

APPENDIX D: BIOLOGICAL EVALUATION AND ASSESSMENT

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United States Department of Agriculture-Forest Service
Lake Tahoe Basin Management Unit

BIOLOGICAL ASSESSMENT / BIOLOGICAL EVALUATION

Aquatic and Terrestrial Wildlife Species, Plants and Fungi

for the

**Kings Beach Water Quality and Stream Environment Zone Improvement Project
Environmental Assessment**

Kings Beach, Placer County, California

November 11, 2008

Prepared by: _____ Date: _____

Placer County (with assistance from ENTRIX, Inc.)

Reviewed by: _____ Date: _____

Biologist, LTBMU

Reviewed by: _____ Date: _____

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Reviewed by: _____ Date: _____

Botanist, LTBMU

I. INTRODUCTION

The U.S. Department of Agriculture, Forest Service (USFS) Lake Tahoe Basin Management Unit (LTBMU) receives Erosion Control Grants money that provides Federal Assistance to local Tahoe Basin governments for erosion and sediment control projects that are located on non-Federal lands and that provide benefit to Federal land. This grant program is authorized under Section 7 of the Lake Tahoe Restoration Act (LTRA) (Public Law 106-506) and administered by the LTBMU using the Catalog of Federal Domestic Assistance number 10.672. These funds are available to the governing bodies of political subdivisions within the Lake Tahoe Basin for the purpose of planning, designing, implementing, and monitoring urban erosion control water quality treatment projects.

Accordingly, the LTBMU is providing funding for the water quality component of the Kings Beach Water Quality and SEZ Improvement Project (Project); therefore, the Project is to comply with USFS funding regulations and obtain a Special Use Permit (SUP) from the LTBMU. Issuance of the SUP authorizes construction of erosion control measures on two USFS-LTBMU parcels, APN 090-030-033 and APN 090-030-005.

This Biological Assessment/Biological Evaluation (BA/BE) analyzes potential effects of the Project in compliance with the National Environmental Policy Act (NEPA) and the requirements for interagency cooperation identified under section 7 of the Endangered Species Act (ESA), as amended (16 U.S. Government Code [USC] 1536[a]). Additionally, this document is compliant with the Forest Service Manual 2672.42, which requires the consideration of impacts to federal species of concern, state candidate or listed threatened and endangered species, state species of special concern, and special interest plant species that have been identified by the LTBMU. The BA is concerned with species and critical habitat listed under the federal ESA as threatened or endangered, and species proposed for such listing, while the BE caters to USFS forest sensitive species. Together, the combined BA/BE provides a process through which ESA-listed, forest sensitive, and other special status species receive full consideration in the Project's decision-making process.

The following will be addressed via this document:

- Species listed as threatened or endangered and critical habitat under the federal ESA, species proposed or a candidate for such listing, and designated critical habitat
- USFS LTBMU sensitive species
- Species listed as rare, threatened, or endangered under the California Endangered Species Act (CESA)
- California species of special concern
- California fully protected species
- Tahoe Regional Planning Agency (TRPA) special interest species

This document also contains a Management Indicator Species report, a Noxious Weed Risk Assessment, and a Willow Flycatcher Survey report. They are included as appendices at the end of this BA/BE.

The Project is located in the Lake Tahoe Basin within the community of Kings Beach, Placer County, California (T16N, R17E, portions of the SE $\frac{1}{4}$ of Section 12, portions of the NE $\frac{1}{4}$ of Section 13; T16N, R18E, portions of the SW $\frac{1}{4}$ of Section 18, the NW $\frac{1}{4}$ of Section 19, portions of the NE $\frac{1}{4}$ section 19, portions of SW $\frac{1}{4}$ of section 19 and portions of the SE $\frac{1}{4}$ of section 19). See Figures 1 and 2 below.

II. CONSULTATION TO DATE

Pre-field Review of Existing Information

Prior to implementation of field surveys of the LTBMU parcels and the entire Project area, a desktop review of existing information was performed for special status species. ENTRIX requested an official list of federally protected species for the Kings Beach (538A) and Martis Peak (554d) USGS 7 1/2' quadrangles from the Sacramento Office of the USFWS. The USFWS provided the list on July 15, 2008, via the agency's website: www.fws.gov/sacramento/es/. The results of this request are provided as Appendix D of this BA/BE. ENTRIX also requested and received a list of sensitive species from the USFS-LTBMU. The Regional Plan for the Lake Tahoe Basin: Goals and Policies (1986) and Code of Ordinances (1987), was consulted to analyze TRPA species in the Project area. A list of resources consulted is provided below:

- U.S. Fish and Wildlife Service (USFWS) List of Federal Endangered and Threatened Species (USFWS 2007);
- LTBMU Lists of Sensitive and Management Indicator Species (USFS 2006) (<http://www.fs.fed.us/r5/lbmu/>);
- Tahoe Regional Planning Agency (TRPA) 2001 Thresholds Evaluations Report (TRPA 2002);
- Occurrence data provided by Lake Tahoe Basin Management Unit (USFS 2007a, 2007b).
- California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB; CDFG 2007);
- CDFG Special Animals List – February 2008
- CDFG Special Plants List – April 2008

Field Review

Sara Ebrahim, an ENTRIX terrestrial biologist, conducted reconnaissance surveys on August 30 and 31, 2006 and September 26 and 29, 2006 to assess habitat and potential occurrences of special-status species within the Project area. The reconnaissance surveys involved walking the Griff Creek corridor, driving the Kings Beach neighborhood, and visually surveying accessible segments of the Coon Creek corridor. Observations of specific features were noted, and locations of specific features were recorded with a GPS unit or on Project area aerial photos. Habitat suitability was assessed for special-status wildlife identified during the literature review as having potential to occur within the Project area. Habitat was assessed for cover, forage, breeding habitat suitability, disturbance, and other features and characteristics. In June and July of 2007, Ms. Ebrahim performed USFS protocol-level surveys (Bombay et al. 2000) in Project areas likely to possess willow flycatcher (*Empidonax traillii*) habitat. Tom Taylor, an ENTRIX fisheries biologist, conducted a fish access and habitat survey of Griff Creek on July 9, 2007.

Julie Etra, a botanist from Western Botanical Services Inc. (WBS), conducted vegetation surveys on July 11, 2007, August 6, 2007, and July 8, 2008. Public properties were surveyed on foot, while private properties, due to access restrictions, were surveyed from a slowly moving automobile (stopping to enable extended observation when deemed necessary). Although a small fraction of the Griff Creek SEZ is part of the Project, the entire SEZ upstream to Griff Lane was carefully surveyed by following transects roughly 10 feet apart, meandering where needed to cover all habitat. The commercial corridor was not surveyed where hard cover precluded plant establishment. All species were identified to the lowest taxonomic level possible. Noxious weed locations were recorded with a GPS unit, or by direct mapping

where conditions such as dense vegetation stymied the GPS unit. General community structure and condition was noted. The lower drainage of Griff Creek was not surveyed since private property limited access, and the Kings Beach shore zone was not surveyed for Tahoe Yellow Cress. These surveys will be conducted before Project designs are finalized, and designs will be modified if necessary to avoid sensitive species.

III. CURRENT MANAGEMENT DIRECTION

Current management direction on desired future conditions for Threatened, Endangered, Sensitive and Management Indicator Species on the LTBMU can be found in the following documents, filed at the Supervisor's Office:

- Forest Service Manual and Handbooks (FSM/H 2670)
- National Forest Management Act (NFMA)
- Endangered Species Act (ESA)
- National Environmental Policy Act (NEPA)
- Lake Tahoe Basin Management Unit Land and Resource Management Plan (LRMP)
- Species-specific Recovery Plans which establish population goals for recovery of those species
- Sensitive species list, accounts, and life history (Wildlife Department Files)
- Species management plans
- Species management guides or Conservation Strategies
- Regional Forester policy and management direction
- Sierra Nevada Forest Plan Amendment (2004)
- TRPA Code of Ordinances

IV. DESCRIPTION OF ACTION AREA AND PROPOSED PROJECT

The Project is located in Kings Beach, California (Figure 1). The Project's southern border is Lake Tahoe while the western, northern, and eastern boundaries of the Project are generally defined respectively by State Route 267, the northernmost lots along Speckled Avenue, and the easternmost lots along Park Lane (Figure 2). The Griff Creek stream environment zone (SEZ) is located along the west edge of Kings Beach; proposed work within the Griff Creek SEZ would occur at two small locations: 1) on the north side of the Speckled Avenue crossing, and 2) at the west end of Cutthroat Avenue (Figure 2). No work will occur in the waters of Griff Creek nor Lake Tahoe.

The Project would occur primarily on Placer County and California State Conservancy (CTC) land, but would also require use of a portion of two USFS parcels for implementation of erosion control measures. These USFS parcels are located at the northern boundary of the Project area. One, APN 090-030-033, is located north of Speckled Ave (Figure 3). The other, APN 090-030-005, is located east of Beaver Street (Figure 4). Erosion control facilities are proposed in both parcels, although disturbance to these parcels will be minimal. Both of these USFS parcels, as well as the entire Project area (for funding purposes), will be analyzed for potential Project level effects on species listed in this document.

Placer County Department of Public Works proposes to improve the quality of stormwater discharging into Lake Tahoe from the Kings Beach community by stabilizing exposed soils with vegetation and/or mulch; improving the existing drainage system with new curbs, gutters and underground pipes; and

treating runoff with a variety of methods including sediment traps and vaults, swales, infiltration and/or detention basins, and media filters. Improving the quality of runoff from the proposed Project area into Lake Tahoe is important to the basin-wide effort to protect the lake's water clarity. Construction activities will include the use of heavy equipment such as front loaders, backhoes, dump trucks, concrete mixers, pumps, generators, compressors, rock drills, jackhammers, saws and vibrators. Construction is expected to start May 2009. Construction duration is expected to be 10 years. The proposed Project actions are described in more detail in the Draft Environmental Compliance Document prepared for the Project, from which this document is tiered.

