



May 19, 2022

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Subject: EIR/EIS Mitigation Monitoring and Reporting for Control Methods Test
Project – Pre-Project Ecotonal Report

Dear Mr. Zabaglo,

The Tahoe Keys Property Owners Association (TKPOA) herewith submits the Pre-Project Ecotonal Report (Report). This Report satisfies the requirements of the Mitigation Monitoring and Reporting Program (MMRP) No. R6T-2022-0005 for Bio-1 Field Reconnaissance and Monitoring. Under this MMRP provision and prior to initiating the test program, TKPOA was required to conduct a pre-test field reconnaissance of potentially affected terrestrial, riparian, and aquatic (benthic and littoral zones), habitat and species. The enclosed report documents TKPOA's compliance with that provision of the MMRP.

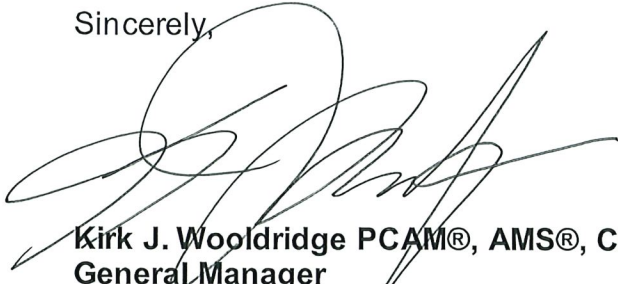
SEA staff performed a field survey on May 16, 2022 of all sites in the Tahoe Keys. Site photos were taken documenting the typical site conditions which included seawalls and riprap. No sensitive species or potential habitat for species were found during the site visit. While performing the site visit, SEA staff also surveyed for active nest sites of migratory birds. No active nests, or nests from previous years, were observed.

After evaluating data collected from the site visit and a desktop evaluation, it was determined that the CMT Project will have a less than significant impact to any special status species, their habitats, or migratory birds.

Mr. Zabaglo
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Please let us know if you have any questions or comments regarding the attached Report.

Sincerely,



**Kirk J. Wooldridge PCAM®, AMS®, CMCA®, CCAM®, CHA®,
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Attachment(s):

- Attachment; Pre-Project Ecotonal Report

Cc (electronically with Enclosures):

- TKPOA Board of Directors
- TKPOA Water Quality Committee
- Kimberly Caringer, Environmental Improvement Program Division Manager, Tahoe Regional Planning Agency
- Tiffany Racz, M.S., Water Resource Control Engineer, Lahontan Regional Water Quality Control Board
- Russell Norman, P.E., Water Resource Control Engineer, Lahontan Regional Water Quality Control Board

Pre-Project Ecotonal Report for the Tahoe Keys Lagoons Aquatic Weed Control Methods Test



May 19, 2022

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Sierra Ecosystem
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1.0 INTRODUCTION

The following sections address the mitigation measures for BIO-1 field reconnaissance and monitoring of the areas adjacent to herbicide treatment sites within the Tahoe Keys lagoons and Lake Tallac, as required within Section 5.0 of the Mitigation Monitoring and Reporting Program (MMRP) published February 25, 2022 for the Tahoe Keys Lagoons Aquatic Weed Control Methods Test (CMT or Project).

MM-BIO-1: *Prior to initiating the test program, TKPOA will conduct a pre-test field reconnaissance of potentially affected terrestrial, riparian, and aquatic (benthic and littoral zones), habitat and species. This will include the test sites and buffer zones appropriate to each potentially affected species. The occurrence of any sensitive or listed species and/or habitat will be recorded. If sensitive receptors are observed, and evaluation will be made as to the potential impacts. If direct or indirect impacts are possible, coordination will be initiated with the appropriate federal (USFWS) and state (CDFW) agency to determine further mitigation to avoid impacts. Examples of mitigation measures could include environmental tailboards prior to the start of work, the establishment of exclusionary zones (i.e., around active nests), and/or assigning biological field monitors with stop work authority if impacts to receptors are possible. Should work stop based on discovery of sensitive or listed species, TKPOA will consult with appropriate agencies to determine next steps prior to work restarting.*

This Draft Pre-Project Ecotonal Report (Draft Report) describes the purpose of the evaluation, the studies conducted during the site visit, and personnel conducting those studies, and maps showing the Project site and surrounding area.

