reconnaissance level survey; Not Evaluated

P-46-000165 (Webber Lake Ranger Station)

Originally recorded on 9-20-1976 and described as an "historic log cabin ruin." There is a hand-written note on the site record mentioning that this cabin was "built by the USFS in 1909 as an administrative site and abandoned in 1915." The site consists of the remains of a log cabin, several small trash scatters, three modified Lodgepole pines, a possible privy pit, a cast-iron wood stove in pieces, a possible boiler, and one red chert core. The log cabin construction is of hand-hewn and necked logs of local Lodgepole pines, with shingles used as siding to cover the spaces between the logs, held in place with wire cut nails. A historic refuse deposit is associated with this site.

P-46-000166 (Lacey Valley Petroglyphs)

This resource is an extensive prehistoric basecamp and petroglyph site situated on a prominent rocky knoll at the southern end of a mountain valley. Twenty petroglyph panels containing a total of approximately 88 elements have been recorded here. The petroglyph panels are distributed over heavily fractured outcrops of glaciated bedrock on the north slope of the rocky knoll. The site also contains a bedrock mortar feature, a sparse lithic scatter of basalt and chert flakes, and formed tool artifacts. The bedrock mortar is situated in a forested

saddle to the southwest of the petroglyph outcrop. Lithic materials occur in the vicinity of the bedrock mortar, in a forest opening to the north of the petroglyph outcrop, and a small concentration on the east edge of the rocky knoll. The site area is bordered by meadows and is near a small pond.

P-46-000167 (Bedrock Mortar)
This resource is an isolated incipient bedrock mortar situated in a bedrock outcrop near the edge of the meadow.

P-29-000427 (Bedrock Grinding Slick)
Small milling slick (24 cm x 19 cm) within a bedrock outcrop at the edge of the meadow and no associated artifacts.

P-46-00714 (Ridenger Dairy)
This resource is a small wooden structure in state of partial decay (broken window, partially missing floors and walls). Originally utilized to supply milk to Webber Lake Hotel guests during 1920's and 1930's and in more recent times by sheepherders. Spatial patterning of artifacts reflects activity areas, site is important satellite to Webber Lake hotel and provides archaeological data pertaining to history of the area.

NPS-SG100003281-0000 (The Webber Lake Hotel; CA BERD 685387)
The Webber Lake Hotel was built around 1860 by Dr. David Gould Webber in Lacey Valley. The hotel was built off the trail and became a frequent stopping point for travelers and vacationers alike, being advertised in newspapers. See Webber Lake Hotel in Appendices for more. (Sierra Historical Society 2018). There are several buildings noted in the area built by Dr. Webber including a blacksmith shop, warehouse, waystation for taxes for the road, barns, and stables by 1864 (Sierra Historical Society 2018). In recent years there have been plans to renovate the hotel.

HOTELS AND RESTAURANTS.

WEBBER LAKE HOTEL

IS NOW OPENED FOR THE reception of Guests. This mountain retreat is unquestionably the most beautiful and picturesque, as well as the most salubrious SUMMER RESORT on the Pacific coast. The Lake is embosomed in hills, some of whose tops are hoary with perpetual snow, and whose flowery slopes send forth those prolonged and startling echoes which are the wonder and admiration of every visitor. It would be difficult to enumerate the many points of interest in the vicinity, such as the Cascades—over 70 feet fall—the Lake, Parks, Scenery, etc.

The Stage leaves Coburn's Station on Tuesday, Thursday and Saturday mornings, arriving at the Lake in the afternoon. Fare from Coburn's to the Lake, $3 50.

No extra charges made for Horses, Boats, etc.

DR. D. G. WEBBER, Proprietor.

Address, by Express, Coburn's Station. au10-1m4p

Source: "Webber Lake Hotel." *Sacramento Daily Union*, 19 August 1868.

Figure 9 Hotel Advertisement for the Webber Hotel

California Historic Landmark No. 421 Henness Pass Road
This winding mountain road extends 107 miles and rises to an elevation of 6,920 feet through scenic

mountains, Henness Pass Road is the lowest pass through the Sierra. Henness Pass Road was the primary emigrant trail from Virginia City, Nevada as early as 1849 and the only mountain pass that existed for Henness Pass at the time. During the Gold Rush, this highway served as a supply road for the Comstock silver mines in Nevada. In 1852, Henness Pass Road was a wagon toll road from Nevada to the gold field of California. Between 1860 and 1868, traffic was so heavy at times during its heyday that freight wagons traveled by day and stagecoaches drove at night. The road continued to be used until the completion of the transcontinental railway in 1868.

4.1.2 PRIOR CULTURAL RESOURCE STUDIES WITHIN THE APE AND ESL

The record and literature search revealed four previous cultural resource studies having been conducted within the APE (Table 2).

Table 3. Previous Cultural Resource Studies within the ESL

Report Identifier	Report Title	Year	Author
NEIC-004496	Archaeological and Historical Resources Survey and Impact Assessment for the Webber Lake Sale Timber Harvest Plan, Sierra County,	1992	Drews, M.P.
NEIC-002457	Confidential Archaeological and Historical Resources Survey and Impact Assessment: Coppins Meadow THP	1996	Timothy J. Livingston,
NEIC-002612	RPF Survey Report for the Coppins Meadow Timber Harvest Plan #2-96-330-SIE (3), Sierra County, California (Incomplete)	1999	Timothy J. Livingston,
NEIC-002716	Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California: Lakewood Timber Harvest Plan	1999	Dario Davidson
NEIC-005615	Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale: An Addendum Report to The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality, Tahoe National Forest	1982	Turner, Arnie L. and Laurel Crittenden
NEIC-010148;	Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties California	1993	B. Gunderson; TNF
NEIC-001161; *TNF 05-17-764*	An Archaeological Reconnaissance of Potential Land Exchanges in the Sierra Valley, Lacey Valley and Independence Lake Areas, Sierra County, California.	1976	L. Payen; TNF
NEIC-014264	Archaeological Survey Report for the "Webber Campground" Forest Fire Prevention Exemption, Sierra County, California.	2017	Bradfield, D.; North Valley Resource Management

Table 4. Previous Cultural Resource Studies within the APE

Report No.	*Report Title*	*Year*	*Author*
NCIC-8243	Johnson THP Sec. 7	2001	David Early
NCIC-8250	Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties (Number 05-17-764)	1983	Brandy Gunderson

4.2 Native American Coordination

In accordance with PRC § 5097.91-5097-94, the Native American Heritage Commission (NAHC) maintains a catalog pertaining to places of special religious or social significance to Native Americans. In order to identify if places of religious or social significance exist within the APE, DZC contacted the NAHC on September 22, 2020 to request a review of their Sacred Lands Files.

The NAHC responded by email on October 13, 2020 stating that the Sacred Lands File search was positive and provided a list of individuals to be contacted regarding the Project.

PRC § 21080.3.1, subd. (b), declares that California Native American Tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources. As such, DZC contacted persons on the designated contact list maintained by the NAHC, providing each with a project description, location map, a request to respond to DZC with any relevant information, and a request to respond to the Lead Agency within 30 days, should the tribe wish to engage in formal government-to-government Consultation. A Request for Comments was emailed to all parties listed on the NAHC list on October 23, 2020, including

- Grayson Coney, Cultural Director Tsi Akim Maidu
- Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Darrel Cruz, Cultural Resources Department, Washoe Tribe of Nevada and California

Tribal Historic Preservation Officer (THPO) Cruz replied by email on October 26, 2020, requesting a copy of the archaeologist technical report and, stating that, based on the report findings and review, the Washoe Tribe may request a site visit. DZC replied to Mr. Cruz on November 2, 2020, with additional project information and suggested he contact the Lead Agency for a site visit.

Mr. Cruz stated he was unaware of any sacred resources within the APE but did provide DZC with the Washoe name for Lacey valley, which is *dat-sasta da-aw.*

Formal government-to-government Consultation, as defined by PRC § 21080.3.1 (a), is the purview of the CEQA Lead Agency. Records pertaining to formal consultation are on file with Lahontan. All correspondence regarding Native American coordination conducted by DZC is included in Appendix B.

4.3 Summary of Map and Aerial Photography Review

The following sections detail initial land ownership and development of parcels within the APE, utilizing public records and historic maps, followed by an analysis of topographic maps, aerial photographs, and satellite imagery.

4.3.1 INITIAL DEVELOPMENT

This section discusses the development of the APE from a map-based context. The historical map review included analysis of the General Land Office (GLO) original survey map (GLO 1873).

The GLO original survey map (1873) of Township 19 North Range 14 East, Sections 28, 29, 30, 32 and 18N 14E Section 5, 6, 7, 8 depicts ecological data including tamarack and red fir tree locations. The map has two points on the opposite sides of the valley noted "Barren rock" on the eastern side and "rocky high point" on the western side. Historical maps regarding the development of the APE are included in Appendix C.

Parcel specific records were looked up on the Bureau of Land Management Government Land Ownership database.

Table 5 Historical Parcel Ownership within the APE

Owner	*BLM Catalog Accession Numbers*	*Date of Patent*	*Township*	*Range*	*Section*	*County*
Pacific Railroad	CACAAA 046043	4/4/1901	19	14	9	Sierra
John Biggs	CA1740__.097	3/5/1880	19	14	28	Sierra
John Wright	CACAAA 064911	4/2/1887	19	14	28	Sierra
William Wilcox	CA1750__.451	5/1/1878	19	14	28	Sierra
Zackariah Kendall	CA1750__.283	10/30/1882	19	14	28	Sierra
Austin Summers	CA1800__.166	4/19/1984	19	14	32	Sierra
Cornelius Quinn	CA1770__.488	10/20/1890	19	14	32	Sierra
Peter Perazzo	CA1790__.076	3/19/1895	19	14	32	Sierra
Pacific Railroad	CACAAA 037046	9/21/1896	18	14	5, 7	Sierra/ Nevada
Pacific Railroad	CACAAA 059806	7/12/1886	19	14	31, 33	Sierra

4.4 ARCHAEOLOGICAL SURVEY FIELD METHODS

DZC conducted an archaeological survey on August 12, 2020 (Figure 2). The field survey was completed by archaeologist Steven Brewer (B.A.) and archaeological technician Francisco Vargas (B.A. In-Progress). The survey strategy was intensive and complete for the ADI with transects executed at intervals of 10 m or less throughout the ADI. The survey strategy for the remaining APE was in transects of no more than 20 m in select areas of the APE. Archaeological visibility was good (80%). Constraints to surface visibility varied by location and included occasional poor visibility due to dense vegetation, duff, or leaf litter. Several small areas were inaccessible due to inundation by water. Where visibility was poor the ground surface was scraped clear of to expose the mineral surface and search for cultural resources.