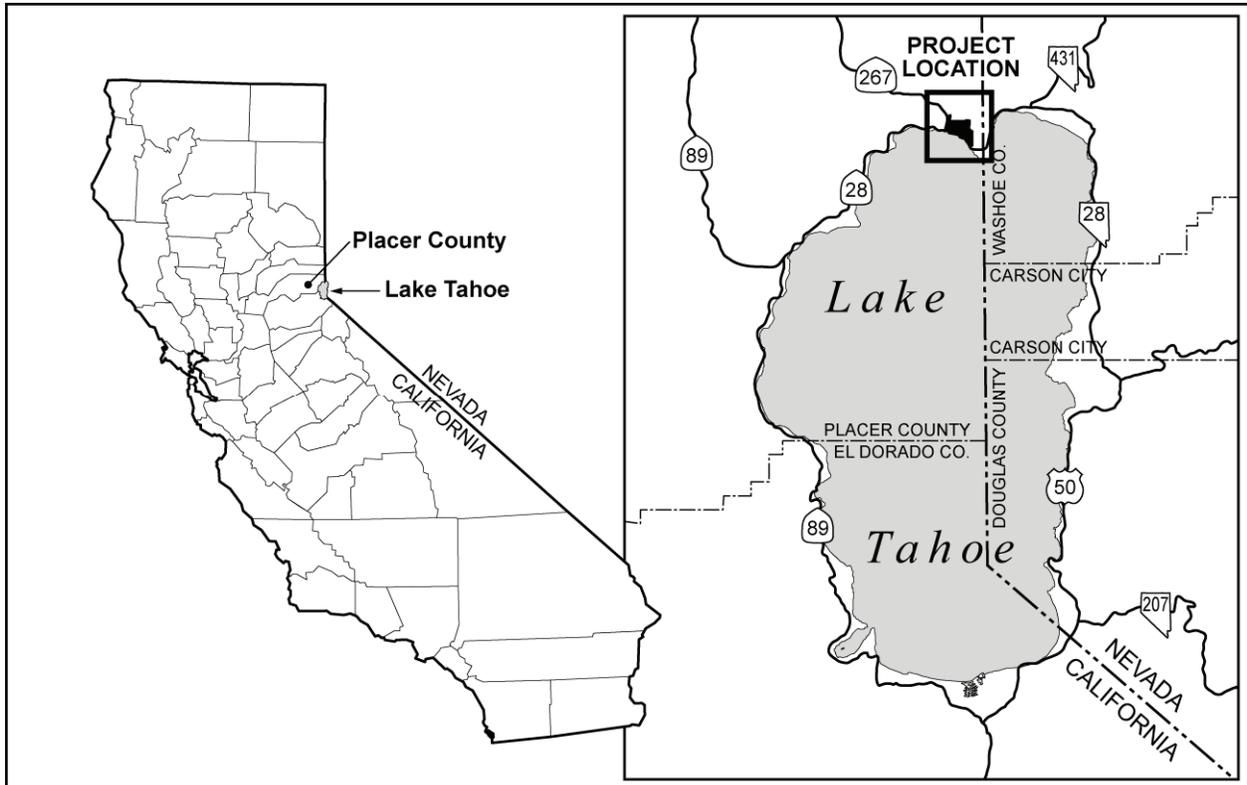
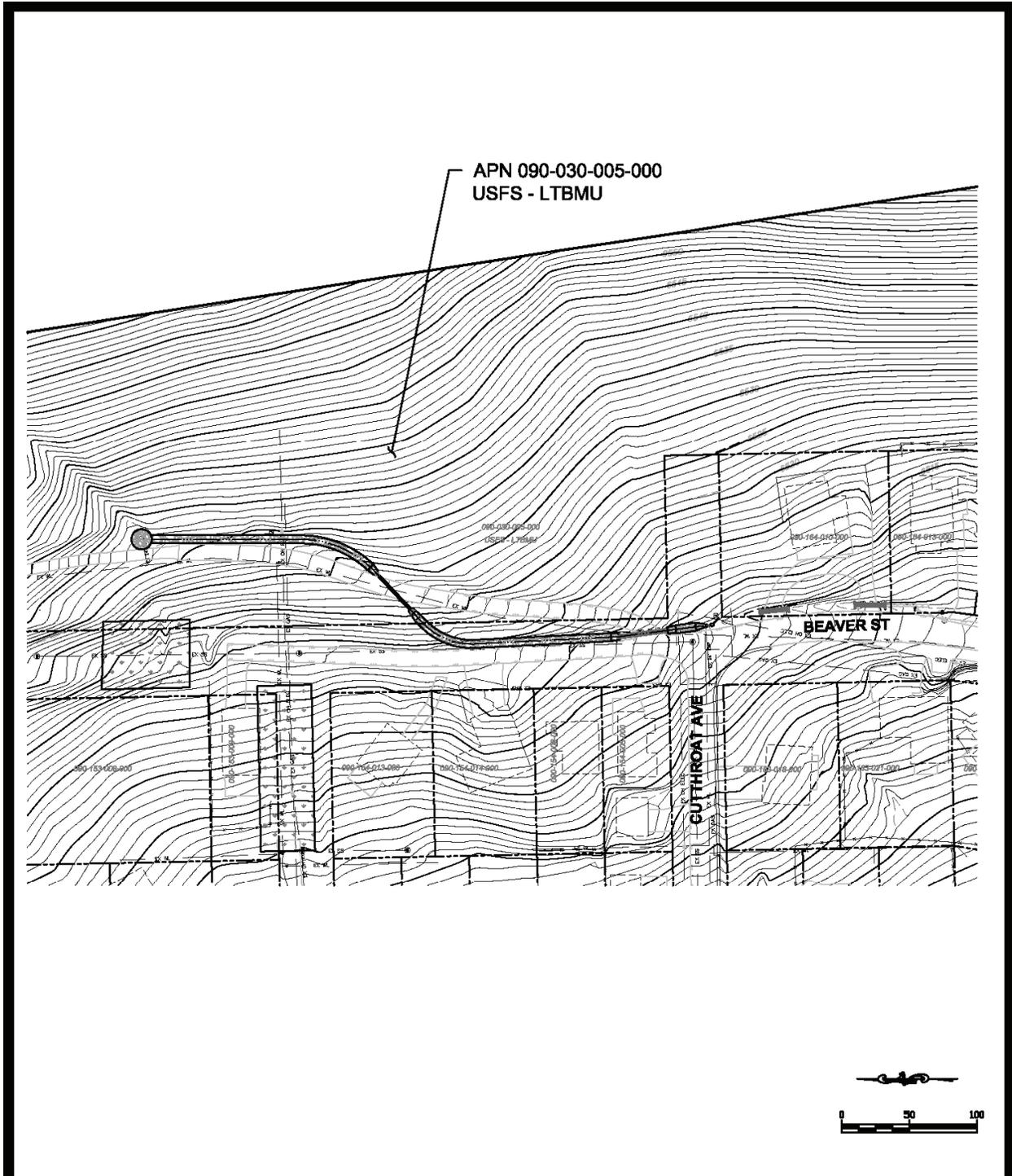


Figure 1. Project location



Figure 2. Project area map (Sources: USGS 1992 and Placer County 2007-2008)



PLACER COUNTY
DEPARTMENT OF PUBLIC WORKS

KINGS BEACH
EROSION CONTROL PROJECT
FOREST SERVICE ACQUISITION MAP
APN: 090-030-005-000

FIGURE

4

DATE: 5/5/08

PROJECT NO.:

BY:

Existing Environment

The majority of the Project area subject to proposed improvements is heavily developed as residential area. As a result, limited wildlife habitat is present except on the margins of the Project site. The northern and western margins of the site are adjacent to forested montane environments; these areas support Jeffrey pine and mountain alder habitat and associated wildlife species. The remaining dominant native vegetation communities in the Project area are mountain alder/mixed willow and Jeffrey pine. These vegetation types roughly correspond to the communities described in *A Manual of California Vegetation* (Sawyer and Keeler-Wolf 1995). However, neither fits neatly into the communities as field-verified in the Project area.

Mountain alder/mixed willow

The Griff Creek vegetation community roughly corresponds to the typical mountain alder series described in Sawyer and Keeler-Wolf (1995). However, several species of willows located in the Project area differ from typical series, and big-leaf maple (*Acer macrophyllum*) does not occur in the Project area. Conifers, particularly Jeffrey pine and white fir, form a significant part of the overstory. Therefore, there is a Jeffrey pine series component to this drainage. Creeping snowberry (*Symphoricarpos mollis*) is a dominant understory species along with thimbleberry (*Rubus parviflorus*). Species of willow include Lemmon's willow (*Salix lemmonii*), Scouler's willow (*S. scouleriana*), and shining willow (*S. lucida. var. lasiandra*). Red osier dogwood (*Cornus sericea*) is also a common shrub along the creek.

Jeffrey pine

The Jeffrey pine series is the dominant vegetation type throughout the Kings Beach area. Much of this area has been altered as the result of residential and commercial development, including landscaped residences. The surrounding overstory vegetation is dominated by Jeffrey pine (*Pinus jeffreyi*) with occasional white fir (*Abies concolor*) and incense cedar (*Calocedrus decurrens*). Although the understory is poorly vegetated, common shrub species identified in the area included greenleaf manzanita (*Arctostaphylos patula*) and bitterbrush (*Purshia tridentata*).

Wetlands

Small potential wetlands associated with the Griff Creek drainage were identified by Sara Ebrahim (ENTRIX biologist) during the 2006 habitat surveys (Figure 5). The potential wetlands were informally delineated in the field based on hydrology and vegetation characteristics, but soils were not analyzed pursuant to U.S. Army Corps of Engineers guidance. A formal wetland delineation will be performed before Project designs are finalized.

Aquatic habitat

A 2007 survey by ENTRIX fisheries biologist Tom Taylor determined that during high flows, medium to large lake-run fish can access Griff Creek at least up to Cutthroat Avenue, and possibly up to Griff Lane. Cambridge Drive represents the upstream limit of fish migration, as the culverts there are impassable for fish at all flows (ENTRIX 2007).

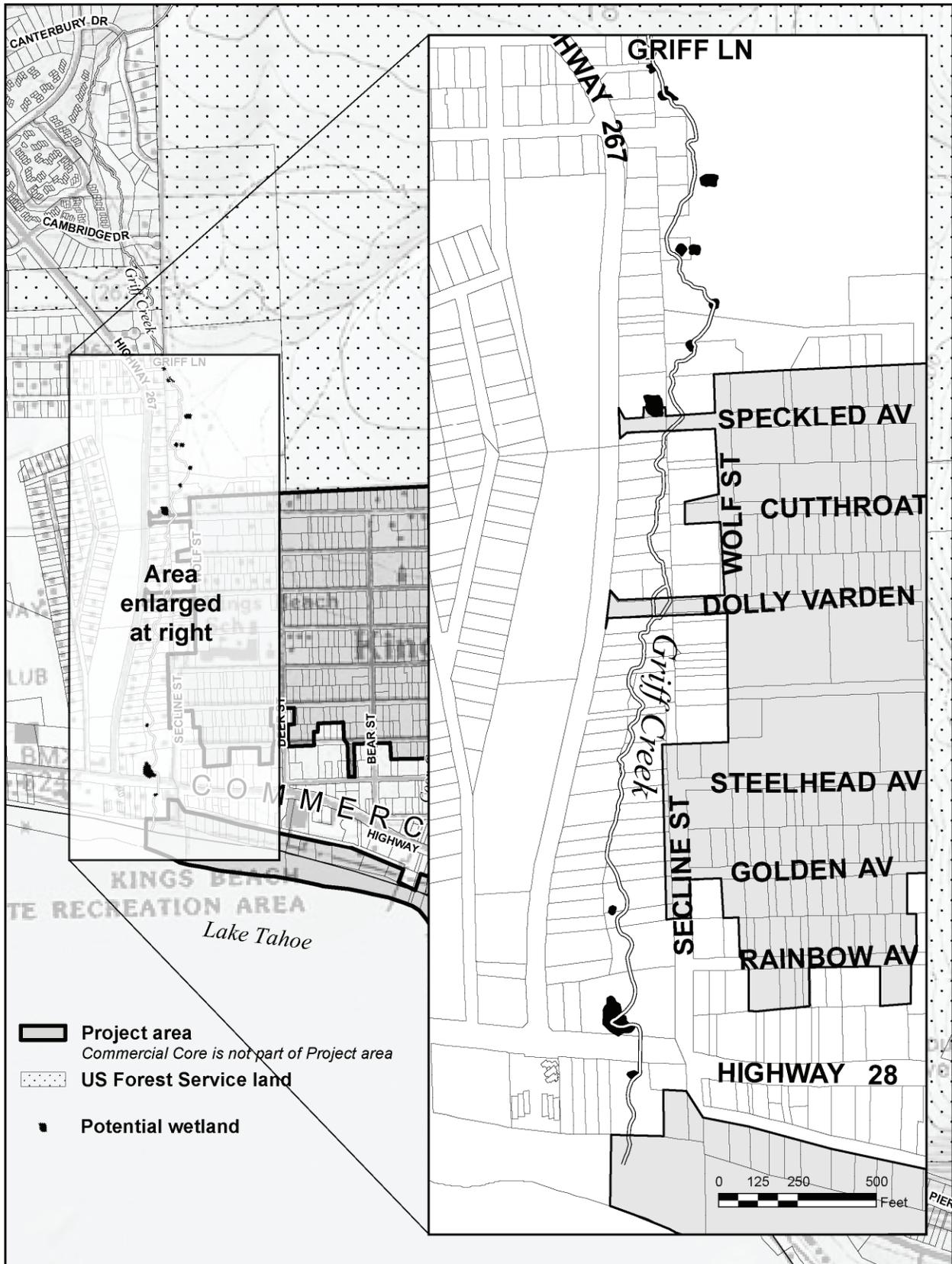


Figure 5. Locations of potential wetlands identified during 2006 habitat surveys. All are in the Griff Creek SEZ.

Young-of-the-year rainbow trout (*Onchorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*) fry were observed in the channel upstream to Griff Lane, and there is reasonably good rearing habitat for trout fry up to that point. Juvenile brook trout (6-8 inches) were observed in several small pools up to Cutthroat Avenue. Lahontan speckled dace (*Rhynchichthys osculus robustus*), a small (3-4 inches) native minnow, was only found in the lower cobble-dominated section of Griff Creek between Lake Tahoe and State Route (SR) 28. Conditions upstream from SR28 prevent these small fish from migrating further upstream, and upstream habitat for speckled dace is poor, lacking large substrate elements preferred by this species.

Lake-run rainbow trout spawn in the spring, and evidence exists that large (16-18 inches) adult rainbow trout have migrated up Griff Creek to a large pool just upstream from Dolly Varden Avenue. The occurrence of rainbow trout fry throughout the surveyed reach is an indication of successful spawning from lake-run rainbow trout, even with Griff Creek's substantial deficiencies in regard to fish passage. For brown trout (*Salmo trutta*), however, low flows during the fall create impassable conditions which limit their migration (brown trout spawn in the fall).

No other fish were observed during the survey, and it is unlikely that a stream as small as Griff Creek would support a year-round population of adult rainbow or brown trout.

V. POTENTIALLY AFFECTED SPECIES, EFFECTS OF THE PROPOSED PROJECT, AND DETERMINATIONS (VEGETATION)

The Project assessment considered special-status plant species, which included:

- USFWS listed endangered, threatened, and candidate species (USFWS 2006)
- USFWS species of concern (SC); receives no legal protection (USFWS 2006)
- California endangered, threatened, rare and candidate species (CNPS 2001)
- LTBMU sensitive species (FSS) (USFS 2006)
- TRPA special interest species (TRPA-SI) (TRPA 1982).

Twenty-four (24) special-status botanical species were initially identified as potentially occurring in the Kings Beach Project area. Of these, thirteen (13) species are not expected to occur within the Project area due to range, elevation, and habitat limits.