1.1 Project Description

The CMT Project is located in the Tahoe Keys in South Lake Tahoe, California. The Tahoe Keys is approximately 372 acres and includes homes, townhomes, marinas, and a commercial center. The West Lagoon (113.6 acres), East Lagoon (32.1 acres), and Lake Tallac lagoon (26.1 acres) are three man made water features in the Tahoe Keys. The lagoons are relatively shallow with an average depth of 10 to 12 feet, and a maximum depth of 20 to 30 feet.

The CMT Project will test standalone-treatments using herbicides, ultraviolet (UV-C) light, Laminar Flow Aeration (LFA), and combination treatments of herbicide and UV-C light in the first year of the proposed CMT. These methods will be followed in Years 2 and 3 of the CMT with non-herbicide follow-up methods, including spot treatments using bottom barriers, diver-assisted suction/hand pulling, and UV-C treatments. Implementation of these follow-up methods would be dependent on the target plants present, size of infestation, and location of infestation. Figure 1 shows the areas for installation of double turbidity curtains as well as areas that will receive treatments of herbicide, UV-C, and Laminar Flow Aeration (LFA) in Year 1 of the Project.

Figure 1. Treatment Areas

1.2 Purpose of the Report

This report summarizes a desktop evaluation, field survey, and aquatic macrophyte point intercept sampling, of biological resources within and adjacent to the herbicide treatment site within the Tahoe Keys and discusses the potential for sensitive biological resources to occur at the Project site. Biological resources that were evaluated include federally and state listed threatened and endangered species, as well as species that are candidates for listing, rare species which much be considered under the California Environmental Quality Act (CEQA), and habitats protected by federal or state laws. These taxa are collectively known as special status species. They are tracked by the California Department of Fish and Wildlife (CDFW) through the California Natural Diversity Database (CNDDB) and include:

- Species officially listed as Threatened and/or Endangered by the United States Fish and Wildlife Service (USFS) or the CDFW;
- Species which are candidates for listing in the near future;
- Species that meet the criteria for listing, but not currently included on any list;
- Species considered to be of Special Concern by the State;

- Habitat that is declining in the State at an alarming rate or that is in limited distribution;
- Habitat that is used by listed species; and
- Habitat that is within the jurisdiction of one or more state and/or federal agencies, such as designated Critical Habitat.

For most plant and animal species, the CNDDDB tracks sightings, or “Occurrences”, which indicate the presence of an individual or a population. This report does not constitute a jurisdictional determination of a wetland delineation.

1.3 Survey Dates and Personnel

Sierra Ecosystem Associates (SEA) staff Senior Ecologist, Jeremy Waites (J. Waites) and Environmental Scientist/Natural Resource Analyst Summer Von Aesch (S. Von Aesch) visited the site and completed a field survey of the area on April 18, 2022 and May 16, 2022. The field survey focused on completing a habitat assessment for sensitive species around the Tahoe Keys and Lake Tallac.

After the site visit, SEA staff completed a desktop evaluation of published resources with information regarding the site and the surrounding area. Photos were taken during the site visit that are included in Appendix A.

2.0 METHODOLOGY

Development of this Report involved: 1) a desktop evaluation and 2) a field survey. The methodology for each are described below.