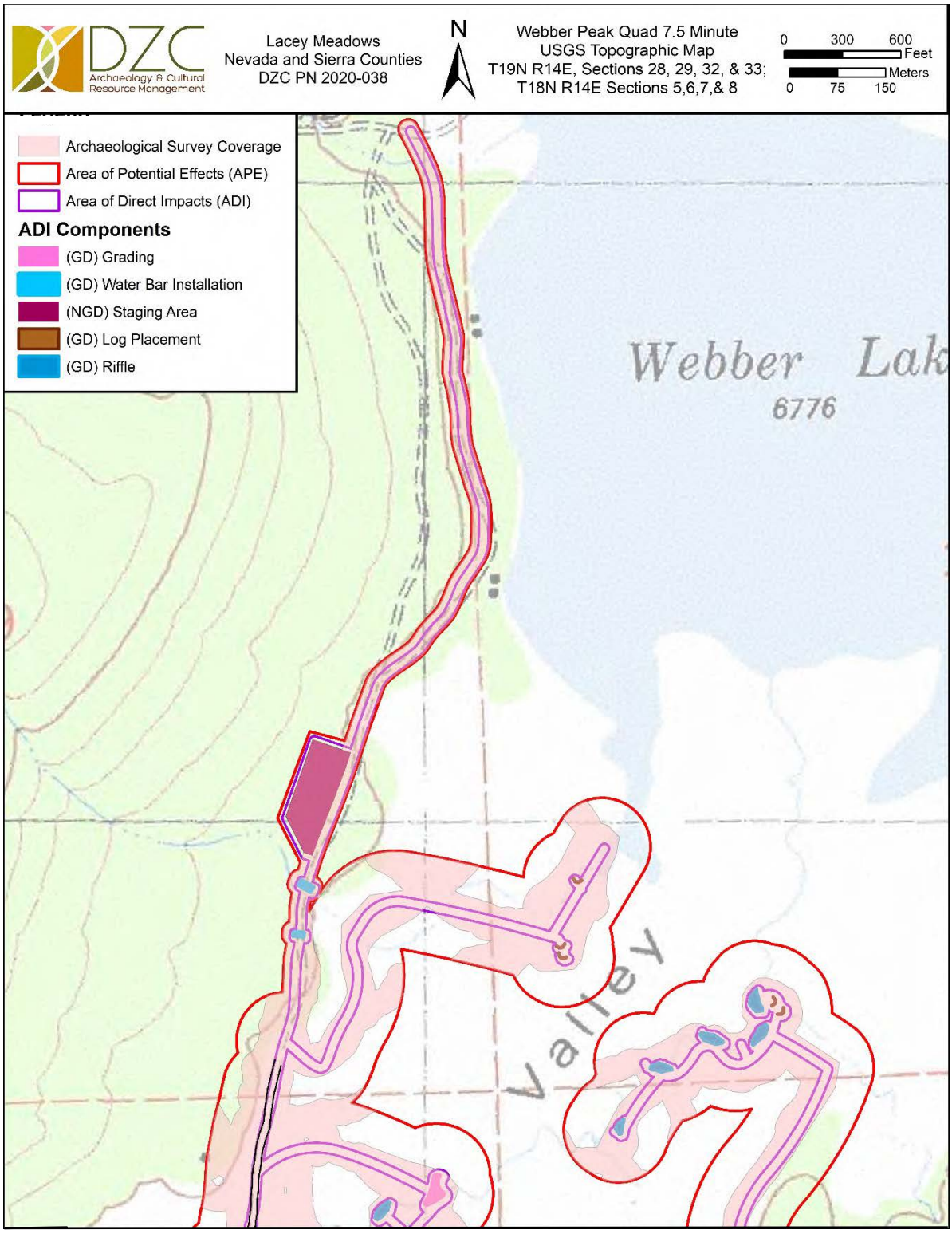


Figure 10 Archaeological Survey Coverage – North

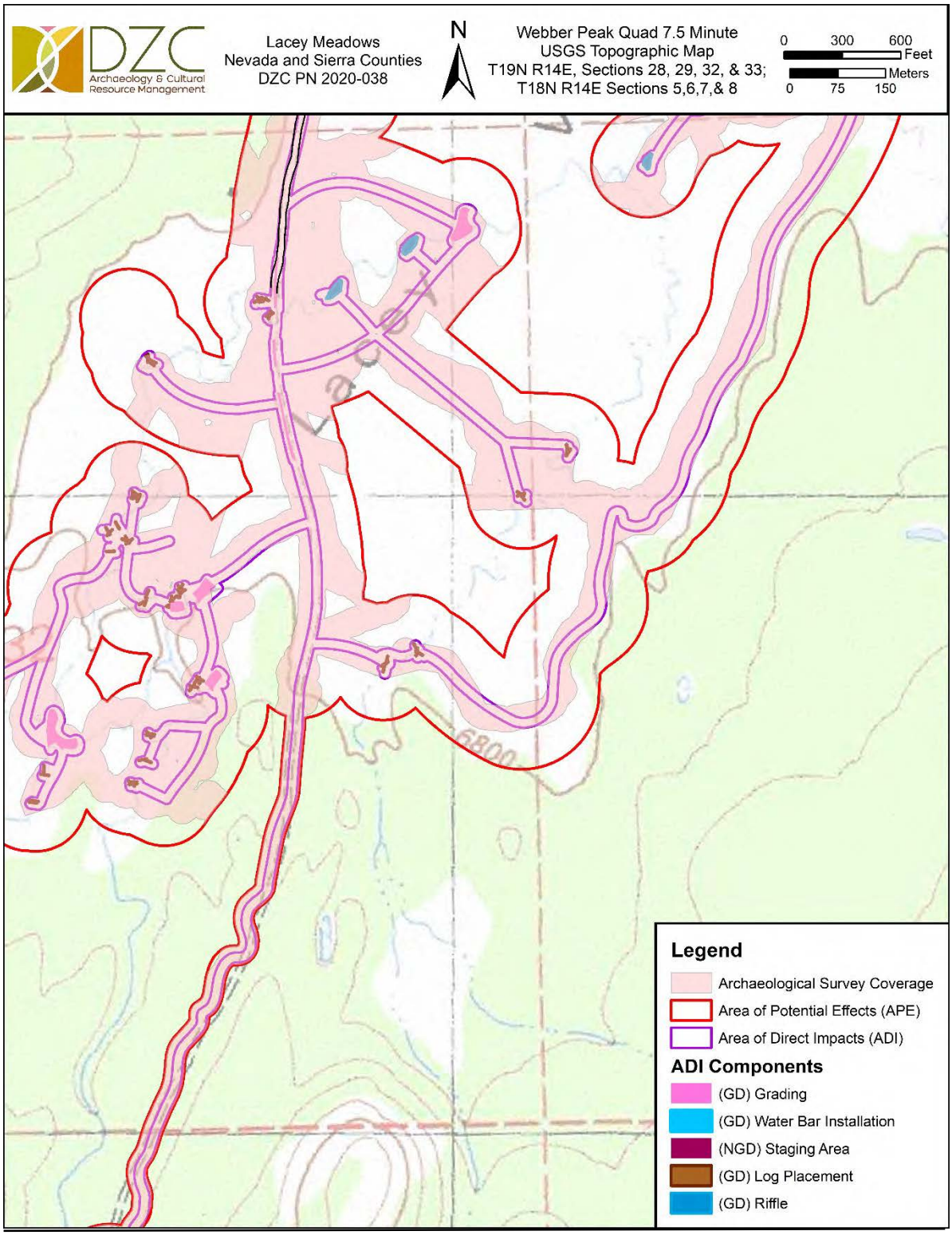


Figure 11 Archaeological Survey Coverage – North Central APE

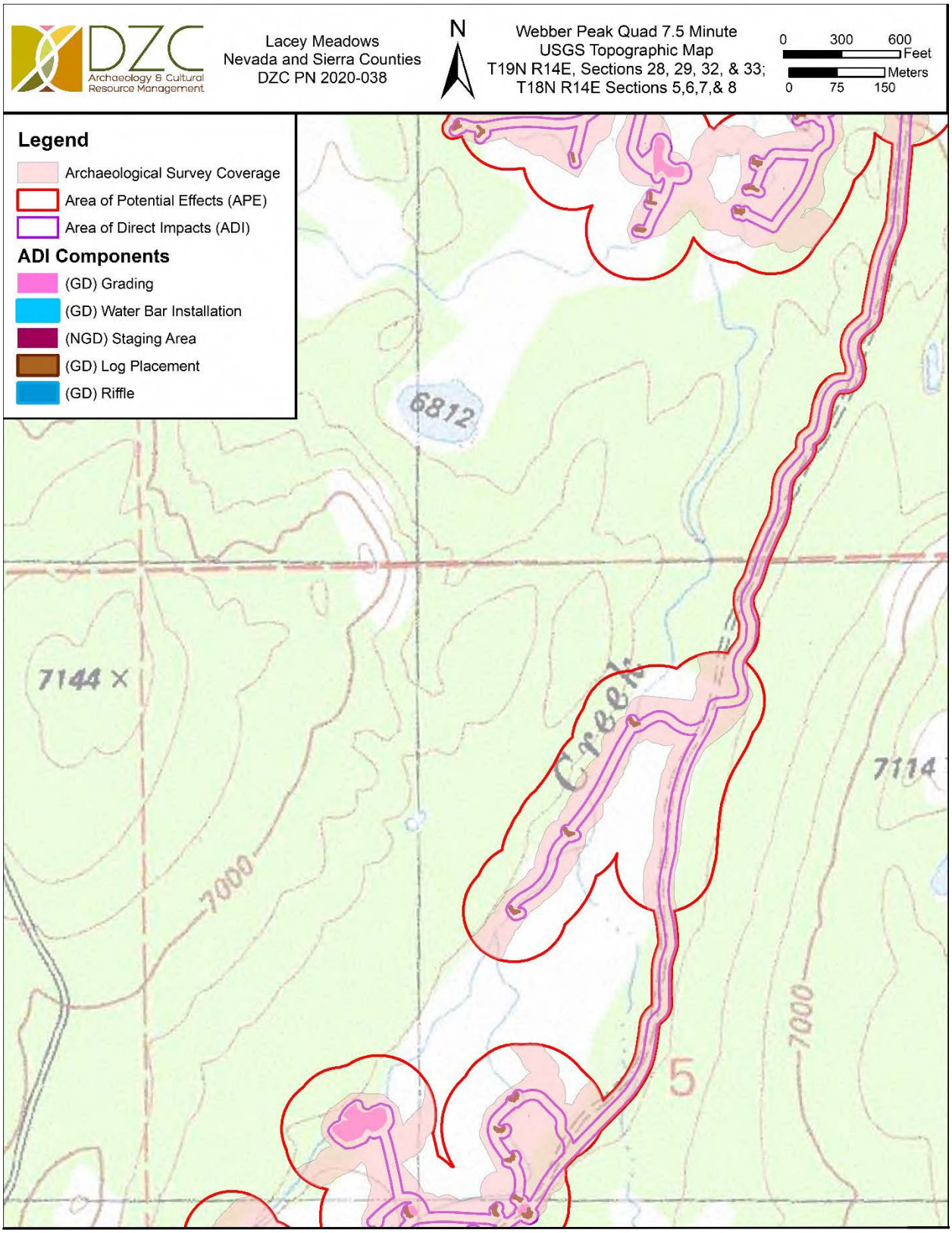


Figure 12 Archaeological Survey Coverage - South Central APE

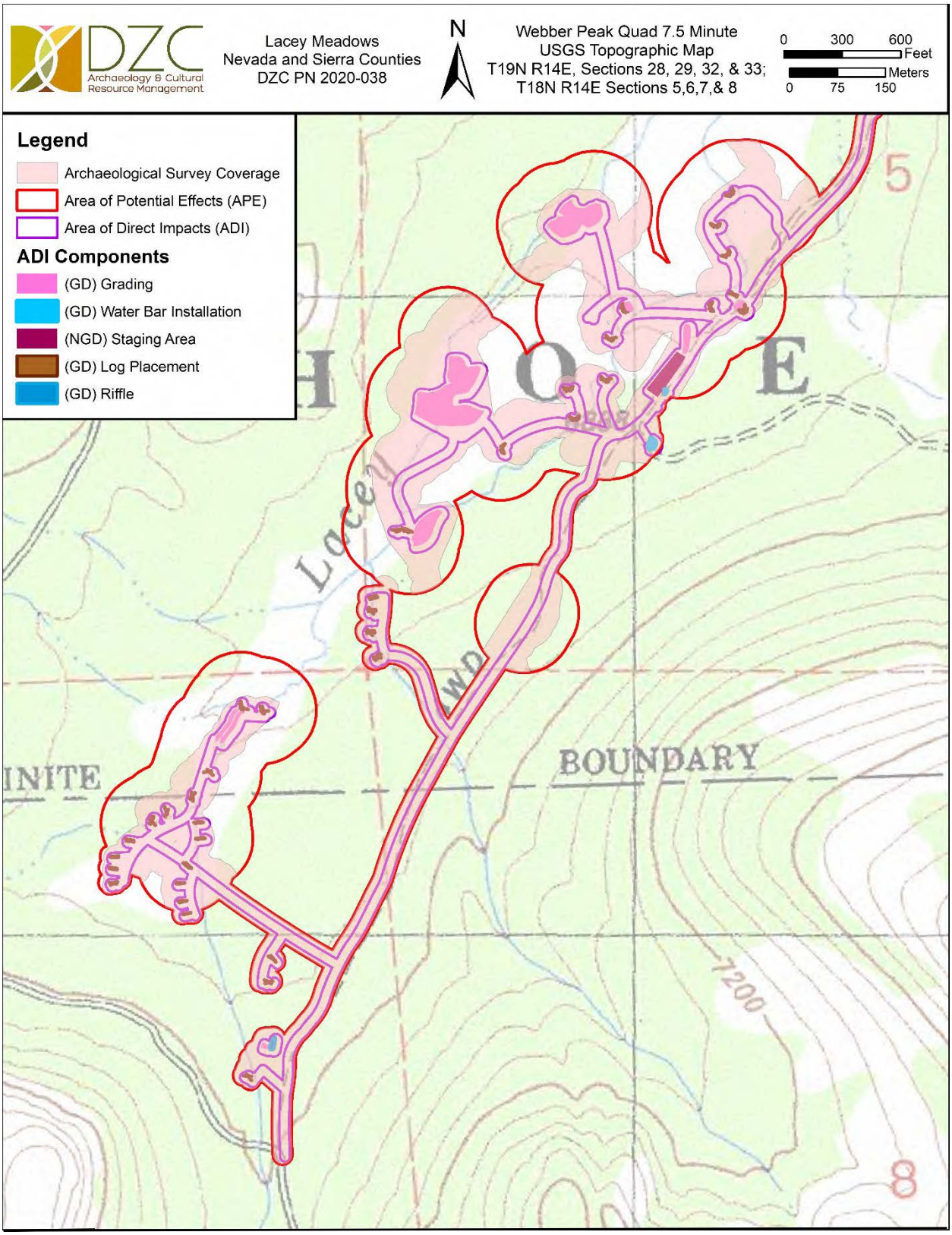


Figure 13 Archaeological Survey Coverage - APE South

5.0 REPORT OF FINDINGS

5.1 ARCHAEOLOGICAL SURVEY RESULTS

Survey efforts resulted in complete and intensive coverage over 235 acres of the 420 APE, and complete (100%) coverage of the ADI. Areas within the APE that exhibited standing water, marshy conditions, or tall grasses did not receive survey. As a result of this survey four new resources were recorded (Table 6). Photos characterizing the survey area are included in Appendix C.