Species not expected to occur in the Project area will not be discussed further in this assessment. These species include: Galena Creek rock cress (*Arabis rigidissima* var. *demota*), Tiehm's rockcress (*Arabis tiehmii*), Tahoe draba (*Draba asterophora* var. *asterophora*), Cup Lake draba (*Draba asterophora* var. *macrocarpa*), Starved daisy (*Erigeron miser*), Donner Pass buckwheat (*Eriogonum umbellatum* var. *torreyanum*), Subalpine fireweed (*Epilobium howellii*), Hutchinson's lewisia (*Lewisia kelloggii* ssp. *Hutchinsonii*), Kellogg's lewisia (*Lewisia kelloggii* ssp. *kelloggii*), Long-petaled lewisia (*Lewisia longipetala*), Blandow's bog-moss (*Helodium blandowii*), Three-ranked hump-moss (*Meesia triquetra*), and Broad-nerved hump-moss (*Meesia uliginosa*).

The following tables provide plant species information specific to the Project.

Table 1. Listing status of special status plant species potentially occurring in the Lake Tahoe Basin.

Scientific Name	Common Name	LTBMU	FED List	CA State List	CNPS	TRPA	Found on LTBMU
<i>Arabis rigidissima var demota</i>	Galena Creek rock cress	FSS	SC		1B.2		Yes
<i>Arabis tiehmii</i>	Tiehm's rock cress	FSS			1B.3		No
<i>Botrychium ascendens</i>	Upswept moonwort	FSS	SC		2.3		No
<i>Botrychium crenulatum</i>	Scalloped moonwort	FSS	SC		2.2		Yes
<i>Botrychium lineare</i>	Slender moonwort	FSS			1B.3		No
<i>Botrychium lunaria</i>	Common moonwort	FSS	SC		2.3		No
<i>Botrychium minganense</i>	Mingan moonwort	FSS			2.2		Yes
<i>Botrychium montanum</i>	Western goblin	FSS			2.1		Yes
<i>Bruchia bolanderi</i>	Bolander's candle moss	FSS			2.2		Yes
<i>Dendrocollybia racemosa</i>	Branched collybia	FSS					Yes
<i>Draba asterophora var asterophora</i>	Tahoe draba	FSS	SC		1B.3	SI	Yes
<i>Draba asterophora var macrocarpa</i>	Cup Lake draba	FSS			1B.3	SI	Yes
<i>Epilobium howellii</i>	Subalpine fireweed	FSS			1B.3		Yes
<i>Erigeron miser</i>	Starved daisy	FSS			1B.3		No
<i>Eriogonum umbellatum var. torreyanum</i>	Torrey's or Donner Pass buckwheat	FSS	SC		1B.2		No
<i>Helodium blandowii</i>	Blandow's bog moss	FSS			2.3		No
<i>Hulsea brevifolia</i>	Short-leaved hulsea	FSS	SC		1B.2		No
<i>Lewisia kelloggii ssp kelloggii</i>	Kellogg's lewisia	FSS					No
<i>Lewisia kelloggii ssp.hutchisonii</i>	Kellogg's lewisia	FSS			3.3		No
<i>Lewisia longipetala</i>	Long-petaled lewisia	FSS			1B.3	SI	Yes
<i>Meesia triquetra</i>	Three-ranked hump-moss	FSS	SC		2.2		Yes
<i>Meesia uliginosa</i>	Broad-nerved hump-moss	FSS			2.2		Yes
<i>Peltigera hydrothyria</i>	Veined water lichen	FSS					No
<i>Rorippa subumbellata</i>	Tahoe yellow cress	FSS	FC	CE	1B.1	SI	Yes

FSS = USFS LTBMU Sensitive Species, Regional Forester's Sensitive Species List, Region 5, Amended 2006
 SI = TRPA Special Interest Species, Regional Plan for the LTBMU: Goals and Policies (1986) and Code of Ordinances (1987)
 CA STATE LIST: CR = rare CT = threatened CE = endangered
 FED LIST: FC = Candidate for Endangered SC = Species of concern

CNPS LIST

1A = presumed extinct in CA, 1B = Rare or Endangered in CA and elsewhere
 2 = Rare or Endangered in CA but more common elsewhere
 3 = Plants need more information - Review list
 4 = Plants of limited distribution - Watch List

CNPS Threat Code extensions

.1 - Seriously endangered in CA (over 80% of occurrences threatened / high degree and immediacy of threat)
 .2 - Fairly endangered in CA (20-80% occurrences threatened)
 .3 - Not very endangered in CA (<20% of occurrences threatened or no current threats known)

Source: USFS, 2006

Table 2. Habitat characteristics of special-status plant species potentially occurring in the Lake Tahoe Basin, and occurrence of habitat in Project area.

SPECIES	SUITABLE HABITAT IN PROJECT AREA	HABITAT CHARACTERISTICS
<i>Arabis rigidissima</i> var demota Galena rock cress	No	Species is found in open rocky areas along forest edges of conifer and/or aspen stands. Usually found on northerly aspects above 7,500 feet (ft). Regional endemic, known to occur only in the Carson Range of the Sierra Nevada in southern Washoe County. The Project area contains no habitat meeting the required specifications.
<i>Arabis tiehmii</i> Tiehm's rock cress	No	Steep outcrops, talus, and scree of weathering volcanic deposits, on ridge tops or on steep, mostly west to north aspects, frequently in dry drainages, with sparse cover. Species is known from open rocky soils in the Mt. Rose Wilderness. The Project area contains no habitat meeting the required specifications.
<i>Botrychium ascendens</i> Upswept moonwort	Potential	Botrychium species share similar preferences in habitat, i.e. wet or moist soils such as marshes, meadows, and along the edges of lakes and streams at elevations between 4,700 and 9,000 ft. They generally occur with mosses, grasses, sedges, rushes, and other riparian vegetation.
<i>Botrychium crenulatum</i> Scalloped moonwort	Potential	See <i>Botrychium ascendens</i>
<i>Botrychium lineare</i> Slender moonwort	Potential	See <i>Botrychium ascendens</i>
<i>Botrychium lunaria</i> Common moonwort	Potential	See <i>Botrychium ascendens</i>
<i>Botrychium minganense</i> Mingan moonwort	Known to occur in Project area	See <i>Botrychium ascendens</i>
<i>Botrychium montanum</i> Western goblin	Potential	See <i>Botrychium ascendens</i>
<i>Bruchia bolanderi</i> Bolander's candle moss	Potential	Found in lower and upper montane coniferous forest, meadows and seeps, and damp soil at 5,600-9,200 feet in ephemeral habitats such as the sides of ditches or streams in wet meadows. This moss tends to grow on bare, slightly eroding soil where there is little competition from other vegetation. It is documented from Yosemite National Park south to Sequoia National Forest in Tulare County and from Plumas County on Plumas National Forest. There is also one known location within the Lake Tahoe Basin.
<i>Dendrocollybia racemosa</i> Branched collybia	Potential	This mushroom is a mycoparasite growing on old decayed or blackened mushrooms or occasionally in coniferous duff, usually within old growth stands. There is one known location within the Lake Tahoe Basin.
<i>Draba asterophora</i> var. <i>asterophora</i> Tahoe draba	No	Species is found in rock crevices and open granite talus slopes at high elevations between 8,000 to 10,200 ft on north-east facing slopes. Populations within the Lake Tahoe basin occur on the slopes of Mt. Rose, in Washoe County, and on the slopes of Freel Peak and Job's sister, in El Dorado and Alpine Counties. The Project area contains no habitat meeting the required specifications.
<i>Draba asterophora</i> var. <i>macrocarpa</i> Cup Lake draba	No	This species is found on steep, gravelly or rocky slopes at elevations of 8,400 to 9,235 ft. Is known to occur in only two locations, both within Desolation Wilderness, El Dorado County, near Cup Lake and Saucer Lake. The Project area contains no habitat meeting the required specifications.
<i>Epilobium howellii</i> Subalpine fireweed	No	Plants are known from wet meadows and mossy seeps at 6,500 to 9,000 ft in subalpine coniferous forest. Wet habitats in the Project area are outside the elevation range.
<i>Erigeron miser</i> Starved daisy	No	Plants are known from high elevation granitic rock outcrops above 6,000 ft. Have been found in Nevada and Placer counties. The Project area contains no habitat meeting the required specifications.
<i>Eriogonum umbellatum</i> var. <i>torreyanum</i> Torrey's or Donner Pass buckwheat	No	This plant occurs in meadows and seeps and upper montane coniferous forest on volcanic rocky substrate between 5,500 to 7,800 feet and is known from fewer than ten occurrences. Counties of occurrence include Sierra, Nevada, and Placer. The Project area contains no habitat meeting the required specifications.

SPECIES	SUITABLE HABITAT IN PROJECT AREA	HABITAT CHARACTERISTICS
<i>Helodium blandowii</i> Blandow's bog-moss	No	Habitat for this moss is in bogs and fens, wet meadows, and along streams under willows. It is known from various locations in the United States, Canada, and Europe including California Michigan, Colorado, Wisconsin, New Jersey, and other states in the midwest. The Project area contains no habitat meeting the required specifications.
<i>Hulsea brevifolia</i> Short-leaved hulsea	Potential	This plant occurs on rocky, granitic or volcanic soils of forest opening and road cuts in the upper montane coniferous forest between 4,920 to 8,860 ft. The plant is known to occur in Tulare, Fresno, Madera, Mariposa, Tuolumne and El Dorado Counties. There are no known occurrences within the Lake Tahoe Basin.
<i>Lewisia kelloggii ssp. hutchisonii</i> Hutchison's lewisia	No	Habitat for this plant occurs on ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil from about 5,000 to 7,000 ft. Known occurrences of the plant are in Butte, Sierra, Plumas, Nevada, El Dorado and Amador Counties. There are no known occurrences within the Lake Tahoe Basin. The Project area contains no habitat meeting the required specifications.
<i>Lewisia kelloggii ssp. kelloggii</i> Kellogg's lewisia	No	See above. Known occurrences of the plant are in Plumas, Sierra, Nevada, Placer, El Dorado, Mariposa and Madera Counties. There are no known occurrences within the Lake Tahoe Basin. The Project area contains no habitat meeting the required specifications.
<i>Lewisia longipetala</i> Long-petaled lewisia	No	This species occurs on the northerly exposures on slopes and ridge tops at elevations between 8,000 and 12,500 ft where snow banks persist throughout the summer. The plants are often found near the margins of the snow banks in wet soils. Populations that occur in the Lake Tahoe Basin are located in Desolation Wilderness, El Dorado County. The Project area contains no habitat meeting the required specifications.
<i>Meesia uliginosa</i> Broad-nerved hump-moss	No	This species is found in bogs and fens, and meadows in upper montane coniferous forests at elevations between 3,900 to 7,500 feet in elevation (CNPS 2001). This moss seems to prefer acidic meadows with sphagnum moss (Sphagnum), sundew (Drosera), and huckleberry (Vaccinium) associates. Cold spring fed fens in the meadow also seem essential. This species requires permanent saturation and is not found in meadows that dry out. The Project area contains no habitat meeting the required specifications.
<i>Meesia uliginosa</i> Broad-nerved hump-moss	No	This species is found in bogs and fens, and meadows and other wet ground at high elevations across the country. It has been found in China as well. The Project area contains no habitat meeting the required specifications.
<i>Peltigera hydrothyria</i> Veined water lichen	Potential	This species grows primarily on rocks ranging from small gravel to bedrock, and occasionally on wood submerged in small, clear, cold mountain streams between 1,150-7,000 feet. It is occasionally found on exposed rocks above low flow levels, where hydration from splash and humidity are high. It has also been reported from concrete head boxes at a fish hatchery, and on the inside lip of a galvanized culvert.
<i>Potamogeton filiformis</i> Slender-leaved pondweed	No	Typically found in shallow, standing, or slow moving water from 900 to 6,500 feet elevation. Often in shallows of hard-water lakes. The Project area contains no habitat meeting the required specifications.
<i>Rorippa subumbellata</i> Tahoe yellow cress	Potential	This species is endemic to the shore zone around Lake Tahoe in California and Nevada. The species is not limited to moist habitats and has been located in micro-sites that were quite dry. Typically found in back beach areas between elevations of 6,223 and 6,230 ft. Has the potential to occur at the three project outfalls, which were not surveyed prior to development of the 25% plans and details.

Source: USFS 2006, TRPA 2002

Table 3. Plant species identified in the Project area during Project surveys.