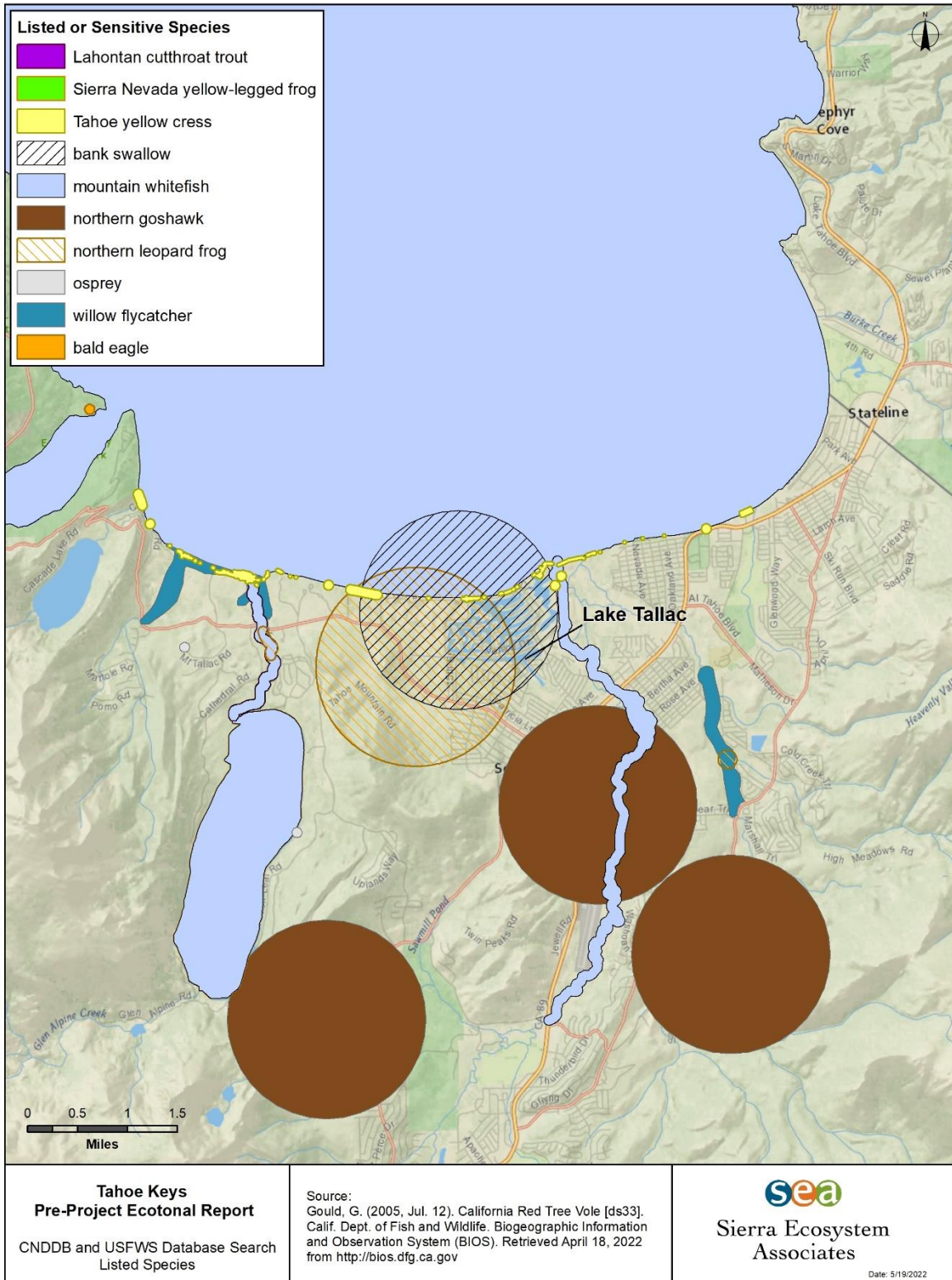
2.1 Desktop Evaluation

The desktop evaluation of the Project site consisted of the review of current database maintained by CDFW to identify special-status species which could occur on the Project site (CDFW 2022). Other sources include the United States Geological Survey (USGS) topographical maps. In addition, J. Waites completed a search of database records in the CNDDDB for reported occurrences of special status species. The CNDDDB search includes the Project site and a 4-mile buffer around the Project site. Table 1 summarizes the species identified in this focused query (CDFW 2022). Figure 2 displays the occurrences of these species as they are located near the CMT treatment sites.