Table 6 Newly Recorded Resources

Resource Identifier	Location within the Project	Distance from the ADI
LV-01 Johnson Family Homestead	Intersecting with the APE	62 meters from an existing access road
LV-02 Meadow Refuse	Intersecting with the APE	52 meters from an existing access road
LV-03 Little Hilltop Refuse	Adjacent to, but outside of, the APE	10 meters from an existing access road
LV-04 Cold Camp	Adjacent to, but outside of, the APE	53 meters from a proposed log placement location

Isolated artifact observations included contemporary roadside refuse including bottles, cans, unarticulated milled wood, and indeterminate metal fragments. None of the items observed met the threshold of a contextualized historical era artifact and as such were not recorded.

5.2 NEWLY RECORDED RESOURCES

5.2.1 LV-01 JOHNSON FAMILY HOMESTEAD

Description

Resource LV-01 is a largely intact historic homestead complex with a substantial refuse scatter of metal and glass predominantly from the 1920s, but with potential for artifacts related to the late 1870s. It is directly related to the Johnson family, who owned the property from the late 1870s to 2018.

The site comprises five separate buildings, a historic scatter of cans and bottles from the mid-1900s, a well, foundation, a possible hunting blind, a mound of bricks, chicken wire, a possible grave/monument marker, and an old tractor frame. Cultural constituents are scattered throughout the site. The refuse scatter (>50 artifacts) consists of cans from various time periods (mostly 1920s and later). Structures that are intact are made of wood with the majority exhibiting factory cut nails. The metal shed is rusting and caving on itself. The brick deposit pile is of unknown age, but one tan/white brick retains the makers mark “Cannon or Cannun”. The tractor frame is of late make (approximately 1920s). The resource is situated just within the tree-line on a toeslope adjacent to the valley floor.

Based on materials and weathering, it appears the current standing structures were constructed within the last 80-90 years. The Johnson family helped settle Sierra county and therefore the resource could be evaluated for local or state significance. Architecture could be of same technique used originally and would need to be evaluated for significance. This site has not undergone formal evaluation for the CRHR nor for the NRHP.

Management Considerations

The boundary of LV-01 intersects the APE and is 62 meters from the ADI. The installation of high-visibility fencing (such as Tenex, "snow fencing", or a similar product) is recommended to aid in identification, exclusion of mechanical vehicles, and prevent inadvertent impacts from project activities.

5.2.2 LV-02 Little Hilltop Refuse

Description

Resource LV-02 is a historic refuse scatter situated between upper and lower Lacey Meadows. Resource constituents include fragmented and flattened metal cans (pull tab, milk cans, church key), articulated and fragmented sheet metal (50+ small pieces), glass bottles, and bottle bases. The resource is situated atop a small hill in a lodge pine forest with granite rock. Temporally identifiable constituents include a Coca-Cola bottle (c1937) and church key beer cans (c 1930s). This site has not undergone formal evaluation for the CRHR nor for the NRHP.

Management Considerations

The boundary of LV-02 is immediately adjacent to an existing access road within the APE and is approximately 10 meters from the road shoulder which defines the ADI. The installation of high-visibility fencing (such as Tenex, "snow fencing", or a similar product) is recommended to aid in identification, exclusion of mechanical vehicles, and prevent inadvertent impacts from project activities. Installation should follow the established road shoulder within the access corridor.

5.2.3 LV-03 Meadow Refuse

Description

Resource LV-03 is a historic refuse scatter situated in the southern end of lower Lacey Meadows. Resource constituents include glass, barbed wire, cans, and metal debris. There is a large metal box with faded (etched?) writing that says "*DMPyosse Roseville*" on the side. This site is possibly related to the Johnson Family Homestead nearby (700m/NW). The resource is situated out on the open valley floor. The materials and construction methods observed are common over the past 80 years and are not temporally diagnostic. The resource is situated just within the tree-line adjacent to an existing access road on the valley floor. This site has not undergone formal evaluation for the CRHR nor for the NRHP.

Management Considerations

The boundary of LV-03intersects the APE and is 62 meters from the ADI. The installation of high-visibility fencing (such as Tenex, "snow fencing", or a similar product) is recommended to aid in identification, exclusion of mechanical vehicles, and prevent inadvertent impacts from project activities.

5.2.4 LV-04 Cold Camp

Description

Resource LV-04 is a historic camp with at least two bed frames, several pieces of wood milled, a 6-10 foot-wide depression feature outlined with rocks, rusted church key cans, decomposing plywood, unidentifiable metal fragments, and a collapsed segment of a small wooden gabled structure. The resource is situated just inside the tree-line on the toeslope of the valley floor. The materials and construction methods observed are common over the past 80 years and are not temporarily diagnostic with the exception of the church key beer cans (c1930s) and the laminated plywood (c1970s). The site appears to be a long-term hunting camp. This site has not undergone formal evaluation for the CRHR nor for the NRHP.

Management Considerations

The boundary of LV-04 is immediately adjacent to APE and approximately is 53 meters from a proposed log placement location. The installation of high-visibility fencing (such as Tenex, "snow fencing", or a similar product) is recommended to aid in identification, the exclusion of mechanical vehicles, and prevent inadvertent impacts from project activities.

6.0 RECOMMENDATIONS & CONCLUSIONS

6.1 CEQA

CEQA aims to "develop and maintain a high-quality environment now and in the future, and take all action to protect, rehabilitate, and enhance the environmental quality of the state (PRC § 21001). The built environment, historical resources, and TCRs are part of the environment and as such, a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect of the environment. California Code of Regulations (CCR) 15064.5 (b) defines substantial adverse change and material impairment to a historic resource as the following:

1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

2) The significance of an historical resource is materially impaired when a project:

   a) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

   b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resource Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resource Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

   c) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

There are two archaeological resources intersecting the APE (LV-01 Johnson Family Homestead; LV-03 Meadow Refuse) and two immediately adjacent to the APE (LV-02 Little Hilltop Refuse; LV-04 Cold Camp). None of these resources have undergone a formal evaluation. As such, they may qualify for the CRHR as *unique archaeological resources,* as defined by CEQA, and are subject to consideration for protection from Project impacts.

With the implementation of **Cultural Conditions (CULS-#)** noted in Section 6.5, this report recommends a **Finding of No Effects with Conditions** to any historic resources, unique archaeological resources, or TCRs from this project.

6.2 NHPA

This Project is considered a Federal undertaking and is subject to NHPA (as amended, 16 United States Code [USC] 470f). Cultural resources are considered during federal undertakings under Section 106 of NHPA, through its implementing regulations at 36 CFR 800 (Protection of Historic Properties).

There are two archaeological resources intersecting the APE (LV-01 Johnson Family Homestead; LV-02 Meadow Refuse) and one immediately adjacent to the APE (LV-03 Little Hilltop Refuse; LV-04 Cold Camp). None of these resources have undergone a formal evaluation. As such, they may qualify for the NRHP as *historic properties,* as defined by NHPA, and are subject to consideration for protection from Project impacts.

With the implementation of **Cultural Conditions (CULS-#)** noted in Section 6.5, this report recommends a **Finding of No Significant Impacts** to any historic properties from this project.

6.3 Region 5 USFS Programmatic Agreement

Undertakings occurring within the jurisdictional lands of the USDA Forest Service Tahoe National Forest (TNF) are additionally Subject to the R5PA and Standard Protective Measures (SPM). As there are no historical properties identified for this project within the jurisdictional lands of the TNF, the Project is compliant with the R5PA. Should inadvertent discoveries occur during project activities, the R5PA, SPMs, and Inadvertent Discovery Protocol (Section 6.5: CUL-3 and CUL-4) will apply.

6.4 Native American Consultation & Coordination

As a result of initiating the Sacred Land File Search request with the NAHC, DZC contacted persons listed in the NAHC response letter to seek out those who may have knowledge of, or concerns for, cultural resources within the Project area that are recorded or unlisted. A response of interest was received from the Washoe Tribe of California and Nevada.

Coordination conducted by DZC does not substitute for Native American Consultation as defined by California SB 18 and AB 52, which requires government-to-government communications between tribal entities and the Lead Agency. As the Lead Agency, it is the responsibility of the Lahontan Regional Water Quality Control Board to formally engage in Consultation with the APE-affiliated cultural groups.

This report recommends that the Lead Agency further engage with the Washoe Tribe of California and Nevada to transmit the findings of this report and to follow up on the request for a site visit.

6.5 Recommended Mitigation Measures - Cultural Resource Conditions (CULS)

DZC recommends the project proceed with the following mitigation measures, noted as Cultural Conditions (**CUL-#**), which should be included on all project plans.

1. **CUL-1 – Cultural Resource Sensitivity Training**
   Prior to initiating any ground disturbing activities, TRWC or its contractors shall ensure that all workers are provided with archaeological sensitivity training by a qualified archaeologist. The training shall include the identification of archaeological materials that could be present on the project site, and what to do if such materials are discovered. Training will be documenting using a sign-in sheet or similar method.

2. **CUL-2 - Protective Fencing Installation**
   Prior to initiating any ground disturbing activities, TRWC or its contractors shall erect fencing around the cultural resources identified as LV-01, LV-02, LV-03, and LV-04 in the report Phase I Archaeological

Inventory Report for the Lacey Meadows Restoration Project, Sierra and Nevada Counties, California. An appropriate buffer distance shall be determined by a qualified archaeologist, who will also oversee the erection of the fencing. This fencing shall remain intact during the entire time when construction in the vicinity of the resources is ongoing. Maps reflecting the implementational location of CUL-3 are included in Confidential Appendix E.

3. **CUL-3 – Inadvertent Discovery protocols**

It is best practice to avoid cultural resources whenever possible. In cases of inadvertent (unplanned) discovery of cultural resources or human remains, the following procedures are required:

a) If buried cultural materials are encountered during construction, it is required that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find [CCR 15064.5(f)].

b) A qualified archaeologist local to the Project may be reached at DZC Archaeology & Cultural Resource Consulting, LLC (530) 410-5549

4. **CUL-3 – Inadvertent Discovery of Human Remains**

If human remains are encountered during future construction, it is required that work stop immediately in that area and notification be made to the Coroner (CCR 15064.5(e) (1) (A); HSC Sec.7050.5).