FAMILY	SCIENTIFIC NAME	COMMON NAME
Apiaceae	<i>Osmorhiza occidentalis</i>	sweet cicily
Asteraceae	<i>Achillea millefolium</i>	yarrow
	<i>Artemisia sp (frigida?)</i>	arctic sagebrush
	<i>Artemisia tridentata var. vaseyana</i>	mountain sagebrush
	<i>Crepis (acuminata)</i>	hawksbeard
	<i>Hieracium albiflorum</i>	white-flowered hawkweed
	<i>Taraxacum officinale</i>	dandelion
	<i>Tragopogon dubius</i>	oyster plant
	<i>Wyethia mollis</i>	mule's ears
Boraginaceae	<i>Cryptantha affinis</i>	cryptantha
Brassicaceae	<i>Arabis holboellii</i>	Holboell's rockcross
	<i>Descurainia pinnata</i>	tansy mustard
	<i>Erysimum capitatum var. perenne</i>	Sierra wallflower
	<i>Lepidium densiflorum</i>	peppergrass
Caprifoliaceae	<i>Symphoricarpos mollis</i>	creeping snowberry
Chenopodiaceae	<i>Chenopodium sp.</i>	pigweed, lamb's quarters
Convolvulaceae	<i>Convolvulus arvensis.</i>	field bindweed
Cupressaceae	<i>Calocedrus decurrens</i>	incense cedar
Cyperaceae	<i>Carex brainerdii</i>	Brainerd's sedge
Ericaceae	<i>Arctostaphylos patula</i>	greenleaf manzanita
	<i>Sarcodes sanguinea</i>	snow plant
Fabaceae	<i>Lupinus andersonii</i>	Anderson's lupine
	<i>Melilotus sp.</i>	sweet-blossom clover
	<i>Vicia americana</i>	American vetch
Fagaceae	<i>Chrysolepis sempervirens</i>	chinquapin
	<i>Quercus vaccinifolia</i>	huckleberry oak
Grossulariaceae	<i>Ribes nevadense</i>	Sierra current
	<i>Ribes roezlii</i>	Sierra gooseberry
Hydrophyllaceae	<i>Phacelia hastata</i>	phacelia
Lamiaceae	<i>Monardella odoratissima</i>	penny royal
Liliaceae	<i>Calochortus leichtlinii</i>	Mariposa lily
Onagraceae	<i>Clarkia rhomboidea</i>	diamond clarkia
	<i>Epilobium angustifolium</i>	fireweed
	<i>Epilobium brachycarpum</i>	willowherb
	<i>Gaypophytum diffusum</i>	spreading groundsmoke
Pinaceae	<i>Abies concolor</i>	white fir
	<i>Pinus jeffreyi</i>	Jeffrey pine
Poaceae	<i>Achnatherum occidentale</i>	Western needlegrass
	<i>Bromus carinatus</i>	California brome
	<i>Bromus inermis</i>	smooth brome
	<i>Bromus tectorum</i>	cheatgrass
	<i>Dactylis glomerata</i>	orchardgrass
	<i>Elymus glaucus</i>	blue wildrye
	<i>Elytrigia intermedia var. intermedia</i>	intermediate wheatgrass
	<i>Poa pratensis</i>	Kentucky bluegrass
	<i>Poa secunda</i>	Sandberg bluegrass
Polygonaceae	<i>Eriogonum umbellatum</i>	sulphur buckwheat
	<i>Eriogonum nudum</i>	naked buckwheat
	<i>Polygonum douglasii</i>	Douglas' knotweed
Rhamnaceae	<i>Ceanothus cordulatus.</i>	whitethorn
	<i>Ceanothus prostratus</i>	squawcarpet
	<i>Ceanothus velutinus</i>	tobaccobrush

FAMILY	SCIENTIFIC NAME	COMMON NAME
	<i>Thalictrum fendleri</i>	meadow rue
Rosaceae	<i>Amelanchier utahensis</i>	serviceberry
	<i>Potentilla glandulosa</i>	sticky cinquefoil
	<i>Potentilla gracilis</i>	cinquefoil
	<i>Purshia tridentata</i>	bitterbrush
	<i>Rosa woodsii</i> var. <i>ultramontana</i>	interior rose
Rubiaceae	<i>Kelloggia galioides</i>	kelloggia
Salicaceae	<i>Salix scouleriana</i>	Scouler's willow
Scrophulariaceae	<i>Castilleja applegatei</i>	Indian paintbrush
	<i>Verbascum thapsus</i>	wooly mullein

Source: WBS 2008

Effects and Determinations of the Proposed Project – Vegetation

Eleven (11) special-status plant species have potential to occur in the Project area. Occurrence and habitat information are discussed below. Determinations provided herein are based on the potential direct, indirect, and cumulative effects related to the existing onsite permitted use as compared to a species' ability to maintain or increase its population.

A note about wetlands and Tahoe Yellow Cress

As noted elsewhere in this document, during the vegetation surveys the lower drainage of Griff Creek was not surveyed because of limited access (private property); potential wetlands in Griff Creek were not formally delineated per USACE guidance; and the Lake Tahoe shore zone was not surveyed for the presence of Tahoe Yellow Cress. These areas and habitats will be surveyed in accordance with agency guidance before Project designs are finalized, and if any sensitive species or habitats are detected, the Project design will be modified as needed to avoid direct impacts. Temporary fence will also be erected as appropriate to protect any occurrences until Project activities are concluded.

Upswept moonwort (*Botrychium ascendens*)

Status: SC, FSS

Habitat for upswept moonwort (wet or moist soils such as marshes, meadows, and along the edges of lakes and streams at elevations between 4,700 and 9,000 ft) is present in the Project area, particularly around the potential wetlands identified by ENTRIX. Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during the field surveys. This species is not known to occur in the Tahoe basin.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Scalloped moonwort (*Botrychium crenulatum*)

Status: SC, FSS

Habitat for scalloped moonwort is present in the wet, moist soils where shading, associative species and mesic conditions occur. Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during the field surveys.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Common moonwort (*Botrychium lunaria*)

Status: SC, FSS

Habitat for Common moonwort may be present in the small potential wetlands where other *Botrychium* species can be found. Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during the field surveys. This species is not known to occur in the Tahoe basin.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements, (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Slender moonwort (*Botrychium lineare*)

Status: FC, FSS

Botrychium species share similar preferences in habitat, therefore slender moonwort is found in moist soils and along the edges of lakes and streams at elevations between 4,700 and 9,000 ft. Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during the field surveys. This species is not known to occur in the Tahoe basin.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements, (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, the Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Mingan moonwort (*Botrychium minganense*)

Status: FSS

Habitat for Mingan moonwort is present in the Project area in moist soils where shading, associative species and mesic conditions occur. LTBMU records (Reed, personal com.) indicate Mingan moonwort is not known from the Project area, but is rather found outside the Project area (upslope). Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during the field surveys.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on the occurrence upslope from the Project, nor on the species in general. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Western goblin (*Botrychium montanum*)

Status: FSS

Habitat for Western goblin is present in the Project area in moist soils where shading and mesic conditions occur. Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during the field surveys.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Bolander's candle moss (*Bruchia bolanderi*)

Status: FSS

Habitat for Bolander's candle moss is present in the Project area (montane meadows and stream banks). It is known from fewer than 10 occurrences. It is documented from Yosemite National Park south to Sequoia National Forest in Tulare County and from Plumas County on Plumas National Forest. There is also one known location within the Lake Tahoe Basin. This species was not observed during the botanical surveys.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Branched collybia (*Dendrocollybia racemosa*)

Status: FSS

This mushroom is a mycoparasite growing on old decayed or blackened mushrooms or occasionally in coniferous duff, usually within old growth stands. The Project area was effectively stripped of timber in the mid- to late- 1800's by commercial logging, making stands of old growth forest uncommon in the present day. Nonetheless, individual late-seral/old growth (LSOG) trees do exist in the Project area, although habitat conditions severely limit the potential for occurrence. There is one known location within the Lake Tahoe Basin. This species was not observed during the botanical surveys.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. This species was not observed during field surveys. Habitat that does occur is marginal. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Tahoe Yellow Cress (*Rorippa subumbellata*)

Status: FSS

Marginal habitat for Tahoe Yellow Cress is present in the Project area. This species is endemic to the shore zone around Lake Tahoe in California and Nevada, and is typically found in back beach areas between elevations of 6,223 and 6,230 ft. No plants were observed during the botanical surveys, although the surveys did not include the shore zone; however, the Kings Beach shore zone experiences enormous use, and as a result, habitat may no longer be available. The Tahoe Yellow Cress Working Group (Stanton, et al., 2007) reported three occurrences of this species at Kings Beach in 2002; however, every subsequent year through 2006 (the last year for which data is available), no occurrences were found at Kings Beach. Nonetheless, as stated elsewhere in this document, potential Tahoe yellow cress habitat will be surveyed in accordance with agency protocol before Project designs are finalized. If any occurrences of this species are found, the Project design will be modified as needed to avoid direct impacts. Temporary fence will also be erected as appropriate to protect any occurrences until Project activities are concluded.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. This species was not observed during field surveys. Habitat that does occur is marginal. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements (temporary fence will be erected and access will be denied until completion of construction).

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Veined water lichen (*Peltigera hydrothyria*)

Status: FSS

Habitat for veined water lichen may be present within the Project area as this species inhabits cold, unpolluted streams. Habitat that does occur in the Project area is good but minimal (around culverts under Griff Creek street crossings). However, no plants were observed during field surveys.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Short-leaved hulsea (*Hulsea brevifolia*)

Status: FSS

Habitat for short-leaved hulsea may be present within the Project area as this species inhabits rocky, granitic or volcanic soils of forest opening and road cuts in the upper montane coniferous forest between 4,920ft to 8,860ft. However, there are no known occurrences within the Lake Tahoe Basin, and no plants were located during field studies.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. This species was not observed during field surveys. However, this Project may disturb potential habitat. If this species is encountered during Project construction, it will be protected by following standard management requirements.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

This Project is not expected to affect individual populations, and is not expected to result in a trend towards federal listing or loss of viability for this species.

Summary of Determinations for Vegetation

Suitable habitat for the following species was identified within the Project area; however none of the species were located during surveys: upswept moonwort, scalloped moonwort, slender moonwort, common moonwort, Mingan moonwort, western goblin, Bolander's candle moss, branched collybia, Tahoe yellow cress, veined water lichen, and short-leaved hulsea.

Based on the description of the proposed Project and the evaluation contained herein, it is my determination that the proposed Project may affect individuals, but is not likely to result in a trend toward federal listing or loss of viability for upswept moonwort, scalloped moonwort, slender moonwort, common moonwort, Mingan moonwort, western goblin, Bolander's candle moss, branched collybia, Tahoe yellow cress, veined water lichen, and short-leaved hulsea.

Management Recommendation

Because of the presence of potential habitat for the above mentioned species, it is possible that isolated individuals may occur within the Project area. If any observations of such species are made during construction, then each population will be protected in accordance with management direction from the LTBMU. Mitigation measures may include the following:

- Prior to completion of final design for the Project, the Project biologist shall conduct a protocol-level survey for Tahoe yellow cress, consistent with the guidelines provided in the Conservation Strategy for Tahoe Yellow Cress (Pavlik et al. 2002). The protocol requires annual surveys between June 15 and September 30. The project biologist shall also conduct a survey just prior to construction to insure that no plants have become established. Surveys will include beach and associated backshore segments that will be disturbed by Project activity. All information will be

recorded on Tahoe yellow cress Plant Survey Forms and provided to Nevada Natural Heritage Program (NNHP) and California Natural Diversity Database (CNDDDB). If plants are found to be present and potentially affected by Project activities, the following mitigation measures will be implemented to ensure less-than-significant impacts to this species: 1) to restrict access, sites will be fenced and signs posted; 2) if necessary, Project design will be modified to avoid disturbing established plants.

- Construction documents shall include an Invasive Weed Management Plan which includes best management practices regarding the use of equipment to insure control of invasive species.. In addition, seed mixes and mulch shall be certified as weed-free (including cheat grass, mullein and bull thistle), and mycorrhizae shall be used to enhance the establishment of native plants. The LTBMU botanist shall also survey the Project every year during Project construction and for three years following completion to insure the Invasive Weed Management Plan is being carried out by the Contractor. See also the mitigation measures outlined in the Noxious Weed Risk Assessment prepared for this Project [see Appendix B]. Occurrences of bull thistle must be reported to Placer County Department of Agriculture.

VI. POTENTIALLY AFFECTED SPECIES, EFFECTS OF THE PROPOSED PROJECT, AND DETERMINATIONS (WILDLIFE)

The Project assessment considered special-status wildlife species, which included:

- Federal listed endangered, threatened, and candidate species (USFWS 2006)
- California endangered, threatened, California special concern species, and California fully protected species (CDFG 2007)
- USFS sensitive species (FSS) (USFS 1998)
- TRPA special interest species (TRPA-SI) (TRPA 1982). In addition, the TRPA Special Interest group “waterfowl” were also included under the term “special-status.”

USFS management indicator species are evaluated in Appendix A, Management Indicator Species report.

Twenty-five (25) special-status wildlife species were initially identified as potentially occurring in the Project area: two (2) fishes, two (2) invertebrates, three (3) amphibians, ten (10) birds, and eight (8) mammals. Of these, seventeen (17) species are not expected to occur within the Project area due to range, elevation, and habitat limits.