Table 1. CNDDDB Species Identified

Common Name	Scientific Name	Federal Listing	California Listing	Rare Plant Rank	CDFW Status
bald eagle	<i>Haliaeetus leucocephalus</i>	Delisted	Endangered		
bank swallow	<i>Riparia riparia</i>	None	Threatened		
Lahontan cutthroat trout	<i>Oncorhynchus clarkii henshawi</i>	Threatened	None		
northern goshawk	<i>Accipiter gentilis</i>	None	None		Species of special concern
Sierra Nevada yellow-legged frog	<i>Rana sierrae</i>	Endangered	Threatened		Watchlist Species
southern long-toed salamander	<i>Ambystoma macrodactylum sigillatum</i>	None	None		Species of special concern
Tahoe yellow cress	<i>Rorippa subumbellata</i>	None	Endangered	1B.1	
willow flycatcher	<i>Empidonax traillii</i>	None	Endangered		
osprey	<i>Pandion haliaetus</i>	None	None		Watchlist Species
mountain whitefish	<i>Prosopium williamsoni</i>				Species of special concern

Figure 2. Listed and Sensitive Species



2.2 Field Survey

The field assessment included a pre-CMT Project survey and a reconnaissance of potentially affected terrestrial, riparian, and aquatic habitat and species. The field survey included a pedestrian survey where access was possible by foot. Other areas within the West Lagoon and Lake Tallac were surveyed by boat. Surveys were completed on April 18, 2022 and May 16, 2022.

3.0 RESULTS BASED ON DESKTOP EVALUATION AND FIELD SURVEY

The following section provides details on the wetland features, specific habitat characteristics at the sites, conditions which influence those habitats, and includes information gathered during the April 2022 site visit.

The local topography surrounding the project site is urban with residential housing throughout and surrounding the Tahoe Keys. In the West Lagoon, the many artificial coves are completely surrounded by residential structures with little to no wetland vegetation or habitat. Most of the water to land interface is comprised of a seawall, retaining walls, or riprap.