Contact information for the Sherriff/Coroner office at the time of this report for Nevada County:

Shannan Moon – Sherriff Coroner/Public Administrator
Email: sherriff@co.nevada.ca.us
Phone: 530-265-1321
950 Maidu Avenue, Nevada City, Ca 95959

Contact information for the Sherriff/Coroner office at the time of this report for Sierra County:

Michael Fisher– Sherriff Coroner/Public Administrator
Email: mikefisher@sierracounty.ca.gov
mikefisher@sierracounty.ca.gov
Phone: 530-289-3700
100 Courthouse Sq., 1st Floor P O Box 66 Downieville, CA 95936

If the coroner determines the remains to be Native American, the Coroner shall contact the NAHC within 24 hours and collaboratively determine the Most Likely Descendant (CCR 15064.5(e)(1)(B)

6.6 LANDOWNER ADVISORY

6.6.1 CHANGES TO PROJECT PLANS

The TDLT has been advised of the nature and location of significant cultural resources in proximity to this Project and provided with copies of maps (CONFIDENTIAL Appendix D) which clearly delineate the resource boundaries and location of resources in proximity to the APE.

Should Project plans change to include areas not included in Figures 1-6 additional surveys will be required.

7.0 REFERENCES

Baldrica, Michael, and Carrie Smith
n.d. *Research, Management, and Interpretation of Historic Sheep Camps on the East Sideof the Tahoe National Forest*. Manuscript on file,Tahoe National Forest, Truckee, California.

Barry-Meisenbach, Carmel
1994 Contextual History. Appendix C of the *Historic Property Treatment Planfor Use in the Crystal, Hirschdale, and Cottonwood Fire Rehabilitation Projects*. USDS Forest Service Tahoe National Forest. Nevada City, California.

Bloomer, W., Sharon Waechter, and Susan Lindström
1997 *Basalt Quarrying on Watson Creek: An Archaeological and Ethnographic Study in the Northern Lake Tahoe Basin*. Far Western Anthropological Research, Inc. Davis, California.

Buck, Don
1994 *When Is a Trail an Emigrant Trail? From Verdi to Dog Valley: A Truckee-Donner Route Revision*. Manuscript on file, USFS Truckee Ranger District, Truckee, California.

California Department of Transportation (Caltrans)
2007 *Work Camps: Historic Context and Archaeological Research Design*. Pp 186. Prepared for California Department of Transportation, Division of Environmental Analysis,Sacramento.

California Department of Transportation (Caltrans) *continued*
2008 *Historical Context and Research Design for Mining Properties in California.* Pp 168–169.

California Waterboards Resource. "Lahontan Region 6 Water Quality Control Board
2019 Supplemental Environmental Policy" Policies and Guidance.
https://www.waterboards.ca.gov/rwqcb6/water_issues/programs/enforcement/sep.htm l

Costello, Julia G.
1999 *Historical Archaeology at the Headquarters Facility Project Site: TheMetropolitan Water District of Southern California; Volume 2, Interpretive Report*. Submitted to Union Station Partners, Altadena, California on

D'Azevedo, Warren L.
1956 *Washoe Place Names*. Manuscript in possession of SusanLindstrom.
1986 Washoe. In *Handbook of North American Indians, Volume 11:Great Basin* edited by William C. Sturtevant and Warren L. D'Azevedo. Smithsonian Institution, Washington, DC.

Douglas, William A., and J. Bilbao
1975 *Amerikanuak: Basques in the New World*. University of Nevada Press, Reno.

Drew, Stephen E.
2007 The Virginia & Truckee: Nevada's Bonanza Railroad. Article published on the www.virginiatruckee.com website May 2007.

Edwards, W. F.
1883 *Tourists' Guide and Directory of the Truckee Basin*. Truckee Republican, Job Print.

Elston, Robert G.
1986 Prehistory of the Western Area. In *Handbook of North AmericanIndians, Volume 11: Great Basin* edited by William C. Sturtevant and Warren L. D'Azevedo.

Smithsonian Institution, Washington, DC.
1979 Archaeological Reconnaissance Report for the Southern Pacific Pipeline Corridor Between Verdi, Nevada and Woodchoppers Springs, Sierra County,California. Report TNF00450 on file at the Tahoe National Forest, Truckee Ranger District. Truckee, California.

Franzen, John G.
1992 Northern Michigan Logging Camps: Material Culture and Worker Adaptationon the Industrial Frontier. *Historical Archaeology* 26(2):74–98.

Franzwa, Gregory M.
1999 *Maps of the California Trail*. The Patrice Press, Tucson,Arizona.

Goodwin, V.
1960 Verdi and Dog Valley – A Story of Land Abuse and Restoration. US ForestService. Manuscript on file, Toiyabie National Forest, Sparks, and the Nevada Historical Society, Reno.

Hardesty, Donald L., Marion Salter, and Timothy Scarlett

1996 *Hess Pass Road Inventory*. University of Nevada, Reno. Prepared for Sierraville Ranger District, Tahoe National Forest, Sierraville, California.

Henry, Susan L.
1991 Consumers, Commodities, and Choices: A General Model of Consumer Behavior. *Historical Archaeology* 25:3–24.

Jackson, W. Turrentine
1967 *Historical Survey of the Stampede Reservoir Area in the Little Truckee River Drainage District*. National Park Service.

Jackson, W. Turrentine, Rand Herbert, and Steve Wee
1982 *History of the Tahoe National Forest: 1840-1940, A Cultural Resources Overview History*. Report on file at the Tahoe National Forest, Truckee Ranger District. Truckee, California.

Jackson, Robert J., Tom L. Jackson, C. Miksicek, Kristina Roper, and Dwight Simons
1994 *Framework for Archaeological Research and Management, National Forests of the North Central Sierra Nevada*. BioSystems Analysis, Inc., Sacramento, California. Prepared for US Forest Service, Eldorado National Forest, Placerville, California.

Lincoln Highway Association
1999 Website for the Lincoln Highway Association at www.lincolnhighwayassoc.org.

Lindström, Susan and Sharon Waechter
1996 *North Shore Ecosystems Project Heritage Resource Inventory - California Area, USDA Forest Service, Lake Tahoe Basin Management Unit*. HRR #05-19-297, Volume 1, Report and Volume 2, Confidential Appendices. Prepared for EA Engineering, Science and Technology, Inc. by Far Western Anthropological Research Group, Davis.

Lindström, Susan and Penny Rucks
2002 *Upper Truckee River Reclamation Project: Heritage Resource Study Phase 1A, 837 Acres, South Lake Tahoe*. Report prepared for Tahoe Resource Conservation District. Report on file USFS-LTBMU (TB-03-47). South Lake Tahoe.

Lindström, Susan G., Sharon A. Waechter, Meredith Rucks, Ron Reno, and Charles Zeier
2007 *From Ice Age to Ice Works: Archaeological, Ethnohistorical, and Historical Studies for the Truckee River Legacy Trail Project (Phase 3)*. Far Western Anthropological Research Group, Inc., Davis, California. Submitted to Truckee Public Works Department, Truckee, California.

Mallea-Olaetxe, Joxe
1992 History that Grows on Trees: Basque Aspen Carving in Nevada. *Nevada Historical Society Quarterly* 35(1):21–39.

McGlashan, M. Nona
1982 Heritage: Early Dairying. *Sierra Heritage* 2(2):13-17.

McIlroy, Jack, and Mary Praetzellis (editors)
1997 *Vanished Community – 19th Century San Francisco Neighborhoods: From Fourth Street to Mission Creek, and Beyond: Archaeological Research Design and Treatment Plan for the SF-80 Bayshore Viaduct Seismic Retrofit Projects.* Anthropological Studies Center, Sonoma State University Rohnert Park. Prepared for California Department of Transportation, Oakland.

McLemore, Denise, Carrie Smith, Michael J. Baldrica, Jennifer Sigler, and John Oddy
2003a *National Register Evaluation of Forest Service Site 05-17-56-520 and 05-17-57-621, Boca and Loyalton Railroad Grade from Loyalton to Boca, Conducted for the Davies and Merril Creeks Watershed Restoration Project, Sierraville and Truckee Ranger District, Tahoe National Forest*. Report TNF1763/R2003-0517-00023 on file at the Tahoe National Forest, Truckee Ranger District. Truckee, California. December 2003.

McLemore, Denise, Michael J. Baldrica, Carrie Smith, Carmel Barry-Schweyer
2003b National *Register Evaluation of Forest Service Site 05-17-56-71 and 05-17-57-691 Sierra a Nevada Wood and Lumber Company/Hobart Estate Company Railroad Grades, Conducted for the Davies/Merril Creek Restoration Project, Sierraville and Truckee Ranger District, Tahoe National Forest*. Report TNF1499/R2001-0517-00036 on file at the Tahoe National Forest, Truckee Ranger District. Truckee, California. October 2003.

Nevada Office of Historic Preservation (NVOHP)
2002 Historical Marker 63: U.S. Highway 40 (Victory Highway).
Oregon California Trails Association (OCTA)
2014 *Mapping Emigrant Trails Manual, Part A: Investigative Procedures & Trail Classifications*. Fifth edition. http://www.octa-trails.org/preserve/preservationtraining, accessed 2019.
Pace, Paul S.
2009 *Slim Rails and Axe Handles: Surveying the Logging Railroads of the Northwestern Truckee River Basin*. Slide Show Presentation for NALS, November 2009.
Pace, Paul S.
2010 Personal Communication with Paul Pace, Public Land Survey specialist and railroad history enthusiast. Correspondence September through December 2010.
Pfaff, Christine
2003 *Newlands Project, Nevada Multiple Property Listing*. United State Department of Interior, Bureau of Reclamation.
Praetzellis, Adrian, and Mary Praetzellis
1993 *Life and Work at the Cole and Nelson Sawmill, Sierra County, California: Archaeological Data Recovery for the Granite Chief Land Exchange*. Anthropological Studies Center, Sonoma State University, Rohnert Park, California. Prepared for the Tahoe National Forest, Nevada City, California.
US Forest Service
2018 *(Final Draft) Programmatic Agreement among the U.S.D.A. Forest Service, Pacific Southwest Region (Region 5), the California State Historic Preservation Officer, the Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding the Processes for Compliance with the National Historic Preservation Act, for Management of Historic Properties by the National Forests of the Pacific Southwest Region.* On file at the Regional Forester's Office, Region 5, Vallejo, California.
Rowley, Willian D. and Patricia Rowley
1992 *Historical/Analytical Evaluation of Historic Lumbering and Logging Sites – Tahoe National Forest: Contextual and Historical Evaluation*. Report on file with the Tahoe National Forest, Truckee Ranger District. Truckee, California.
Sacramento Daily Union
1869 Webber Lake Hotel Advertisement
Sierra College Press
2009 *Historic Photos of Interstate 80 Construction Over the Sierra Nevada*. Journal of Sierra Nevada History and Biography 2(2). From Sierra College web site at www.sierracollege.edu/ejournals.
Storey, Brit Allan
2011 *Brief History of the Bureau of Reclamation*. Bureau of Reclamation Publication Lakewood, Colorado.
Tamez, Sonia A., Dana E. Supernowicz, and James T. Rock
1988 *On the Track of Railroad Logging History: A Contextual History for Railroad Logging in California.* US Department of Agriculture, Forest Service, Region 5, San Francisco, California. On file, Eldorado National Forest, Placerville, California.
Van Bueren, Thad M.
2002 *Communities Defined by Work: Life in Western Work Camps*. Society for Historical Archaeology.
United States Geologic Survey
2000a Boca*, California 7.5 Minute Quadrangle Map.*
2000b Dog *Valley, California-Nevada 7.5 Minute Quadrangle Map.*
Waechter, Sharon A., Julia G. Costella, Susan Lindstrom, and William W. Bloomer
1995 *Final Report on the Assessment of Damages from the Cottonwood, Crystal, and Hirschdale Fires at Ten Sites on the Tahoe and Toiyabe National Forests*, Volume I: Report CRR #05-17-1129. Prepared for USDS Forest Service, Tahoe National Forest. Nevada City, California.
Waechter, Sharon A. and Susan G. Lindström
2007 *A Cultural Resources Study for the Proposed Teichert Aggregates Quarry Development near Boca Reservoir, Nevada County, California*. Prepared by Far Western Anthropological Research Group for the USDA Forest Service Tahoe National Forest. Report Number TNF01484, which includes Inventory R2007051700045, and Evaluation R2007051700046, on file with the Tahoe National Forest, Truckee Ranger District

Water and Power Resources Service
1981 *Project Data*. Pp.1289 A Water Resources Technical Publication, United State Department of the Interior. Denver, Colorado.
Wilson, John
1990 We've got thousands of These! What Makes an Historic Farmstead Significant? *Historical Archaeology* 24(2):23–33.
Wilson, R. C.
1992 *Sawdust Trails in the Truckee Basin*. Nevada County Historical Society, Nevada City, California.
Zalarvis Chase, D.; Jesse Krautkramer, Elizabeth Hodges, Thomas Ross, Joanne Gallagher
2017 A Cultural Resource Overview of the Sierra Valley Preserve, County: Plumas. Prepared for the Feather River Land Trust. DZC Archaeology.