Species not expected to occur in the Project area will not be discussed further in this assessment. These species include: northern goshawk (*Accipiter gentilis*), golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus anatum*), great grey owl (*Strix nebulosa*), California spotted owl (*Strix occidentalis occidentalis*), Sierra Nevada mountain beaver (*Aplodontia rufa californica*), Townsend’s big-eared bat (*Corynorhinus townsendii*), California wolverine (*Gulo gulo luteus*), Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), American marten (*Martes Americana*), Pacific fisher (*Martes pennanti pacifica*), Sierra Nevada red fox (*Vulpes vulpes nector*), Lahontan tui chub (*Gilia bicolor pectinifer*), Lahontan cutthroat trout (*Onochorhynchus clarki henshawi*), Mount Lyell salamander (*Hydromantes platycephalus*), Lake Tahoe benthic stonefly (*Capnia lacustra*), and Great Basin rams-horn (*Helisoma (Carninifex) newberryi*).

The following tables list the special-status wildlife species and habitats that were evaluated for this report. Please note, USFS management indicator species are not included here; they are evaluated in

Appendix A, Management Indicator Species report. Figure 6 shows special-status habitat information provided by USFS-LTBMU.

Table 4. List of special-status wildlife species potentially occurring in the Lake Tahoe Basin.

Scientific Name	Common Name	Status			
		LTBMU	FED list	CA State list	TRPA
Birds					
<i>Accipiter gentilis</i>	northern goshawk	FSS	--	CSC	SI
<i>Anas platyrhynchos</i>	mallard/waterfowl	--	--	--	SI
<i>Aquila chrysaetos</i>	golden eagle	--	--	CSC, CFP	SI
<i>Dendroica petechia brewsteri</i>	yellow warbler	--	--	CSC	--
<i>Empidonax traillii</i>	willow flycatcher	FSS	--	CE	--
<i>Falco peregrinus anatum</i>	American peregrine falcon	--	--	CE, CFP	SI
<i>Haliaeetus leucocephalus</i>	bald eagle	FSS	--	CE, CFP	SI
<i>Pandion haliaetus</i>	osprey	--	--	CSC	SI
<i>Strix nebulosa</i>	great gray owl	FSS	--	CE	--
<i>Strix occidentalis occidentalis</i>	California spotted owl	FSS	--	CSC	--
Mammals					
<i>Aplodontia rufa californica</i>	Sierra Nevada mountain beaver	--	--	CSC	--
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	FSS	--	CSC	--
<i>Gulo gulo</i>	California wolverine	FSS	--	CT, CFP	--
<i>Lepus americanus tahoensis</i>	Sierra Nevada snowshoe hare	--	--	CSC	--
<i>Martes americana sierrae</i>	American marten	FSS	--	--	--
<i>Martes pennanti (pacific)</i>	Pacific fisher	--	FC	CSC	--
<i>Odocoileus hemionus</i>	mule deer	--	--	--	SI
<i>Vulpes vulpes necator</i>	Sierra Nevada red fox	FSS	--	CT	--
Reptiles and Amphibians					
<i>Hydromantes platycephalus</i>	Mount Lyell salamander	--	--	CSC	--
<i>Rana muscosa</i>	mountain yellow-legged frog	FSS	FC	CSC	--
<i>Rana pipiens</i>	northern leopard frog	FSS	--	CSC	--
Fishes					
<i>Gila bicolor pectinifer</i>	Lahontan Lake tui chub	FSS	--	CSC	--
<i>Oncorhynchus clarkii henshawi</i>	Lahontan cutthroat trout	--	FT	--	SI
Invertebrates					
<i>Capnia lacustra</i>	Lake Tahoe benthic stonefly	--	--	CSC	--
<i>Helisoma newberryi</i>	Great Basin rams-horn	FSS	--	--	--
FSS = USFS LTBMU Sensitive Species, Regional Forester's Sensitive Species List, Region 5 SI = TRPA Special Interest Species, Regional Plan for the LTBMU: Goals and Policies (1986) and Code of Ordinances (1987) CA STATE LIST: CSC = Special Concern; CE = Endangered; CT = Threatened; CFP = Fully Protected FED LIST: FC = Candidate to become Proposed species; FE = Endangered; FT = Threatened (NOTE: No species in the USFS Lake Tahoe Basin Management Unit are currently listed as "Endangered" by USFWS under ESA)					

Sources: CDFG 2008; USFWS 2008; USFS 2006, 2007a, 2007b; TRPA 2002

Table 5. Habitat characteristics of special-status wildlife species potentially occurring in the Lake Tahoe Basin, and occurrence of habitat in Project area.

SPECIES	SUITABLE HABITAT IN PROJECT AREA	HABITAT CHARACTERISTICS
<i>Birds</i>		
<i>Accipiter gentilis</i> Northern goshawk	No	Mature coniferous forests
<i>Anas platyrhynchos</i> Mallard/waterfowl	Potential	Shallow ponds, lakes, rivers, marshes and flooded fields. Nests in concealing vegetation.
<i>Aquila chrysaetos</i> Golden eagle	No	Rolling foothills, mountain areas, sage-juniper flats, deserts. Cliff-walled canyons provide nesting habitat in most part of range; also, large trees in open areas.
<i>Dendroica petechia brewsteri</i> Yellow warbler	Potential	Open canopy deciduous woodland with shrubs. Nesting: Riparian plant associations. Prefers willows, cottonwoods, aspens, sycamores, and alders for nesting and foraging. Also nests in montane shrubbery in open conifer forests.
<i>Empidonax trallii</i> Willow flycatcher	Potential	Nests in extensive montane willow thickets 2,000-8,000 feet elev.
<i>Falco peregrinus anatum</i> Peregrine falcon	No	Nests and roosts on protected ledges.
<i>Haliaeetus leucocephalus</i> Bald eagle	Potential	Coniferous and conifer/hardwood forests near water. Low human disturbance.
<i>Pandion haliaeetus</i> Osprey	Potential	Conifer and conifer/hardwood forests near water. Low human disturbance.
<i>Strix nebulosa</i> Great grey owl	No	Breeds in old-growth red fir, mixed conifer, or lodgepole pine habitats, always in the vicinity of wet meadows
<i>Strix occidentalis occidentalis</i> California spotted owl	No	Mature forests with suitable nest sites. Low human disturbance.
<i>Mammals</i>		
<i>Aplodontia rufa californica</i> Sierra Nevada mountain beaver	No	Found in areas with dense growth of small deciduous trees and shrubs, wet soil, and abundance of forbs in the Sierra Nevada and east slope. Needs dense understory for food and cover. Burrows into soft soil. Needs abundant supply of water.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	No	Desert and pinyon/scrub associations. Roosts in caves, mines and buildings
<i>Gulo gulo luteus</i> California wolverine	No	Montane conifer, subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats. Prefer areas with low human disturbance
<i>Lepus americanus tahoensis</i> Sierra Nevada snowshoe hare	No	Boreal riparian areas in the Sierra Nevada. Thickets of deciduous trees in riparian areas and thickets of young conifers.
<i>Martes Americana</i> American marten	No	Mature coniferous forests
<i>Martes pennanti pacifica</i> Pacific fisher	No	Mature coniferous forests
<i>Odocoileus hermionus</i> Mule deer	Potential	Forests, brushfields, and meadows statewide.
<i>Vulpes vulpes nector</i> Sierra Nevada red fox	No	Coniferous forests above 5,000 feet, often associated with montane meadows
<i>Fish</i>		
<i>Gilia bicolor pectinifer</i> Lahontan tui chub	No	Large, deep lakes of the Lahontan basin. Algal beds in shallow, inshore areas seem necessary for successful spawning, egg hatching, and larval survival
<i>Onchorhynchus clarki henshawi</i> Lahontan cutthroat trout	No	Lakes and streams of the Lahontan basin.
<i>Amphibians</i>		
<i>Hydromantes platycephalus</i> Mount Lyell salamander	No	Massive rock areas in mixed conifer, red fir, lodgepole pine, and subalpine habitat, 4,000 to 11,600 feet. Active on the surface only when free water is available, in the form of seeps, drips, or spray.
<i>Rana muscosa</i> Mountain yellow-legged frog	Potential	Inhabits ponds, tarns, lakes, and streams at moderate to high elevations.

SPECIES	SUITABLE HABITAT IN PROJECT AREA	HABITAT CHARACTERISTICS
<i>Rana pipiens</i> Northern leopard frog	Potential	Quiet permanent or semi-permanent aquatic habitat with emergent and submergent vegetation, and vegetated habitat with moist
<i>Invertebrates</i>		
<i>Capnia lacustra</i> Lake Tahoe benthic stonefly	No	Endemic to lake Tahoe. Found at depths of 95-400 ft. Associated with deepwater plant communities of algae, mosses, and liverworts.
<i>Helisoma (Carnifex) newberryi</i> Great Basin rams-horn	No	Larger lakes and slow rivers, including larger spring sources and spring-fed creeks. Snails burrow in soft mud.

Sources: CDFG 2008; USFWS 2008; USFS 2006, 2007a, 2007b; TRPA 2002

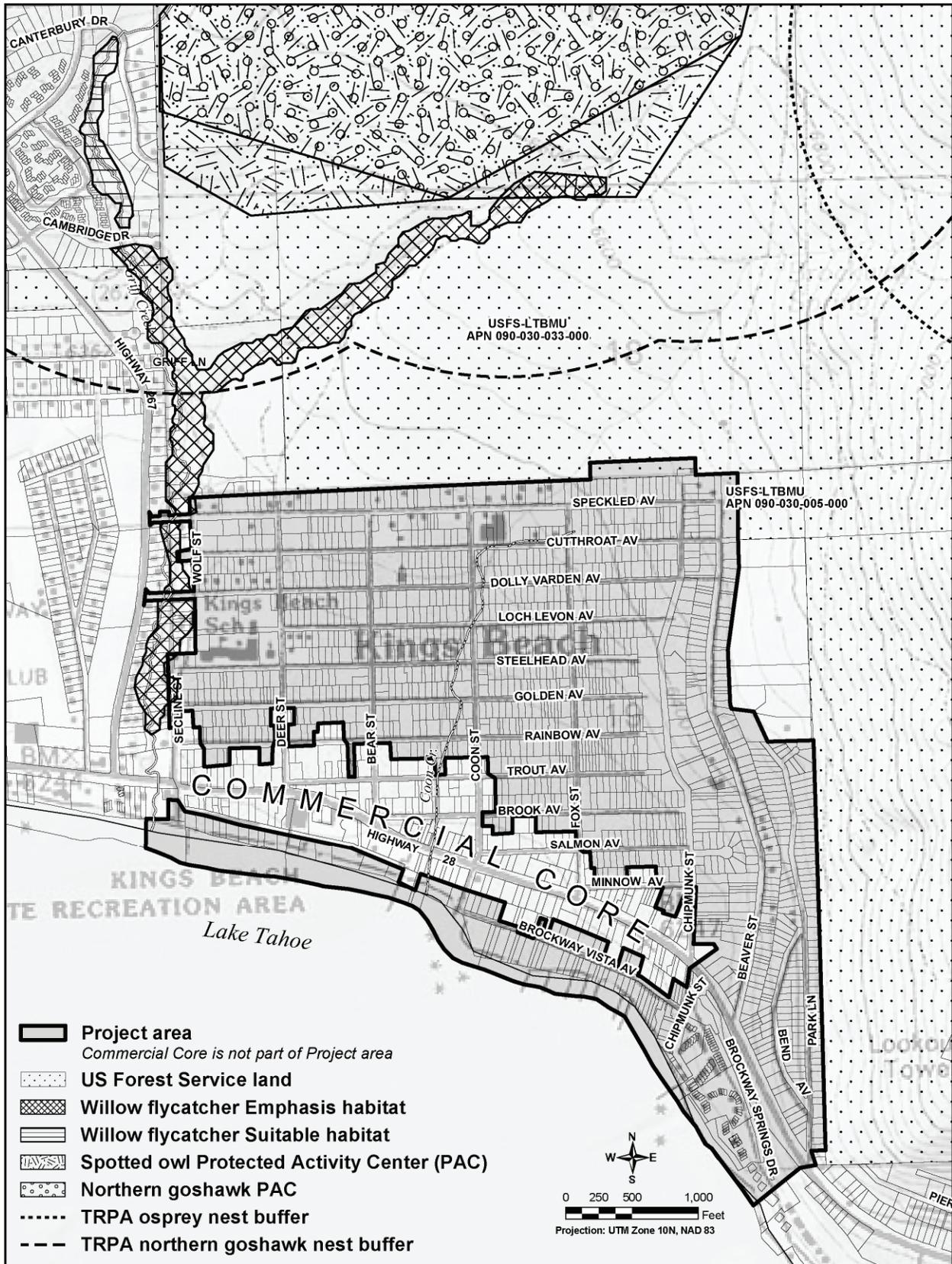


Figure 6. Special-status habitat information in and near the Project area (Source: USFS 2007b).

Effects and Determinations of the Proposed Project – Wildlife

Eight (8) special-status wildlife species have potential to occur in the Project area. Occurrence and habitat information are discussed below. Determinations provided herein are based on the potential direct, indirect, and cumulative effects related to the proposed Project as compared to a species' ability to maintain or increase its population.