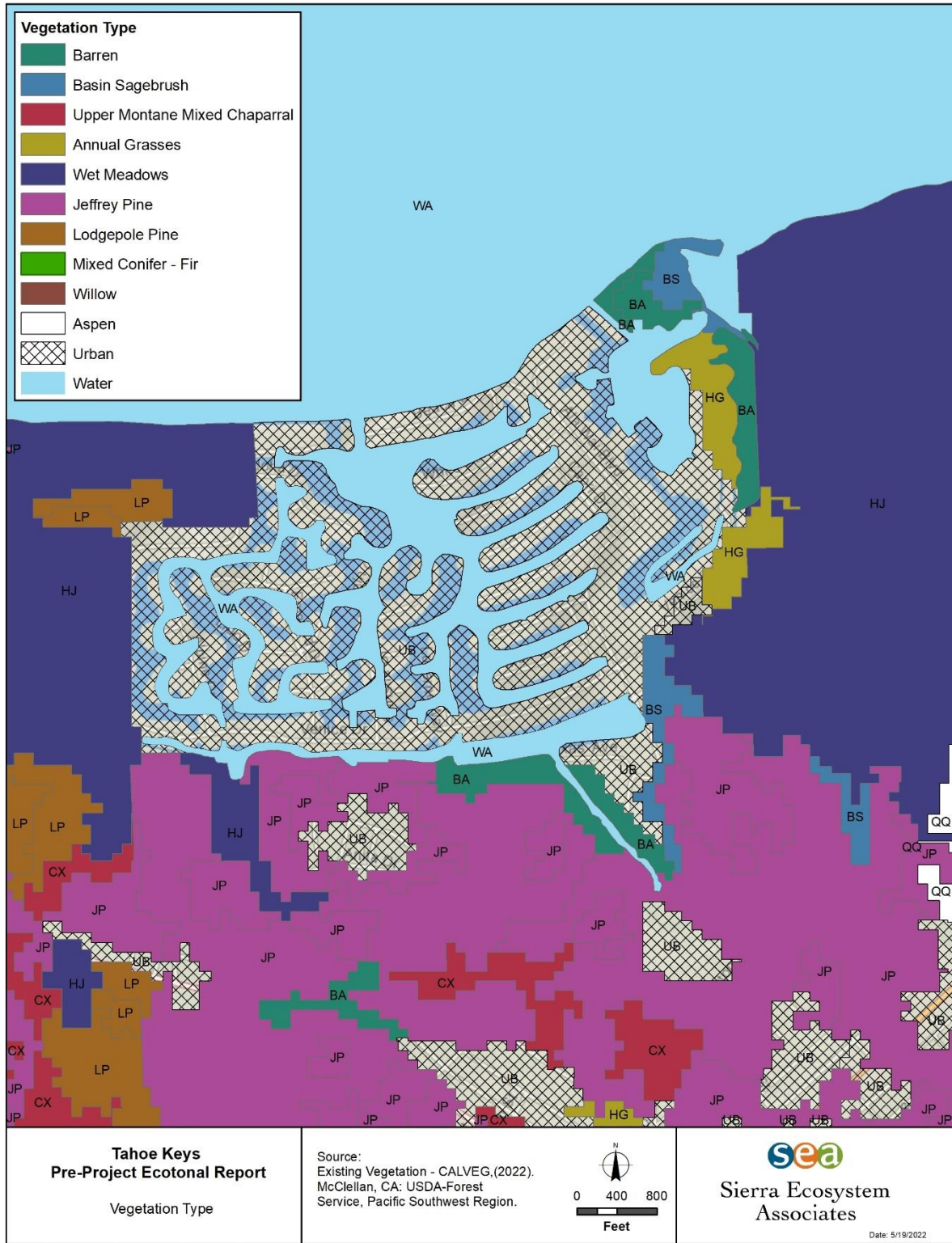
3.1 Wetland Features

Wetland habitat in the West Lagoon is minimal. The deepwater vegetation are comprised of mostly coontail, Eurasian milfoil, and curlyleaf pondweed (SEA 2021). Emergent wetland vegetation is almost nonexistent and shorezone areas are dominated by landscaping, seawalls, and maintained sandy beaches. Lake Tallac has a more natural wetland shorezone on the southern shore with the same deepwater aquatic plants, but with assorted wetland facultative and obligate plants such as *Juncus* ssp, *Salix* ssp, and *Carex* ssp. The shallow areas are dominated by watershield on the surface

3.2 Vegetation Classification

The vegetation within the West Lagoon is mainly planted ornamental species with a mix of native lodgepole and Jeffrey pine. The surrounding area (to the east and west of the Keys development) is a mix of lodgepole pine, wet meadow, and marsh. The vegetation types can be seen in Figure 3.

Figure 3. Vegetation Classification



4.0 DISCUSSION

The following section provides details on Project impacts and the specific habitat characteristics for potential threatened, endangered, and sensitive (TES) species that are present at the CMT treatment sites. TES species, which are listed in Table 1, are plants and animals that historically occur in the surrounding area and those with potential habitat.

4.1 Plants

Tahoe yellow cress (*Rorippa subumbellata*)

Tahoe yellow cress prefers the sandy habitat that exists primarily on the southern shores of Lake Tahoe. Historic and current occurrences exist outside the Tahoe Keys lagoons on the shore of Lake Tahoe. Habitat is very poor within the treatment areas with little bare sandy beaches. Treatment activities are not likely to cause impacts to this species.

4.2 Animals

Bald eagle (*Haliaeetus leucocephalus*)

Bald eagle is listed as endangered in California. Bald eagles forage in large bodies of water. They typically nest in large trees adjacent to a body of water. Foraging habitat in the Tahoe Keys lagoons is good. Nesting occurrences are common nearby with a reoccurring nest near Emerald Bay four miles to the west. The adjacent Jeffrey pine and lodgepole forests to the south may offer potential nesting sites, but treatment activities are unlikely to adversely impact this species have significant effects.

Bank swallow (*Riparia riparia*)

The bank swallow is a state-listed Threatened species. This colonial species nests along steep vertical banks, cliffs, or bluffs along perennial waters. The bank soil must be soft enough for burrowing (Zeiner 1990). There are no treatment areas that could provide suitable habitat for this species. Much of this area appears to be flat sandy soil with no eroded banks, which is not ideal for bank swallows. Adverse impacts to this species are not likely.

Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*)

Optimal stream habitat is characterized by clear, cold water with silt-free substrate and a 1:1 pool-riffle ratio. Streams should have a variety of habitats including areas with slow deep water, abundant instream cover (i.e., large woody debris, boulders, undercut banks), and relatively stable streamflow and temperature regimes. Streambanks should be well vegetated to provide cover, shade, and bank stabilization (Hickman and Raleigh 1982). This type of habitat is not present in the CMT Project area, and treatment activities are not likely to cause impacts to this species.

Northern goshawk (*Accipiter gentilis*)

Northern goshawk is a CDFW Species of Special Concern. Goshawks typically live in large tracts of coniferous forests and on forest edges. Foraging and potential nesting habitat does not exist within the CMT Project treatment areas. Goshawks prefer areas with little to no human activity. Treatment activities are not likely to cause impacts to this species.

Sierra Nevada yellow-legged frog (*Rana sierrae*)

The Sierra Nevada yellow-legged frog (SNYLF) is federally listed as endangered and listed as threatened in California. This amphibian inhabits lakes, tarns, ponds, meadow streams, isolated pools, and sunny riverbanks in the Sierra Nevada Mountains. Waters that do not freeze to the bottom and that do not dry up are required. It prefers open shorelines that gently slope up to shallows of a few inches (CalHerps 2017). Habitat for this species is very poor in the CMT Project area. Invasive fish such as small mouth bass make this species unlikely to occur with the Treatment area. Treatment activities are not likely to cause impacts to this species.

Willow flycatcher (*Empidonax traillii*)

This species is listed as Threatened in California. The willow flycatcher prefers dense riparian vegetation such as willows and cottonwoods along meadows and streams. Based on field observations, habitat is poor to non-existent. No areas of dense riparian vegetation exist within the Treatment area.

Osprey (*Pandion haliaetus*)

Osprey is on the CDFW species Watch List. Osprey prefer a wide range of forest habitat near lakes, rivers, and coastal waters with adequate supplies of fish. They require large snags or other suitable nesting platforms within 15 miles of fishable water. Foraging habitat is good within the CMT Project treatment areas although nesting sites are poor. The adjacent Jeffrey pine and lodgepole forests to the south may offer potential nesting sites, but treatment activities are unlikely to adversely impact this species.

Mountain whitefish (*Prosopium williamsonii*)

Mountain Whitefish generally inhabits clear, cool waters of high elevation streams, rivers, and lakes. It is a CDFW Species of Special Concern. Warm turbid waters within the Tahoe Keys lagoons offer poor habitat for mountain whitefish. Treatment activities are not likely to cause impacts to this species.

4.3 Summary

Overall habitat for special status species is very poor due to:

- Lack of native vegetation
- Abundance of non-native fish
- Frequent and widespread human activity
- Increased water temperature and turbidity of the lagoons
- Lack of nesting areas for birds such as large trees, shrubs, and banks

No raptors were observed nesting during the field survey. No nests from previous years were observed. Osprey were observed hunting in the lagoons. Bald eagles commonly forage throughout the lagoons. No other occurrences of threatened, endangered, or other special status species were observed during the field survey.

5.0 REFERENCES

CaliforniaHerps. 2017. *Rana sierrae* – Sierra Yellow-legged Frog. Online:
<http://www.californiaherps.com/frogs/pages/r.sierrae.html>

SEA (Sierra Ecosystems Associates) Annual Macrophyte Surveys for TKPOA 2021.

Zeiner et.al.1990. Zeiner, D.C., W.F. Laudenslayer, Jr., K.E. Mayer and M. White 1990
California's Wildlife: Volumes 1-3: CA Department of Fish and Game, Sacramento, CA.

6.0 LIST OF PREPARERS

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Appendix A

Project Photos

Photo 1. Typical Conditions in the West Lagoon with seawalls and rocked banks



Photo 2. Lake Tallac east shore



Photo 3. Lake Tallac east shore



Photo 4. Typical conditions in the West Lagoon – Site 1



Photo 5. Typical conditions in the West Lagoon – Site 22



Photo 6. Typical conditions in the West Lagoon – Site 23



Photo 7. Turbidity curtain installation north of Site 15



Photo 8. Interface between deepwater and emergent wetland vegetation commonly maintained beaches