Appendix A

CHRIS Records Requests
Northeast Information Center and North Central Information Center

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.:_____ IC FILE NO.:_____

To: _____ Information Center

Print Name: _____ Date: _____

Affiliation: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

Billing Address (if different than above): _____

Project Name / Reference: _____

Project Street Address: _____

County: _____

Township/Range/UTMs: _____

USGS 7.5' Quad(s): _____

PRIORITY RESPONSE (Additional Fee): yes / no

TOTAL FEE NOT TO EXCEED: $_____

Special Instructions:

Information Center Use Only

Date of CHRIS Data Provided for this Request: _____

Confidential Data Included in Response: yes / no

Notes: _____

_____

CHRIS Data Request Form

Include the following information (mark as necessary) for the records search area(s) shown on the attached map(s) or included in the associated shapefiles. Shapefiles are the current CHRIS standard format for digital spatial data products.

NOTE: All digital data products are subject to availability - check with the appropriate Information Center.

1. **Map Type Desired:** Digital map products will be provided only if they are available at the time of this request. *Regardless of what is requested*, only hard copy hand-drawn maps will be provided for any part of the requested search area for which digital map products are not available at the time of this request**.**
There is an additional charge for shapefiles, whether they are provided with or without Custom GIS Maps.

Mark one map choice only

Custom GIS Maps Shapefiles Custom GIS Maps **and** Shapefiles Hard Copy Hand-Drawn Maps **only**

Any selection below left unmarked will be considered a "no. "

2a.	Within project area	Within _____radius
ARCHAEOLOGICAL Resource Locations[+]	yes / no	yes / no
NON-ARCHAEOLOGICAL Resource Locations	yes / no	yes / no
Report Locations[+]	yes / no	yes / no
Resource Database Printout* (list)	yes / no	yes / no
Resource Database Printout* (detail)	yes / no	yes / no
Resource Digital Database Records (spreadsheet)[+]	yes / no	yes / no
Report Database Printout* (list)	yes / no	yes / no
Report Database Printout* (detail)	yes / no	yes / no
Report Digital Database Records (spreadsheet)[+]	yes / no	yes / no
ARCHAEOLOGICAL Resource Record copies[+]*****	yes / no	yes / no
PDF / Hard Copy		
NON-ARCHAEOLOGICAL Resource Record copies*	yes / no	yes / no
PDF / Hard Copy		
Report copies[+]***:**	yes / no	yes / no
PDF / Hard Copy		
	Only directory listing	Associated documentation
OHP Historic Properties Directory**		
within project area	yes / no	yes / no
within _____ mi radius	yes / no	yes / no
OHP Archaeological Determinations of Eligibility[+]		
within project area	yes / no	yes / no
within _____ mi radius	yes / no	yes / no
***California Inventory of Historical Resources* (1976):**		
within project area	yes / no	yes / no
within _____ mi radius	yes / no	yes / no

+ **In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User under an active CHRIS Access and Use Agreement**.

* These documents may be supplied as PDF files, if available

** Includes, but is not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys.

CHRIS Data Request Form

2b. Listed below are sources of additional information that may be available at the Information Center. Indicate if a review and documentation of any of the following types of information is requested.

Caltrans Bridge Survey	yes / no
Ethnographic Information	yes / no
Historical Literature	yes / no
Historical Maps	yes / no
Local Inventories	yes / no
GLO and/or Rancho Plat Maps	yes / no
Shipwreck Inventory	yes / no
Soil Survey Maps	yes / no

Northeast Center of the
California Historical Resources
Information System

BUTTE
GLENN
LASSEN
MODOC
PLUMAS
SHASTA
SIERRA
SISKIYOU
SUTTER
TEHAMA
TRINITY

123 West 6th Street, Suite 100
Chico CA 95928
Phone (530) 898-6256
neinfocntr@csuchico.edu

October 20, 2020

Dimitra Zalarvis-Chase
DZC Archaeology & Cultural Resource Consulting, LLC
455 I Street, Suite 204
Arcata, CA 95521

I.C. File # D20-215
Records Search

RE: Dry Creek Watershed Restoration – Site 8
T18N, R14E, Sections 6, 5, 7 & 8;
T19N, R14E, Sections 20, 21, 28, 29, 32 & 33, MDBM
USGS Webber Peak 7.5' quad
Approximately 430 acres, estimated from project map (Sierra & Nevada counties)

Dear Ms. Zalarvis-Chase,

In response to your request, a records search for the project cited above was conducted by examining the official maps and records for cultural resources and surveys in Sierra County. Please note, the search includes the requested ¼-mile radius surrounding the project area. For information pertaining to Nevada County, please contact the North Central Information Center at (916) 278-6217.

RESULTS:

Resources: According to our records, there are no resources of this type known to be located within the project boundaries. However, four resources have been recorded within the ¼-mile search area (Table 1). GIS Data, Resource Lists, and requested Resource Record PDFs are attached. The project is located in a region utilized by the Nisenan populations. Unrecorded prehistoric and/or historic cultural resources may be located within the project area.

The USGS Donner Pass (1955) 15’ quadrangle map indicates that Lacey Valley, Webber Lake, and roads are within the project area. Coppins Meadow, Webber Peak, Little Truckee River, Jones Valley, trails, structures, and roads are located in the general project vicinity.

Table 1. Previously Recorded Resources.

Primary	Trinomial	Other IDs	Age	Attributes
P-46-000165	CA-SIE-000165H	Resource Name - Lacey Valley Cabin; USFS - 05-17-56-38	Historic	AH02; AH04
P-46-000166	CA-SIE-000166	USFS - 05-17-56-39; Other - Lacey Valley Petroglyphs	Prehistoric	AP02; AP04; AP05
P-46-000167	CA-SIE-000167	Resource Name - Lacey Valley BRM; USFS - 05-17-56-40	Prehistoric	AP04
P-46-000714	CA-SIE-000714H	Resource Name - Ridenger Dairy	Historic	AH02; AH04; AH15; AH16

The Resource Record for CA-SIE-166 indicates that it appears eligible for the National Register. However, the resource is not listed in the OHP Archaeological Determinations of Eligibility (2012) and the site's legal status could not be confirmed.

The Webber Lake Hotel was added to the National Register in 2018. The Henness Pass Road is located northwest of the project area (CA Landmark No. 421). The OHP Built Environment Resource Directory (BERD) listings are included.

Additionally, the 1873 General Land Office (GLO) plat depicts the Road from Cisco to Webber Lake within the project vicinity.

Previous Archaeological Investigations: According to our records, a portion of the project area and ¼-mile search area has been previously surveyed for cultural resources. Survey locations are plotted on the enclosed NEIC-generated map and requested Report PDFs are attached. The reports are listed below.

Bradfield, Danielle (North Valley Resource Management)
2017 *Archaeological Survey Report for the "Webber Campground" Forest Fire Prevention Exemption, Sierra County, California.*
NEIC-014264

Davidson, Dario (Sierra Pacific Industries)
1999 *Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California: Lakewood Timber Harvest Plan.*
NEIC-002716

Drews, Michael P.
1992 *Archaeological and Historical Resources Survey and Impact Assessment for the Webber Lake Sale Timber Harvest Plan, Sierra County,*
NEIC-004496

Gunderson, Brandy (Tahoe National Forest)
1993 *Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties California (number 05-17-764).*
NEIC-010148

Livingston, Timothy J.
1996 *Confidential Archaeological and Historical Resources Survey and Impact Assessment: Coppins Meadow THP.*
NEIC-002457
1999 *RPF Survey Report for the Coppins Meadow Timber Harvest Plan #2-96-330-SIE(3), Sierra County, California (Incomplete).*
NEIC-002612

Payen, Louis A. (Tahoe National Forest)
1976 *An Archaeological Reconnaissance of Potential Land Exchanges In the Sierra Valley, Lacey Valley and Independence Lake Areas, Sierra County, California.*
NEIC-001161

Turner, Arnie L. and Maribeth Hamby (Sierraville Ranger District)
1982 *The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality, Tahoe National Forest, California.*
NEIC-005615

Turner, Arnie L. and Laurel Crittenden (Intermountain Research)
1982 *Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale: An Addendum Report to The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality,*
NEIC-005615A

Literature Search: The official records and maps for archaeological sites and surveys in Sierra County were reviewed. Also reviewed: **National Register of Historic Places - Listed properties and Determined Eligible Properties** (2012); **California Points of Historical Interest** (2009), **California Investigation of Historic Resources** (1976), **California Historical Landmarks** (2012), **Historic Spots in California – Fifth Edition** (2002), **Handbook of North American Indians, Vol. 8, California** (1978), and **Built Environment Resource Directory** (2019).

RECOMMENDATIONS:

We recommend that you contact the appropriate local Native American representatives for information regarding traditional cultural properties that may be located within project boundaries for which we have no records.

The charge for this record search is **$**351.00 (please refer to the following page for more information). An invoice will follow from the Chico Enterprises for billing purposes. Thank you for your concern in preserving California's cultural heritage, and please feel free to contact us if you have any questions or need any further information or assistance.

Sincerely,

Ryan Bradshaw
NEIC Coordinator

Priority Record Search Charge for I.C. File # D20-215

The charge for this record search is **$351.00** Please see the table below for an itemization.

THIS IS NOT AN INVOICE *		
Factor	**Charge**	**Your Charge**
Time (research, GIS query time, letter, and copy time)	$150.00/hour	$225.00 (1.5 hours)
Quads (crossed into)	Up to 2 quads = No charge 3-4 quads = $200 5-6 quads = $400 7 and over requires a contract or negotiated price.	No charge
GIS Data	$12.00 per shape	1 shape (Fee waived)
Custom GIS Map Fee	0 features = No charge 1-4 = $25 5-14 = $75 15-34 = $150 35-49 = $300 50-99 = $450 100-149 = $650 150-199 = $850 200-249 = $1,150 250-299 = $1,450 300-349 = $1,850, etc., jumping every 50 features by $400	$75.00 (11 features)
Copies	$0.15 per copy	$51.00 (340 copies)
Total Charge		**$351.00**

*An invoice will follow from Chico State Enterprises for billing purposes.

NEIC Resource List

D20-215 (0.25 mi)

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-46-000165	CA-SIE-000165H	Resource Name - Lacey Valley Cabin; USFS - 05-17-56-38	Site	Historic	AH02; AH04	1976 (Louis A. Payen)	NEIC-001161
P-46-000166	CA-SIE-000166	USFS - 05-17-56-39; Other - Lacey Valley Petroglyphs	Site	Prehistoric	AP02; AP04; AP05	1976 (Louis A. Payen, Tahoe National Forest); 2003 (John Betts, Consulting Archaeologist)	NEIC-001161
P-46-000167	CA-SIE-000167	Resource Name - Lacey Valley BRM; USFS - 05-17-56-40	Site	Prehistoric	AP04	1976 (Louis A. Payen, Tahoe National Forest)	NEIC-001161
P-46-000714	CA-SIE-000714H	Resource Name - Ridenger Dairy	Site	Historic	AH02; AH04; AH15; AH16	1991 (Mike Drews, Eric Ingbar, Mike Drews Archaeology)	NEIC-001161

NEIC Report List

D20-215 (0.25 mi) Report

No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
NEIC-002457	IC Record Search Nbr - K96-108	1996	Livingston, Timothy J.	Confidential Archaeological and Historical Resources Survey and Impact Assessment: Coppins Meadow THP		46-001054, 46-001055, 46-001056
NEIC-002612	CAL FIRE - 2-96-330-SIE(3) AM#2; IC Record Search Nbr - K99-173	1999	Livingston, Timothy J.	RPF Survey Report for the Coppins Meadow Timber Harvest Plan #2-96-330-SIE(3), Sierra County, California (Incomplete)		
NEIC-002716	CAL FIRE - 2-99-236-SIE(3); IC Record Search Nbr - K99-170	1999	Davidson, Dario	Confidential Archaeological Addendum for Timber Operations on Non-Federal Lands in California: Lakewood Timber Harvest Plan	Sierra Pacific Industries	46-000053
NEIC-005615		1982	Turner, Arnie L. and Laurel Crittenden	Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale: An Addendum Report to The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality, Tahoe National Forest	Intermountain Research	

NEIC Report List

D20-215 (within) Report No.