Waterfowl/Mallard (*Anas platyrhynchos*)

Status: TRPA-SI

Potential habitat for this species occurs in the Griff Creek SEZ.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Yellow warbler (*Dendroica petechia brewsteri*)

Status: CSC

Potential habitat for this species occurs in the Griff Creek SEZ.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Willow flycatcher (*Empidonax traillii*)

Status: FSS, CE

Habitat for willow flycatcher exists within the Griff Creek SEZ and is classified as emphasis habitat (i.e., meadows larger than 15 acres that have standing water on June 1 and a deciduous shrub component). In fall of 2006, eight locations were identified along Griff Creek as potential willow flycatcher nesting habitat, none of the potential nesting habitat is in the Project area (see Willow Flycatcher Survey report). ENTRIX biologists conducted a survey for willow flycatcher in June and July of 2007, following protocol from Bombay et al. (2000). This species was not observed during the site habitat assessment. However,

brown-headed cowbirds (*Molothrus ater*) (a nest parasite) were observed. Habitat quality was noted as marginal to poor.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area and the habitat quality is marginal to poor.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Bald eagle (*Haliaeetus leucocephalus*)

Status: FSS, CE, TRPA-SI

The Project area contains potential perching habitat.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area, and because the existing high level of human activity in the area. The Project does not propose to remove any trees that would be suitable for perching.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. The Project also includes beneficial effects to species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Osprey (*Pandion haliaeetus*)

Status: CSC, TRPA-SI

The Project area contains potential perching habitat.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area, and because the existing high level of human activity in the area. The Project does not propose to remove any trees that would be suitable for perching.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. The Project also includes beneficial effects to species. If this species is

encountered during construction of the Project, it will be protected by following standard management requirements.

Mule deer (*Odocoileus hemionus*)

Status: TRPA-SI

The Project area contains potential foraging habitat for this species.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species. Proposed Project facilities would not permanently reduce available forage. Occasional flushing of individuals may occur, due to project activity.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Mountain yellow-legged frog (*Rana muscosa*)

Status: FC, FSS, CSC

Potential habitat for this species occurs in the Griff Creek SEZ. The site habitat assessment indicated that potential habitat is marginal to poor. This species was not observed during the site habitat assessment.

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area and the habitat quality is marginal to poor.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. The Project also includes beneficial effects to species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Northern leopard frog (*Rana pipiens*)

Status: FSS, CSC (native populations only)

Potential habitat for this species occurs in the Griff Creek SEZ. The 2006 site habitat assessment indicated that potential habitat for northern leopard frog is marginal to poor. This species was not observed during the site habitat assessment. Northern leopard frog populations in the Lake Tahoe basin are not native (CDFG 2005).

Direct and Indirect Effects

This Project is not expected to have direct or indirect effects on this species because of the small amount of suitable habitat in the Project area and the habitat quality is marginal to poor.

Cumulative Effects

Because no negative direct or indirect effects are expected, this Project is not expected to result in cumulative effects on this species.

Determination

The Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for this species. The Project also includes beneficial effects to species. If this species is encountered during construction of the Project, it will be protected by following standard management requirements.

Summary of Determinations for Wildlife

Potential habitat for the following species was identified within the Project area, however none of the species were located during surveys: mallard/waterfowl, yellow warbler, willow flycatcher, bald eagle, osprey, mule deer, mountain yellow-legged frog, and northern leopard frog.

Based on the description of the proposed Project and the evaluation contained herein, it is my determination that the proposed Project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for: mallard/waterfowl, yellow warbler, willow flycatcher, bald eagle, osprey, mule deer, mountain yellow-legged frog, and northern leopard frog.

Management Recommendation

Because of the presence of potential habitat for the above mentioned species, it is possible that isolated individuals may occur within the Project area. If any observations of such species are made during construction, then each population will be protected in accordance with management direction from the LTBMU. Mitigation measures may include the following:

- Prior to commencement of Project activities, the Project proponent shall consult with the LTBMU biologist to verify that no new California spotted owl nests are present within 0.25 mile of the Project area. If an active nest is identified a 0.25 mile buffer shall be delineated around the nest site and a Limited Operating Period (LOP) shall be instated from March 1 to August 15 to reduce noise impacts originating from any portion of the Project area that falls within the buffer zone.
- Prior to commencement of Project activities, the Project proponent shall consult with the LTBMU biologist to verify that no new northern goshawk nests are present within 0.25 mile of the Project area. If an active nest is identified, a 0.25 mile buffer shall be delineated around the nest site and a Limited Operating Period (LOP) shall be instated from February 15 to September 15 to reduce noise impacts originating from any portion of the Project area that falls within the buffer zone.
- Prior to commencement of Project activities, the Project proponent shall consult with the LTBMU biologist to verify the status of both Sierra Nevada yellow-legged frogs and northern leopard frogs within the Project area. A qualified biologist shall be on site during any streambed altering activities to monitor for the presence of frogs and shall implement standard management practices for the protection of individuals discovered within Project affected areas.
- No willow flycatchers were detected during the 2007 protocol level surveys. Additional protocol level surveys for willow flycatcher shall occur between May and July of the first year of construction, prior to any construction activities. If an active nest is identified, a buffer zone within suitable habitat shall be delineated around the nest site and a Limited Operating Period (LOP)

shall be applied from June 1 to August 31 for any portion of the Project area that falls within the buffer zone.

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Appendix A

Management Indicator Species Report

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Management Indicator Species Report

Kings Beach Water Quality and SEZ Improvement Project

Lake Tahoe Basin Management Unit

July 30, 2008

Prepared by ENTRIX, Inc. on behalf of Placer County Department of Public Works

Reviewed by: _____

**Stanley J. Kot
Wildlife Biologist**

USFS Lake Tahoe Basin Management Unit

1. Introduction

The purpose of this report is to evaluate and disclose the impacts of the Kings Beach Water Quality and SEZ Improvement Project (Project) on the habitat of the thirteen (13) Management Indicator Species (MIS) identified in the Forest (NF) Land and Resource Management Plan (LRMP) (USDA 1988) as amended by the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (USDA December 2007). This report documents the effects of the proposed action and alternatives on the habitat of selected Project-level MIS. Detailed descriptions of the Project alternatives are found in the Project Draft Environmental Compliance Document, from which this document is tiered.

MIS are animal species identified in the SNF MIS Amendment Record of Decision (ROD) signed December 14, 2007, which was developed under the 1982 National Forest System Land and Resource Management Planning Rule (1982 Planning Rule) (36 CFR 219). The current rule applicable to project decisions is the 2004 Interpretive Rule, which states "Projects implementing land management plans...must be developed considering the best available science in accordance with §219.36(a)...and must be consistent with the provisions of the governing plan." (Appendix B to §219.35). Guidance regarding MIS set forth in the Lake Tahoe Basin Management Unit LRMP as amended by the 2007 SNF MIS Amendment ROD directs Forest Service resource managers to (1) at project scale, analyze the effects of proposed projects on the habitat of each MIS affected by such projects, and (2) at the bioregional scale, monitor populations and/or habitat trends of MIS, as identified in the Lake Tahoe Basin Management Unit LRMP as amended.

1.a. Direction Regarding the Analysis of Project-Level Effects on MIS Habitat

Project-level effects on MIS habitat are analyzed and disclosed as part of environmental analysis under the National Environmental Policy Act (NEPA). This involves examining the impacts of

the proposed project alternatives on MIS habitat by discussing how direct, indirect, and cumulative effects will change the habitat in the analysis area.

These project-level impacts to habitat are then related to broader scale (bioregional) population and/or habitat trends. The appropriate approach for relating project-level impacts to broader scale trends depends on the type of monitoring identified for MIS in the LRMP as amended by the SNF MIS Amendment ROD. Hence, where the Lake Tahoe Basin Management Unit LRMP as amended by the SNF MIS Amendment ROD identifies distribution population monitoring for an MIS, the project-level habitat effects analysis for that MIS is informed by available distribution population monitoring data, which are gathered at the bioregional scale. The bioregional scale monitoring identified in the Lake Tahoe Basin Management LRMP, as amended, for MIS analyzed for the Project is summarized in Section 3 of this report.

Adequately analyzing project effects to MIS generally involves the following steps:

- Identifying which habitat and associated MIS that would be either directly or indirectly affected by the project alternatives; these MIS are potentially affected by the project.
- Summarizing the bioregional-level monitoring identified in the LRMP, as amended, for this subset of MIS.
- Analyzing project-level effects on MIS habitat for this subset of MIS.
- Discussing bioregional scale habitat and/or population trends for this subset of MIS.
- Relating project-level impacts on MIS habitat to habitat and/or population trends at the bioregional scale for this subset of MIS.

These steps are described in detail in the Pacific Southwest Region's draft document "MIS Analysis and Documentation in Project-Level NEPA, R5 Environmental Coordination" (USDA Forest Service 2006). This Management Indicator Species (MIS) Report documents application of the above steps to select and analyze MIS for the Project.

1.b. Direction Regarding Monitoring of MIS Population and Habitat Trends at the Bioregional Scale.

The bioregional scale monitoring strategy for the Lake Tahoe Basin Management Unit MIS is found in the Sierra Nevada Forests Management Indicator Species Amendment (SNF MIS Amendment) Record of Decision (ROD) of 2007. Bioregional scale habitat monitoring is identified for all twelve of the terrestrial MIS. In addition, bioregional scale population monitoring, in the form of distribution population monitoring, is identified for all of the terrestrial MIS except for the greater sage-grouse. For aquatic macroinvertebrates, the bioregional scale monitoring identified is Index of Biological Integrity and Habitat. The current bioregional status and trend of populations and/or habitat for each of the MIS is discussed in the Sierra Nevada Forests Bioregional Management Indicator Species (SNF Bioregional MIS) Report (USDA Forest Service 2008).

● MIS Habitat Status and Trend.

All habitat monitoring data are collected and/or compiled at the bioregional scale, consistent with the LRMP as amended by the 2007 SNF MIS Amendment ROD (USDA Forest Service 2007).

Habitats are the vegetation types (for example, early seral coniferous forest) or ecosystem components (for example, snags in green forest) required by an MIS for breeding, cover, and/or feeding. MIS for the Sierra Nevada National Forests represent 10 major habitats and 2 ecosystem components (USDA Forest Service 2007), as listed in Table A-1. These habitats are defined using the California Wildlife Habitat Relationship (CWHR) System (CDFG 2005). The CWHR System provides the most widely used habitat relationship models for California's terrestrial vertebrate species (ibid). It is described in detail in the SNF Bioregional MIS Report (USDA Forest Service 2008).

Habitat status is the current amount of habitat on the Sierra Nevada Forests. Habitat trend is the direction of change in the amount or quality of habitat over time. The methodology for assessing habitat status and trend is described in detail in the SNF Bioregional MIS Report (USDA Forest Service 2008).

● **Population Status and Trend.**

All population monitoring data are collected and/or compiled at the bioregional scale, consistent with the LRMP as amended by the 2007 SNF MIS Amendment ROD (USDA Forest Service 2007). The information is presented in detail in the 2008 SNF Bioregional MIS Report (USDA Forest Service 2008).

Population monitoring strategies for MIS of the Lake Tahoe Basin Management Unit are identified in the 2007 Sierra Nevada Forests Management Indicator Species (SNF MIS) Amendment ROD (USDA Forest Service 2007). Population status is the current condition of the MIS related to the population monitoring data required in the 2007 SNF MIS Amendment ROD for that MIS. Population trend is the direction of change in that population measure over time.

There are a myriad of approaches for monitoring populations of MIS, from simply detecting presence to detailed tracking of population structure (USDA Forest Service 2001, Appendix E, page E-19). A distribution population monitoring approach is identified for all 12 of the terrestrial MIS in the 2007 SNF MIS Amendment, except for the greater sage-grouse (USDA Forest Service 2007). Distribution population monitoring consists of collecting presence data for the MIS across a number of sample locations over time. Presence data are collected using a number of direct and indirect methods, such as surveys (population surveys), bird point counts, tracking number of hunter kills, counts of species sign (such as deer pellets), and so forth. The specifics regarding how these presence data are analyzed to track changes in distribution over time vary by species and the type of presence data collected. These are addressed for each MIS in the SNF Bioregional MIS Report (USDA Forest Service 2008).

For aquatic macroinvertebrates, an Index of Biological Integrity (IBI) and habitat condition and trend is measured by tracking the condition and trend of a representative community of aquatic macroinvertebrates (aquatic insects, snails, shrimps, worms, etc.) and measurement of physical habitat attributes.

2. Selection of Project level MIS

MIS for the LTBMU are identified in the 2007 SNF MIS Amendment (USDA Forest Service 2007). The habitats and ecosystem components and associated MIS analyzed for the Project were selected from this list of MIS, as indicated in Table A-1 below. In addition to identifying the habitat or ecosystem components (1st column), the CWHR type(s) defining each habitat/ecosystem component (2nd column), and the associated MIS (3rd column), the Table discloses whether or not the habitat of the MIS is potentially affected by the Project (4th column).