	Other IDs	Year	Author(s)	Title	Affiliation	Resources
NEIC-001161	USFS - 17-01426	1976	Payen, Louis A.	An Archaeological Reconnaissance of Potential Land Exchanges In the Sierra Valley, Lacey Valley and Independence Lake Areas, Sierra County, California	Tahoe National Forest	32-000352, 32-000353, 32-000354, 32-000355, 32-000452, 46-000155, 46-000156, 46-000157, 46-000158, 46-000159, 46-000160, 46-000161, 46-000162, 46-000163, 46-000164, 46-000165, 46-000166, 46-000167, 46-000714
NEIC-004496	IC Record Search Nbr - K92-235	1992	Drews, Michael P.	Archaeological and Historical Resources Survey and Impact Assessment for the Webber Lake Sale Timber Harvest Plan, Sierra County, California		
NEIC-005615	USFS - 53-9JGN-1-17003	1982	Turner, Arnie L. and Maribeth Hamby	The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality, Tahoe National Forest, California	Sierraville Ranger District	46-000467, 46-000468, 46-000487, 46-000488, 46-000489, 46-000490, 46-000496, 46-000497, 46-000498, 46-000499, 46-000501, 46-000502, 46-000503, 46-000504, 46-000505, 46-001378, 46-001383, 46-001384, 46-001460, 46-001467, 46-001468, 46-001469, 46-001470, 46-001471
NEIC-005615		1982	Turner, Arnie L. and Laurel Crittenden	Archaeological Survey of the Palisades Trail and Blue Moon Timber Sale: An Addendum Report to The Intensive Archaeological Reconnaissance of 15 Parcels in the Boca, Loyalton, Sierraville Locality, Tahoe National Forest	Intermountain Research	
NEIC-010148	USFS - 05-17-764	1993	Gunderson, Brandy	Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties California (number 05-17-764)	Tahoe National Forest	46-000024, 46-000751, 46-001623
NEIC-014264	IC Record Search Nbr - K17-56; IC Record Search Nbr - K17-62	2017	Bradfield, Danielle	Archaeological Survey Report for the "Webber Campground" Forest Fire Prevention Exemption, Sierra County, California	North Valley Resource Management	

CHRIS Data Request Form

ACCESS AND USE AGREEMENT NO.:_____ IC FILE NO.:_____

To: _____ Information Center

Print Name: _____ Date: _____

Affiliation: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

Billing Address (if different than above): _____

Project Name / Reference: _____

Project Street Address: _____

County: _____

Township/Range/UTMs: _____

USGS 7.5' Quad(s): _____

PRIORITY RESPONSE (Additional Fee): yes / no

TOTAL FEE NOT TO EXCEED: $_____

Special Instructions:

Information Center Use Only

Date of CHRIS Data Provided for this Request: _____

Confidential Data Included in Response: yes / no

Notes: _____

_____

CHRIS Data Request Form

Include the following information (mark as necessary) for the records search area(s) shown on the attached map(s) or included in the associated shapefiles. Shapefiles are the current CHRIS standard format for digital spatial data products.

NOTE: All digital data products are subject to availability - check with the appropriate Information Center.

1. Map Type Desired: Digital map products will be provided only if they are available at the time of this request. *Regardless of what is requested*, only hard copy hand-drawn maps will be provided for any part of the requested search area for which digital map products are not available at the time of this request**.**
There is an additional charge for shapefiles, whether they are provided with or without Custom GIS Maps.

Mark one map choice only

Custom GIS Maps Shapefiles Custom GIS Maps **and** Shapefiles Hard Copy Hand-Drawn Maps **only**

Any selection below left unmarked will be considered a "no. "

2a.	Within project area	Within _____radius
ARCHAEOLOGICAL Resource Locations[+]	yes / no	yes / no
NON-ARCHAEOLOGICAL Resource Locations	yes / no	yes / no
Report Locations[+]	yes / no	yes / no
Resource Database Printout* (list)	yes / no	yes / no
Resource Database Printout* (detail)	yes / no	yes / no
Resource Digital Database Records (spreadsheet)[+]	yes / no	yes / no
Report Database Printout* (list)	yes / no	yes / no
Report Database Printout* (detail)	yes / no	yes / no
Report Digital Database Records (spreadsheet)[+]	yes / no	yes / no
ARCHAEOLOGICAL Resource Record copies[+]*****	yes / no	yes / no
PDF / Hard Copy		
NON-ARCHAEOLOGICAL Resource Record copies*	yes / no	yes / no
PDF / Hard Copy		
Report copies[+]***:**	yes / no	yes / no
PDF / Hard Copy		
	Only directory listing	Associated documentation
OHP Historic Properties Directory**		
within project area	yes / no	yes / no
within _____ mi radius	yes / no	yes / no
OHP Archaeological Determinations of Eligibility[+]		
within project area	yes / no	yes / no
within _____ mi radius	yes / no	yes / no
***California Inventory of Historical Resources* (1976):**		
within project area	yes / no	yes / no
within _____ mi radius	yes / no	yes / no

+ **In order to receive archaeological information, requestor must meet qualifications as specified in Section III of the current version of the California Historical Resources Information System Information Center Rules of Operation Manual and be identified as an Authorized User under an active CHRIS Access and Use Agreement**.
* These documents may be supplied as PDF files, if available
** Includes, but is not limited to, information regarding National Register of Historic Places, California Register of Historical Resources, California State Historical Landmarks, California State Points of Historical Interest, and historic building surveys.

CHRIS Data Request Form

2b. Listed below are sources of additional information that may be available at the Information Center. Indicate if a review and documentation of any of the following types of information is requested.

Caltrans Bridge Survey	yes / no
Ethnographic Information	yes / no
Historical Literature	yes / no
Historical Maps	yes / no
Local Inventories	yes / no
GLO and/or Rancho Plat Maps	yes / no
Shipwreck Inventory	yes / no
Soil Survey Maps	yes / no

California Historical Resources Information System

NORTH CENTRAL INFORMATION CENTER

AMADOR
EL DORADO
NEVADA
PLACER
SACRAMENTO
YUBA

California State University, Sacramento
6000 J Street, Folsom Hall, Suite 2042
Sacramento, California 95819-6100
phone: (916) 278-6217
fax: (916) 278-5162
email: ncic@csus.edu

9/22/2020 NCIC File No.: NEV-20-124

Dimitra Zalarvis-Chase
DZC Archaeology & Cultural Resource Consulting, LLC
455 I Street, Suite 204
Arcata, CA 95521

Re: Dry Creek Watershed Restoration-Site 8

The North Central Information Center received your records search request for the project area referenced above, located on the Webber Peak USGS 7.5' quad. The following reflects the results of the records search for the project area and a ¼-mi radius.

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☐custom GIS maps ☒ shapefiles

Resources within project area:	None
Resources outside project area, within radius:	P-29-427
Reports within project area:	8250 (intersects the project area in Sierra County and also the radius in Nevada County)
Reports outside project area, within radius:	8243

Resource Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed/NA
Resource Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed/NA
Resource Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Report Database Printout (list):	☒ enclosed	☐ not requested	☐ nothing listed/NA
Report Database Printout (details):	☐ enclosed	☒ not requested	☐ nothing listed/NA
Report Digital Database Records:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Resource Record Copies:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Report Copies:	☒ enclosed	☐ not requested	☐ nothing listed/NA

Built Environment Resources Directory:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Archaeological Determinations of Eligibility:	☒ enclosed	☐ not requested	☐ nothing listed/NA
CA Inventory of Historic Resources (1976):	☐ enclosed	☐ not requested	☒ nothing listed/NA
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Ethnographic Information:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Historical Literature:	☐ enclosed	☐ not requested	☐ nothing listed/NA
Historical Maps:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Local Inventories:	☐ enclosed	☐ not requested	☒ nothing listed/NA
GLO and/or Rancho Plat Maps:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Soil Survey Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,

Paul Rendes, Coordinator
North Central Information Center

NCIC Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-29-000427	CA-NEV-000369	USFS - 05-17-56-75; Other - S.8 Metate Slick #1; USFS - 05-17-56-075	Site	Prehistoric	AP04	1976 (B. R. Flaws); 1992 (B. Sutherland)	

NCIC Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
008243		2001	David Early	Johnson THP Sec. 7	RPF	
008250		1993	Brandy Gunderson	Cultural Resource Inventory for the Marmot and Percheron Timber Sales on the Sierraville Ranger District of the Tahoe National Forest, Sierra and Nevada Counties (Number 05-17-764)	Sierraville Ranger District	

Appendix B

Native American Coordination

September 16, 2020 WDID No. 6A292009002

Gene Whitehouse, Chairperson
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603

Tribal Cultural Resources under the California Environmental Quality Act AB 52 (Gatto, 2014); Notification of Consultation Opportunity Pursuant to Public Resources Code § 21080.3.1; Lacey Meadows Restoration Project, Sierra County

Honorable Chairperson Whitehouse,

The Lahontan Regional Water Quality Control Board (Lahontan Water Board) has decided to undertake the Lacey Meadows Restoration Project (Project) as Lead Agency pursuant to the California Environmental Quality Act (CEQA) and is preparing an environmental document for the Project to comply with CEQA requirements. The environmental document is anticipated to be a Mitigated Negative Declaration (MND). Truckee River Watershed Council is the Project proponent.

The intent of this communication is to notify you of your opportunity to request consultation with the Lahontan Water Board pursuant to Public Resources Code section 21080.3.1. Included within this letter is a description of the proposed Project and contact information for the Lahontan Water Board's Project point of contact. A map showing the Project location is included as an enclosure to this letter.

Project Location

The Project is in the southern portion of Sierra County and in the northern portion of Nevada County, approximately 10 miles south of Sierraville, CA, and 20 miles north of Truckee, CA. Please see the enclosed location map for details.

Proposed Project

Lacey Meadows is in the Upper Little Truckee River watershed. There are two primary meadows, the Upper Meadow, and the Lower Meadow. Lacey Creek runs from south to north through the two Lacey meadows to Webber Lake. Both meadows have been

degraded through past land uses including logging, grazing, road building, and recreation.

Upper Lacey Meadow has been reduced from a historic size of approximately 100 acres to 72 acres. The stream channel is not in its natural alignment, and the channel has been modified. Gravel piles or push-up dams observed in remnant channels suggest they were placed to dam channels and divert flow. Historical aerial imagery between 1952 and 1966 indicates that channel abandonment was encouraged to divert the channel from the Upper Meadow, probably to support drier conditions in the meadow for grazing.

Lacey Creek in Lower Lacey Meadow is incised. Historically, removable fish screens were used to minimize stocked fish from migrating downstream from Webber Lake. When the fish screens were periodically removed for cleaning, rapid and large fluctuations in lake levels occurred. These fluctuations often resulted in a change in the shoreline location of about 2,000 feet. It appears that these water level changes in Webber Lake have caused knickpoint erosion and headcut migration in Lacey Creek through the Lower Meadow. While the fish screens are no longer used, the incision through Lower Lacey Meadow persists. Incision results in lowered groundwater levels, decreased groundwater retention and an overall drying of Lower Lacey Meadow.

The restoration of Upper Lacey Meadow and the restoration of Lower Lacey Meadow will be completed in two separate phases. In Upper Lacey Meadow, the Project will re-engage the historic stream channels on the meadow surface through construction of log and debris jams and selective channel fill placement. Some minor pilot channels will be excavated to reconnect historic flow paths. In Lower Lacey Meadow, the project will arrest stream channel incision and promote aggradation through selective installation of log and debris jams and constructed riffles. The Project also includes minor excavation to re-engage historic high flow paths. Webber Lake Road, which runs through Lower Lacey Meadow, will be maintained to improve flow across the meadow.

The Project will improve habitat for a variety of mammals, and birds, including the threatened willow flycatcher and greater sandhill crane. The Project will provide water quality benefits including decreased erosion, improved late season base flows, and elevated groundwater tables.

Specifically, the Project will include:

Instream debris jams. Debris jams will be used throughout the Project to promote aggradation of the incised stream channel. Aggradation will increase the frequency of overbank flow and rewatering of meadow habitat in areas where remnant channels exist. Thirteen of the debris jams are smaller “bundles” composed of small diameter trees and branches that are constructed and placed by hand in tributary channels to Lacey Creek. The remaining 45 debris jams will include a minimum of two key logs (16 – 18” diameter) with rootwads attached and will be constructed with machinery.

Log grade control structures. A total of 13 log grade control structures will be constructed in Lower Lacey Meadow at locations where historical Webber Lake water level fluctuations have caused development of knickpoints and headcuts. These buried log structures will be placed upstream of existing headcuts to protect upstream meadow habitat from further erosion and desiccation.

Engineered riffles. Nine riffles will be placed in Lower Lacey Meadow. The riffles will serve similar function to the debris jams, that is, to promote more frequent overbank flows and increase channel bed aggradation.

Historic channel re-engagement. To restore flow to the natural flow paths in Upper Lacey Meadow, some minor excavation will be required to create pilot channels to move the stream back into the original alignment. In some areas, gravel push up dams and levees constructed to keep the flow out of the meadow channels will be removed. In Lower Lacey Meadow, selective placement of debris jams and riffles will help to re-engage historic high flow channels at two locations.

Channel fill. In Upper Lacey Meadow, fill will be placed in the existing, un-natural stream channel to prevent flow recapture once historic channels are restored. Fill, sourced from the adjacent hillside, will be placed in two specific channel locations. The total area of disturbance for the cut and fill is approximately two acres.

Road reconstruction. The elevation of Webber Lake Road is below the meadow surface and it captures flow. Minor grading is proposed to prevent stream capture and restore flow paths across the meadow.

The project will have short-term temporary construction impacts to approximately 17 acres that will be restored with native vegetation. It is anticipated that construction will be completed with excavators, loaders, water trucks, dump trucks, and other smaller equipment. Revegetation of disturbed areas will take place immediately after work as each location is finished. Construction is anticipated to take place in late summer and early fall of 2022 and 2023. Construction in each year will likely last 4 – 8 weeks.

Lahontan Water Board Point of Contact
Tom Gavigan, Engineering Geologist
tom.gavigan@waterboards.ca.gov

Requesting Consultation
Pursuant to Public Resources Code section 21080.3.1, subdivision (b), you have until **October 15, 2020** to request consultation, in writing, with the Lahontan Water Board. Responses via email to the point of contact above will allow us to capture all responses in one place.

If you have any questions with respect to this letter or would like additional information, please contact Tom Gavigan at tom.gavigan@waterboards.ca.gov

Very Respectfully,

MIKE PLAZIAK
ACTING EXECUTIVE OFFICER

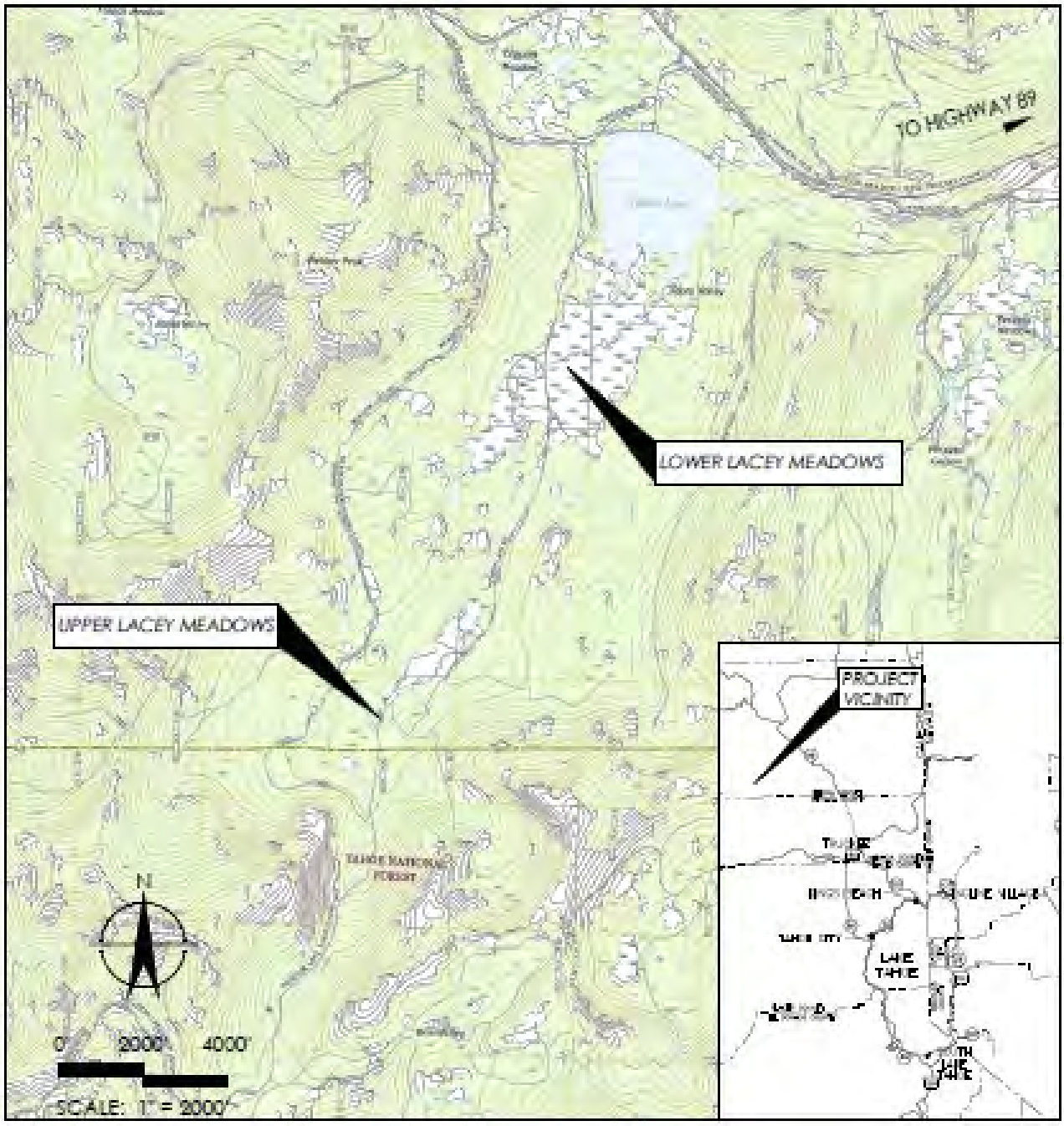
Enclosure: Figure 1 (Map of Proposed Project Location)

cc: Adriana Renteria, State Water Board Tribal Liaison
Moises Moreno-Rivera, State Water Board Assistant Tribal Liaison
Elizabeth Beryt, State Water Board Office of Chief Counsel
Tom Gavigan, Lahontan Water Board

ENCLOSURE 1 - PROJECT LOCATION MAP

Lacey Meadows Restoration Project

Sierra County, California



Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95501
(916) 373-3710
(916) 373-5471 – Fax
nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: _____

County: _____

USGS Quadrangle

Name: _____

Township: _____ Range: _____ _____

Township: 18N Range: 14E Section(s): 5,6,7,8

Company/Firm/Agency:

_____

Contact Person: _____

Street Address: _____

City: _____ Zip: _____

Phone: _____ Extension: _____

Fax: _____

Email: _____

Project Description:

___ Project Location Map is attached

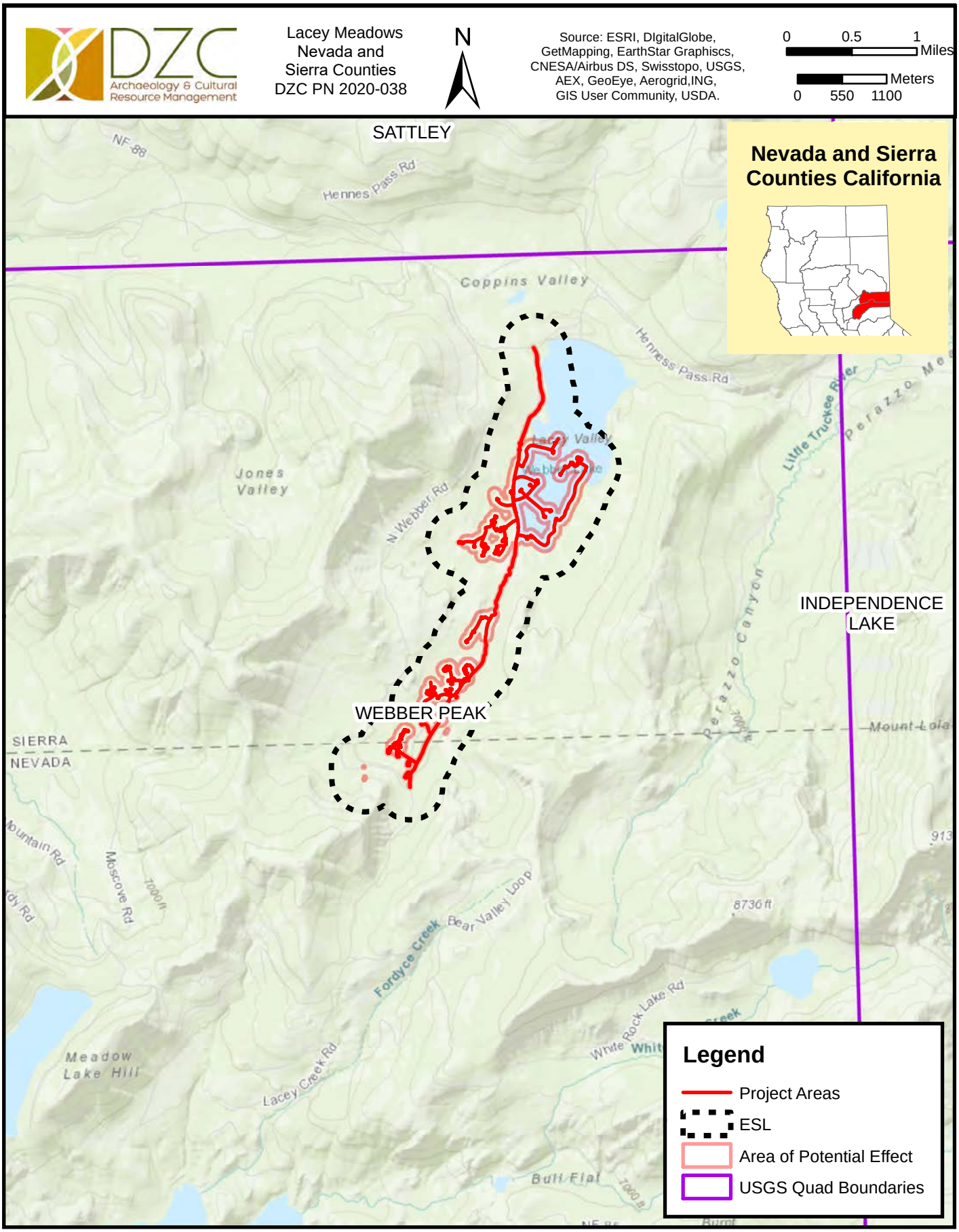


Figure 1. Project Vicinity

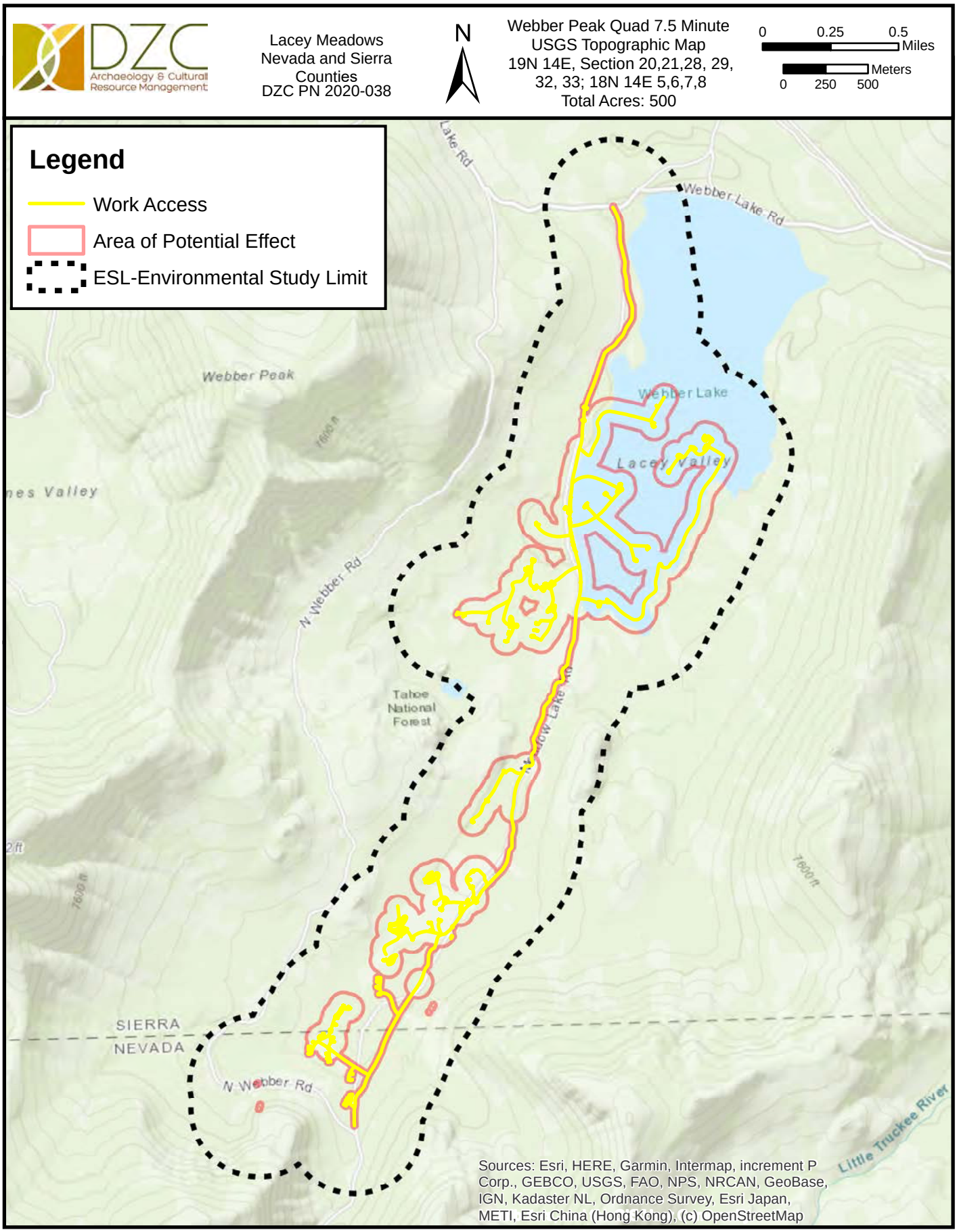


Figure 2. Project Location & ESL

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

October 13, 2020

Dimitria Zalarvis-Chase

DZC Archaeology & Cultural Resource Consulting, LLC

Via Email to: dimitra@dzcarc.com

Re: Dry Creek Restoration Project, Nevada and Sierra Counties

Dear Ms. Zalarvis-Chase:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were positive. Please contact the tribes on the attached list for more information. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. 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. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,

Nancy Gonzalez-Lopez

Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Nevada, Sierra Counties
10/13/2020

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 — Maidu
Browns Valley, CA, 95918
Phone: (530) 383 - 7234
tsi-akim-maidu@att.net

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road — Maidu
Auburn, CA, 95603 — Miwok
Phone: (530) 883 - 2390
Fax: (530) 883-2380
bguth@auburnrancheria.com

Washoe Tribe of Nevada and California
Darrel Cruz, Cultural Resources Department
919 Highway 395 North — Washoe
Gardnerville, NV, 89410
Phone: (775) 265 - 8600
darrel.cruz@washoetribe.us

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Dry Creek Restoration Project, Nevada, Sierra Counties.

Arcata | Willow Creek | Truckee
CEQA/NEPA ● Section 106 ● DBE 41768 ● WBE 10110091 ● SB 1732908 ● NAICS 541620
● DUNS 078366000 ● Cage 70WD6 ● OSHA/HAZWOPPER
Business Office: 707.599.9842 ● dzarchaeology.com ● 2370 Lindstrom Ave,
Fairhaven, CA 95564

October 23, 2020

RE: REQUEST FOR INFORMATION AND COMMENT

To:
- Grayson Coney, Cultural Director Tsi Akim Maidu
- Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Darrel Cruz, Cultural Resources Department, Washoe Tribe of Nevada and California

Dear Native American Affiliates,

DZC Archaeology and Cultural Resource Consulting, LLC, is conducting the necessary records search and Request for Comment in support of CEQA requirements. DZC was retained by H.T. Harvey and Associates on behalf of the Truckee Watershed Council to support their Dry Creek Restoration Project - Site 8 in Lacey Meadows, which is situated in both Sierra and Nevada counties. The proposed project would restore the stream to historic channels on the meadow surface, promoting floodplain connectivity and reducing erosion. This would be accomplished by filling or partially filling the incised gully that currently conveys the flow of Dry Creek. The stream would then re-occupy its former channels. The project would result in a raised seasonal water table and expansion of riparian and wetland vegetation.
Including biological and wetland considerations, the Project area encompasses 420 acres. However, the Archaeological Area of Potential Effects (APE) and Area of Direct Impacts (ADI) is approximately 66 acres (Figure 1). The Environmental Study Limits (ESL) constitute a one-quarter mile buffer surrounding the APE.

Project Title: Dry Creek Restoration Project Site 8 – Lacey Meadows
Project Location: Township 19N, Range 14E, Section 28, 29, 30, 32, T18, 14E Section 5, 6, 7, 8
Lead Agency: Lahontan regional Water Quality Control Board

DZC initiated a Sacred Lands File (SLF) search request with the Native American Heritage Commission (NAHC). Your contact information is listed by the NAHC for the Sierraville area and as such you are receiving this communication.

DZC is particularly concerned as the SLF search request returned as POSITVE for the presence of a significant resource either within the APE or the ESL. We wish to coordinate with you regarding the avoidance of the resource, which at this time is unknown to us.

To date, DZC has obtained the following recorded resources from the Northeast Information Center and the US Forest Service Tahoe National Forest.

Resource Identifier	Resource Description	Mapped within the APE?	Mapped within ESL?
P-46-000714	Historic Homestead	No	Yes
05-17-56-075	Bedrock Mortar	No	Yes
05-17-56-40	Bedrock Mortars	No	Yes
P-46-000166	Settlement and petroglyph site	No	Yes
05-17-56-00038	Ranger Station w/chert cores	No	Yes

To honor confidentiality, we have not included a map of these resources, but will gladly provide them to you through a secure folder at your request.

DZC would appreciate any information you could provide regarding known cultural resource, location specific ethnographic or oral history information, or other relevant background information you would like to provide towards supporting resource protection within the APE, the ADI, or the Environmental Study Limits (Figure 2). -Information provided, if used for reporting, will follow confidentiality regulations regarding resource protection. If we have not received a response within 30 days from the date of this letter, we will assume you have no information to provide.

This request is not meant to substitute for, or initiate, formal government-to-government Native American Consultation under Section 106 of the NHPA or AB-52 – CEQA. To inquire of or initiate formal Consultation or Coordination, please contact the Lead Agency as noted. Thank you for your assistance.

Very Respectfully,

Dimitra Zalarvis-Chase, M.A., RPA

DZC Archaeology & Cultural Resource Consulting, LLC
Client Oriented Results with a Practical Approach

455 I Street, Arcata, CA 95521 * 10100 Pioneer Way, Truckee, CA 96161
(707) 599-9842
dimitra@dzcarc.com

Arcata | Willow Creek | Truckee
CEQA/NEPA ● Section 106 ● DBE 41768 ● WBE 10110091 ● SB 1732908 ● NAICS 541620
● DUNS 078366000 ● Cage 70WD6 ● OSHA/HAZWOPPER
Business Office: 707.599.9842 ● dzarchaeology.com ● 2370 Lindstrom Ave,
Fairhaven, CA 95564

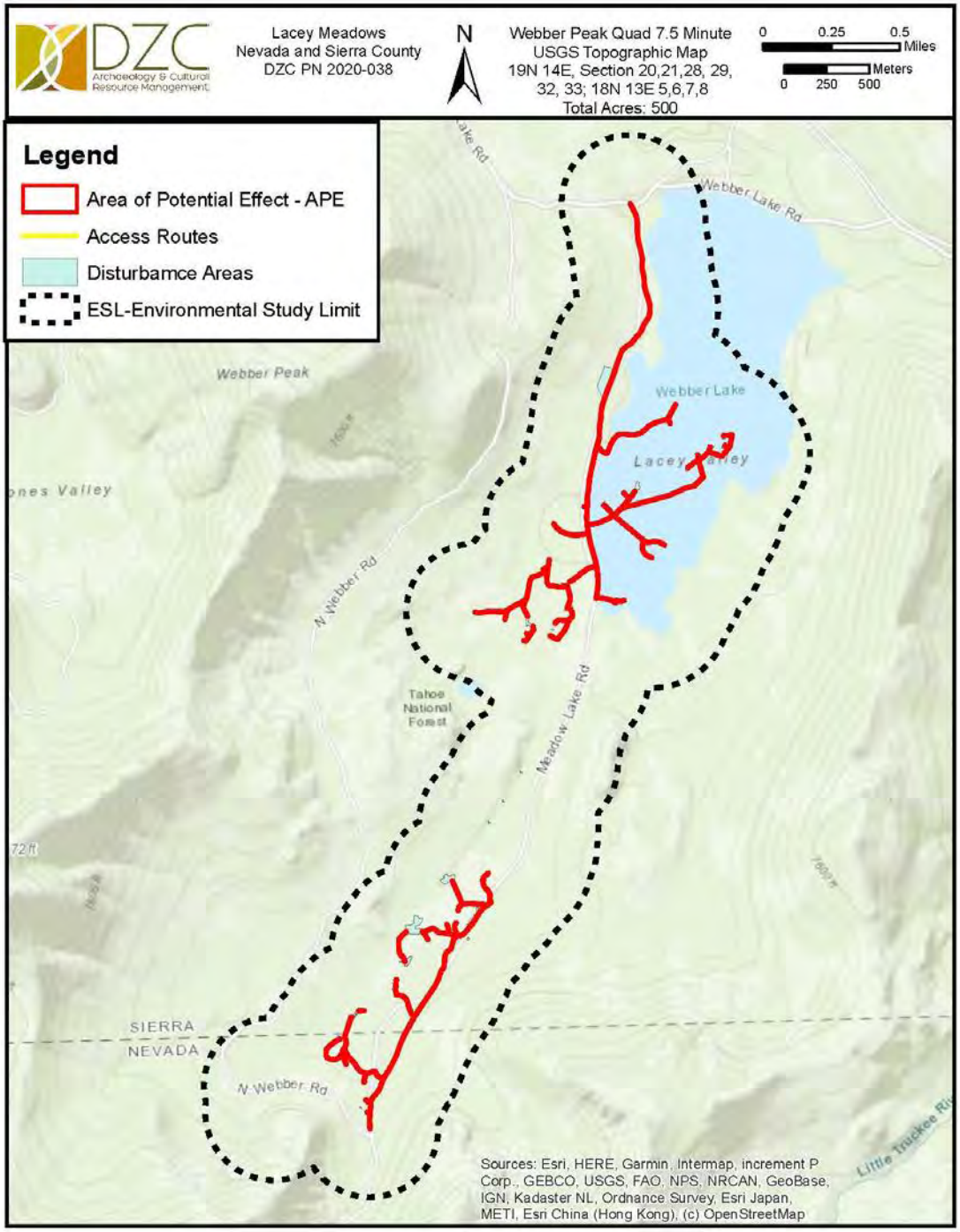


Figure 2. Project Location & ESL

Appendix C

Project Location Photographs

Appendix C – Project Location Photos

View (East) View of creek bed in project area

View (West) vegetation overview near Webber Lake and Johnson Homestead

Appendix C – Project Location Photos

View (South) of Lacey Meadow and trailhead

View (North) of Lacey Meadow and Webber Lake within APE