Table A-1. Management indicator species habitat analysis for the Project

Habitat or ecosystem component	California wildlife habitat relationship (CWHR) types which define the habitat component ¹	Sierra Nevada Forests management indicator species	Analysis category ²
Riverine & lacustrine	Riverine, and lacustrine or lake.	Aquatic macroinvertebrates ³	3
Riparian	Riparian, montane, and valley foothill, open canopy deciduous woodland with shrubs.	Yellow warbler (<i>Dendroica petechia</i>)	3
Wet meadow	Wet meadow, freshwater emergent wetland.	Pacific tree frog (<i>Pseudacris regilla</i>)	3
Early seral coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree sizes 1, 2, and 3.	Mountain quail (<i>Oreortyx pictus</i>)	2
Mid seral coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree size 4.	Mountain quail (<i>Oreortyx pictus</i>)	2
Late seral open canopy coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, red fir, and eastside pine. Tree size 5. Sparse to open canopy.	Blue grouse (<i>Dendragapus obscurus</i>)	2
Late seral closed canopy coniferous forest	Ponderosa pine, Sierran mixed conifer, white fir, and red fir. Tree size 5 and 6. Moderate to dense canopy closures.	California spotted owl (<i>Strix occidentalis occidentalis</i>)	1
		American marten (<i>Martes americana</i>)	
		Northern flying squirrel (<i>Glaucomys sabrinus</i>)	
Snags in green forest	Medium and large snags in green forest.	Hairy woodpecker (<i>Picoides villosus</i>)	2
Snags in burned forest	Medium and large snags in forest burned by a stand-replacing fire.	Black-backed woodpecker (<i>Picoides arcticus</i>)	1

¹ All California wildlife habitat relationship size classes and canopy closures are included (Mayer and Laudenslayer, 1988). dbh = diameter at breast height. Tree size classes and canopy closure classifications are:

- | | |
|---|---|
| 1 = Seedling less than 1" dbh. | S = Sparse cover, 10 to 24% canopy closure. |
| 2 = Sapling from 1" to 5.9" dbh. | P = Open cover, 25 to 39% canopy closure. |
| 3 = Pole from 6" to 10.9" dbh. | M = Moderate cover, 40 to 59% canopy closure. |
| 4 = Small tree from 11" to 23.9" dbh. | D = Dense cover, 60 to 100% canopy closure. |
| 5 = Medium to large tree over 24" dbh. | |
| 6 = Multi-layered tree in pine and Sierran mixed conifer. | |

² Category of management indicator species habitat for Project analysis:

- Habitat is not in or adjacent to the Project area, and would not be affected by the Project.
- Habitat is in or adjacent to Project area, but would not be directly or indirectly affected by the Project.
- Habitat would be directly or indirectly affected by the Project.

³ Aquatic macroinvertebrates include worms, clams, snails, shrimp, crayfish, caddisflies, stoneflies, diving beetles, and other invertebrates that are highly sensitive to changes in water quality and condition of aquatic habitat. The index of biotic integrity was last monitored at 17 sites in the Lake Tahoe basin from 2000-2001. The ratio of observed to expected macroinvertebrate species = 0.89, which is a very good score of aquatic sensitive species richness (Sierra Nevada Forests bioregional management indicator species report, January 2008).

Category 1 MIS habitat is not in or adjacent to the Project area, and would not be directly or indirectly affected by the Project.

Category 2 MIS habitat is in or adjacent to the Project area, but the habitat would not be directly or indirectly affected by the Project because disturbance from Project activities would primarily

occur in the existing residential development area; there would be no reduction in acres of forest, understory shrub cover, or removal of nest trees, perch trees, snags, or down woody debris.

Category 3 management indicator species habitat would be affected by this Project, and is analyzed in Section 5 of this report.

3. Bioregional Monitoring Requirements for MIS Selected for Project-Level Analysis

3.a. MIS Monitoring Requirements.

The Sierra Nevada Forests Management Indicator Species (SNF MIS) Amendment (USDA Forest Service 2007) identifies bioregional scale habitat and/or population monitoring for the Management Indicator Species for ten National Forests, including the Lake Tahoe Basin Management Unit (USDA Forest Service 2007). The habitat and/or population monitoring requirements for Lake Tahoe Basin Management Unit MIS are described in the Sierra Nevada Forests Bioregional Management Indicator Species (SNF Bioregional MIS) Report (USDA Forest Service 2008) and are summarized below for the MIS being analyzed for the Project. The applicable habitat and/or population monitoring results are described in the SNF Bioregional MIS Report (USDA Forest Service 2008).

Habitat monitoring at the bioregional scale is identified for all the habitats and ecosystem components, including the following analyzed for the Project: riverine/lacustrine; riparian; wet meadow; early seral coniferous forest; mid seral coniferous forest; late seral open canopy coniferous forest; snags in green forest.

Population monitoring at the bioregional scale for aquatic macroinvertebrates: Index of Biological Integrity (IBI) and habitat condition and trend are measured by tracking the condition and trend of a representative community of aquatic macroinvertebrates (aquatic insects, snails, shrimps, worms, etc.) and measurement of physical habitat attributes.

Population monitoring at the bioregional scale for yellow warbler and Pacific tree frog: Distribution population monitoring. Distribution population monitoring consists of collecting presence data for the MIS across a number of sample locations over time (also see USDA Forest Service 2001, Appendix E).

3.b. How MIS Monitoring Requirements are Being Met.

Habitat and/or distribution population monitoring for all MIS is conducted at the Sierra Nevada scale. Refer to the SNF Bioregional MIS Report (USDA Forest Service 2008) for details by habitat and MIS.

4. Description of Proposed Project.

Placer County Department of Public Works proposes to improve the quality of stormwater discharging into Lake Tahoe from the Kings Beach community by stabilizing exposed soils with vegetation and/or mulch; improving the existing drainage system with new curbs, gutters and underground pipes; and treating runoff with a variety of methods including sediment traps and

vaults, swales, infiltration and/or detention basins, and media filters. Improving the quality of runoff from the proposed Project area into Lake Tahoe is important to the basin-wide effort to protect the lake's water clarity. Most Project construction will occur in the developed area of Kings Beach; exceptions to this would be two relatively small locations in the Griff Creek SEZ, and two small locations on USFS parcels at the northeast corner of Kings Beach (see Figure A-1). Construction activities throughout the Project area will include the use of heavy equipment such as front loaders, backhoes, dump trucks, concrete mixers, pumps, generators, compressors, rock drills, jackhammers, saws and vibrators. Construction is expected to start May 2009. Construction duration is expected to be 10 years. The proposed Project actions are described in more detail in the Draft Environmental Compliance Document for this Project, from which this document is tiered.

5. Effects of Proposed Project on the Habitat for the Selected Project-Level MIS.

The following section documents the analysis for the following 'Category 3' species: aquatic macroinvertebrates, yellow warbler, and Pacific tree frog. The analysis of the effects of the Project on the MIS habitat for the selected MIS is conducted at the project scale. The analysis used habitat information obtained from the following surveys (survey methods and results are described in the BA/BE):

Dates: August 30 and 31, 2006; September 26 and 29, 2006; June and July 2007
Surveyor: Sara Ebrahim, terrestrial biologist, ENTRIX, Inc.

Date: July 9, 2007
Surveyor: Tom Taylor, fisheries biologist, ENTRIX, Inc.

Dates: July 11, 2007; August 6, 2007; July 8, 2008
Surveyor: Julie Etra, botanist, Western Botanical Services

Detailed information on the MIS is documented in the SNF Bioregional MIS Report (USDA Forest Service 2008), which is hereby incorporated by reference. Cumulative effects at the bioregional scale are tracked via the SNF MIS Bioregional monitoring, and detailed in the SNF Bioregional MIS Report.



Figure A-1. Project area map (Sources: USGS 1992 and Placer County 2007-2008)

Lacustrine/Riverine Habitat (Aquatic Macroinvertebrates)

Habitat/Species Relationship.

Aquatic or Benthic Macroinvertebrates (BMI) have been demonstrated to be very useful as indicators of water quality and aquatic habitat condition (Resh and Price 1984; Karr et al. 1986; Hughes and Larsen 1987; Resh and Rosenberg 1989). They are sensitive to changes in water chemistry, temperature, and physical habitat.

Project-level Effects Analysis – Lacustrine/Riverine Habitat

Habitat Factor(s) for the Analysis: Flow; Sedimentation; and Water surface shade.

Current Condition of the Habitat Factor(s) in the Project Area: Griff Creek flows year-round. Flows can be as high as 30.5 cfs during spring runoff, and less than 1 cfs in the late summer/fall. Urbanization has altered water and sediment deliveries to the channel by creating a peaked hydrograph (larger magnitude peak flows of a shorter duration) that can cause channel incision and widening. Urban development in the watershed may have caused an increase in sediment delivery to the stream during construction phases (resulting in sedimentation), followed by a decrease in sediment delivery once sediment sources have been reduced by infrastructure (resulting in sediment evacuation and channel downcutting). Urban development also included filling large portions of the floodplain that decreased channel and floodplain connectivity and disrupted floodplain hydrology. Rip-rapped banks prevent the channel from making lateral adjustments, eliminate fish cover provided by undercut banks, and limit the growth of overhanging vegetation that provides shade and cover. Incision and over-widening have also increased Griff Creek's flow conveyance capacity, resulting in increased erosive energy exerted on the bed and banks during high flows and disconnect between the channel and floodplain.

Direct and Indirect Effects to Habitat. The Project will have a direct beneficial effect on riverine and lacustrine habitat because it will reduce erosion, sedimentation, and nutrient loading into those habitats.

The Project will not have any adverse direct effect on riverine or lacustrine habitat. Although some Project construction will occur in the Griff Creek SEZ, such work will not occur in the creek itself. Similarly, the Project is near Lake Tahoe but construction will not occur in the lake.

Construction could cause adverse indirect short-term effects on riverine or lacustrine habitat, but mitigation measures (found in the Draft Environmental Compliance Document prepared for the Project) will reduce or eliminate any such effects.

Cumulative Effects to Habitat in the Project Area. Given that all other projects in the Tahoe Basin are subject to environmental regulation and review, and are required to

implement BMPs and mitigation measures, the overall cumulative effects on lacustrine and riverine habitat would be insignificant, or as in the case of EIP projects, beneficial.

Cumulative Effects Conclusion: Cumulative effects to riverine habitat in Griff Creek would be beneficial but insignificant. Changes would be too small to measure. Cumulative effects to lacustrine habitat would be beneficial and could be significant, considering all other water-quality improvement efforts in the Lake Tahoe Basin.

Summary of Aquatic Macroinvertebrate Status and Trend at the Bioregional Scale

The Lake Tahoe Basin Management Unit LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale Index of Biological Integrity and Habitat monitoring for aquatic macroinvertebrates; hence, the lacustrine and riverine effects analysis for the Project must be informed by these monitoring data. The sections below summarize the Biological Integrity and Habitat status and trend data for aquatic macroinvertebrates. This information is drawn from the detailed information on habitat and population trends in the Sierra Nevada Forests Bioregional MIS Report (USDA Forest Service 2008), which is hereby incorporated by reference.

Habitat and Index of Biological Integrity Status and Trend. The data collected at the Bioregional scale indicate that the IBI metrics for macroinvertebrates are stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Aquatic Macroinvertebrates Habitat Trend.

As the change in flow, sedimentation, and shade are too small to be measured the Project will not alter the existing trend in the habitat or aquatic macroinvertebrates across the Sierra Nevada bioregion.

Riparian Habitat (Yellow warbler)

Habitat/Species Relationship.

The yellow warbler was selected as the MIS for riparian habitat in the Sierra Nevada. This species is usually found in riparian deciduous habitats in summer (cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland) (CDFG 2005). It also breeds in montane shrubbery in open conifer forests. During migration, it visits woodland, forest, and shrub habitats.

Project-level Effects Analysis – Riparian Habitat

Habitat Factor(s) for the Analysis: (1) Acres of riparian habitat (CWHR montane riparian (MRI). (2) Acres with changes in deciduous canopy cover. (3) Acres with changes in total canopy cover. (4) Acres with changes in CWHR size class.

Current Condition of the Habitat Factor(s) in the Project Area: The Griff Creek SEZ contains the only appreciable riparian habitat in the Project area. This vegetation community roughly corresponds to the typical mountain alder series described in Sawyer and Keeler-Wolf (1995). However, several species of willows located in the Project area differ from typical series, and big-leaf maple (*Acer macrophyllum*) does not occur in the Project area. Conifers, particularly Jeffrey pine and white fir, form a significant part of

the overstory. Therefore, there is a Jeffrey pine series component to this drainage. Creeping snowberry (*Symphoricarpos mollis*) is a dominant understory species along with thimbleberry (*Rubus parviflorus*). Species of willow include Lemmon's willow (*Salix lemmonii*), Scouler's willow (*S. scouleriana*), and shining willow (*S. lucida* var. *lasiandra*). Red osier dogwood (*Cornus sericea*) is also a common shrub along the creek. The total area of riparian habitat within the Project area is estimated to be 0.02 acre.

Direct and Indirect Effects to Habitat. Although the Project occurs within riparian habitat, it will not result in an adverse change in any of the key habitat factors. Riparian habitat in the Project area would benefit, because the stormwater produced from the Project area would be cleaner than existing conditions allow. Additionally, the proposed detention basins could increase the net amount of riparian habitat in the Project area.

Cumulative Effects to Habitat in the Project Area. Given that all other projects in the Tahoe Basin are subject to environmental regulation and review, and are required to implement BMPs and mitigation measures, the overall cumulative effects on riparian habitat would be insignificant, or as in the case of EIP projects, beneficial.

Cumulative Effects Conclusion: Cumulative direct and indirect effects to riparian habitat in the Project area (and vicinity) would be beneficial but insignificant and would not alter the existing trend in the habitat.

Summary of Yellow Warbler Status and Trend at the Bioregional Scale

The Lake Tahoe Basin Management Unit LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the yellow warbler; hence, the riparian habitat effects analysis for the Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the yellow warbler. This information is drawn from the detailed information on habitat and population trends in the SNF Bioregional MIS Report (USDA Forest Service 2008), which is hereby incorporated by reference.

Habitat Status and Trend. There are currently 29,000 acres of riparian habitat on National Forest System lands in the Sierra Nevada. Within the last decade, the trend is stable.

Population Status and Trend. The yellow warbler has been monitored in the Sierra Nevada at various sample locations by avian point counts and breeding bird survey protocols, including Lassen NF (Burnett and Humple 2003, Burnett et al. 2005) and Inyo NF (Heath and Ballard 2003) point counts; California Partners in Flight monitoring and studies; and 1968 to present – BBS routes throughout the Sierra Nevada (Sauer et al. 2007). Current data at the rangewide, California, and Sierra Nevada scales indicate that the distribution of yellow warbler populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Yellow Warbler Trend. Any change in deciduous canopy closure of riparian habitat in the Project area will not alter the

existing trend in the habitat, nor will it lead to a change in the distribution of yellow warblers across the Sierra Nevada bioregion.

Wet Meadow Habitat (Pacific tree frog)

Habitat/Species Relationship.

The Pacific tree frog was selected as an MIS for wet meadow habitat in the Sierra Nevada. This broadly distributed species requires standing water for breeding; tadpoles require standing water for periods long enough to complete aquatic development, which can be as long as 3 or more months at high elevations in the Sierra Nevada (CDFG 2005). During the day during the breeding season, adults take cover under clumps of vegetation and surface objects near water; during the remainder of the year, they leave their breeding sites and seek cover in moist niches in buildings, wells, rotting logs or burrows (ibid).

Project-level Effects Analysis – Wet Meadow Habitat

Habitat Factor(s) for the Analysis: (1) Acres of wet meadow habitat [CWHR wet meadow (WTM) and freshwater emergent wetland (FEW)]. (2) Acres with changes in CWHR herbaceous height classes [short herb (<12”), tall herb (>12”).] (3) Acres with changes in CWHR herbaceous ground cover classes (Sparse=2-9%; Open=10-39%; Moderate=40-59%; Dense=60-100%). (4) Changes in meadow hydrology.

Current Condition of the Habitat Factor(s) in the Project Area: Small potential wetlands associated with the Griff Creek drainage were identified by ENTRIX biologists during the 2006 habitat surveys. The potential wetlands were informally delineated in the field based on hydrology and vegetation characteristics, but soils were not analyzed pursuant to U.S. Army Corps of Engineers guidance. A formal wetland delineation will be performed before Project designs are finalized. The total area of wet meadow habitat within the Project area is estimated to be 0.01 acre.

Direct and Indirect Effects to Habitat. Although part of the Project occurs within wet meadow habitat, it will not result in an adverse change in any of the key habitat factors.

The Project will have a direct beneficial effect on downstream wet meadow habitat because it will reduce erosion, sedimentation, and nutrient loading into those habitats.

Construction would cause adverse indirect short-term effects on the 0.01 acre of wet meadow habitat, but mitigation measures (found in the Draft Environmental Compliance Document prepared for the Project), will reduce or eliminate any such effects.

Cumulative Effects to Habitat in the Project Area. Given that all other projects in the Tahoe Basin are subject to environmental regulation and review, and are required to implement BMPs and mitigation measures, the overall cumulative effects on wet meadow habitat would be insignificant, or as in the case of EIP projects, beneficial.

Cumulative Effects Conclusion: Cumulative direct and indirect effects to wet meadow habitat in the Project area (and vicinity) would be beneficial but insignificant and would not alter the existing trend in the habitat.

Summary of Pacific Tree Frog Status and Trend at the Bioregional Scale

The NF LRMP (as amended by the SNF MIS Amendment) requires bioregional-scale habitat and distribution population monitoring for the Pacific tree frog; hence, the wet meadow effects analysis for the Project must be informed by both habitat and distribution population monitoring data. The sections below summarize the habitat and distribution population status and trend data for the Pacific tree frog. This information is drawn from the detailed information on habitat and population trends in the SNF Bioregional MIS Report (USDA Forest Service 2008), which is hereby incorporated by reference.

Habitat Status and Trend. There are currently 66,000 acres of wet meadow habitat on National Forest System lands in the Sierra Nevada. Within the last decade, the trend is stable.

Population Status and Trend. Since 2002, the Pacific tree frog has been monitored on the Sierra Nevada forests as part of the Sierra Nevada Forest Plan Amendment (SNFPA) monitoring plan (USDA Forest Service 2006, Brown 2008). These data indicate that Pacific tree frog continues to be present at these sample sites, and that the distribution of Pacific tree frog populations in the Sierra Nevada is stable.

Relationship of Project-Level Habitat Impacts to Bioregional-Scale Pacific Tree Frog

Trend. The change in herbaceous CWHR height class in wet meadow habitat in the Project area will not alter the existing trend in the habitat, nor will it lead to a change in the distribution of Pacific tree frogs across the Sierra Nevada bioregion.

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Appendix B

Noxious Weed Risk Assessment

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Noxious Weed Risk Assessment
Kings Beach Water Quality and SEZ Improvement Project
Lake Tahoe Basin Management Unit
November 11, 2008

Prepared by ENTRIX, Inc. on behalf of Placer County Department of Public Works

Reviewed by: _____
Shana E. Gross
Ecologist
USFS Lake Tahoe Basin Management Unit

NOXIOUS WEED RISK ASSESSMENT DIRECTION

The Sierra Nevada Forest Plan Amendment (SNFP) outlines the direction for completing a noxious weed risk assessment (SNFP Appendix L). In addition, the Forest Service Manual 2080 Noxious Weed Management (effective 11/29/1995) includes a policy statement calling for a risk assessment for noxious weeds to be completed for every project. Specifically, the manual states:

2081.03 Policy. When any ground disturbing action or activity is proposed, determine the risk of introducing or spreading noxious weeds associated with the proposed Project.

For projects having moderate to high risk of introducing or spreading noxious weeds, the project decision document must identify noxious weed control measures that must be undertaken during project implementation.

1. Make every effort to ensure that all seed, feed, hay, and straw used on National Forest System lands is free of noxious weed seeds (FSH 6309.12, sec. 42 and 42.1).
2. Where States have enacted legislation and have an active program to make weed-free forage available, Forest Officers shall issue orders restricting the transport of feed, hay, straw, or mulch which is not declared as weed-free, as provided in 36 CFR 261.50(a) and 261.58(t).
3. Use contract and permit clauses to prevent the introduction or spread of noxious weeds by contractors and permittees. For example, where determined to be appropriate, use clauses requiring contractors or permittees to clean their equipment prior to entering National Forest System lands.

2081.2 Prevention and Control Measures. Determine the factors which favor establishment and spread of noxious weeds and design management practices or prescriptions to reduce risk of infestation or spread of noxious weeds.

Where funds and other resources do not permit undertaking all desired measures, address and schedule noxious weed prevention and control in the following order:

1. First Priority: Prevent the introduction of new invaders,
2. Second Priority: Conduct early treatment of new infestations, and
3. Third Priority: Contain and control established infestations.

PROJECT DESCRIPTION

The Project is located in the Lake Tahoe Basin within the community of Kings Beach, Placer County, California (T16N, R17E, portions of the SE¼ of Section 12, portions of the NE¼ of Section 13; T16N, R18E, portions of the SW ¼ of Section 18, the NW ¼ of Section 19, portions of the NE ¼ Section 19, portions of SW ¼ of Section 19 and portions of the SE¼ of Section 19).

Placer County Department of Public Works proposes to improve the quality of stormwater discharging into Lake Tahoe from the Kings Beach community by stabilizing exposed soils with vegetation and/or mulch; improving the existing drainage system with new curbs, gutters and underground pipes; and treating runoff with a variety of methods including sediment traps and vaults, swales, infiltration and/or detention basins, and media filters. Improving the quality of runoff from the proposed Project area into Lake Tahoe is important to the basin-wide effort to protect the lake's water clarity. Construction activities will include the use of heavy equipment such as front loaders, backhoes, dump trucks, concrete mixers, pumps, generators, compressors, rock drills, jackhammers, saws and vibrators. Construction is expected to start May 2009. Construction duration is expected to be 10 years. The proposed Project actions are described in more detail in the Draft Environmental Compliance Document for this Project, from which this document is tiered.

RISK ASSESSMENT

A. Inventory:

A survey of the Project right-of-ways as well as public lands was conducted by Western Botanical Services Inc. on July 11, 2007 August 6, 2007, and July 8, 2008. All public properties were surveyed on foot, while private properties, due to access restrictions, were surveyed from a slowly moving automobile (stopping to enable extended observation when deemed necessary). The commercial corridor was not surveyed where hard cover precluded plant establishment. Cheatgrass, bull thistle (*Cirsium vulgare*) and field bindweed (*Convolvulus arvensis*) were observed during these surveys (see Figure B-1, Tables B-1 and B-2). Also, woolly mullein (*Verbascum thapsus*) were found during other surveys conducted by ENTRIX, Inc. August 30 and 31, 2006 and September 26 and 29, 2006. Stands of the invasive non-native cheatgrass (*Bromus tectorum*) covering less than one square foot were not recorded. Beach sites were not surveyed, but will be surveyed prior to commencement of construction activities. Beach infestations will be addressed according to the mitigation measures recommended on pages 7-8 of this risk assessment.



Figure B-1. Identified populations of noxious and/or invasive weeds in the Project area.

Table B-1. Potentially occurring noxious and/or invasive weed species of concern.

Common Name	Scientific Name	LTBWCG	CDFA	NDA	SNFPA	Species Present? Y or N	Area of Infestation (sq. ft.)
Cheatgrass	<i>Bromus tectorum</i>				NW	Y	1,910
Hoary cress	<i>Cardaria draba</i>	Group 1	B	C	NW	N	
Musk thistle	<i>Carduus nutans</i>	Group 1	A	B	NW	N	
Purple starthistle	<i>Centaurea calcitrapa</i>	Group 1	B	A	NW	N	
Diffuse knapweed	<i>Centaurea diffusa</i>	Group 1	A	B	NW	N	
Spotted knapweed	<i>Centaurea maculosa</i>	Group 2	A	A	NW	N	
Russian knapweed	<i>Centaurea repens</i>	Group 1		B		N	
Yellow starthistle	<i>Centaurea solstitialis</i>	Group 1	C	A	NW	N	
Squarrose knapweed	<i>Centaurea squarrosa</i>	Group 1	A	A	NW	N	
Rush skeleton	<i>Chondrilla juncea</i>	Group 1	A	A	NW	N	
Canada thistle	<i>Cirsium arvense</i>	Group 1	B	C	NW	N	
Bull thistle	<i>Cirsium vulgare</i>	Group 2	C		NW	Y	2 plants
Field bindweed	<i>Convolvulus arvensis</i>		C		NW	Y	10
Scotchbroom	<i>Cytisus scoparius</i>	Group 2	C		NW	N	
Teasel	<i>Dipsacus fullonum</i>	Group 1				N	
St. John's wort / Klamath weed	<i>Hypericum perforatum</i>	Group 1	C	A	NW	N	
Tall whitetop / Perennial pepperweed	<i>Lepidium latifolium</i>	Group 2	B	C	NW	N	
Ox eye daisy	<i>Leucanthemum vulgare</i>	Group 2			NW	N	
Dalmatian toadflax	<i>Linaria genistifolia spp. dalmatica</i>	Group 2	A	A	NW	N	
Yellow toadflax	<i>Linaria vulgaris</i>	Group 2		A		N	
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Group 2	C	A	NW	N	
Scotch thistle	<i>Onoropordum acanthium</i>	Group 1	A	B	NW	N	
Curlyleaf pondweed	<i>Potamogeton crispus</i>	Group 1				N	
Sulfur cinquefoil	<i>Potentilla recta</i>	Group 1	Q	A		N	
Perennial Sowthistle	<i>Sonchus arvensis l.</i>		A	A		N	
Woolly mullein	<i>Verbascum thapsus</i>				NW	Y	2 plants

Lake Tahoe Basin Weed Coordinating Group (LTBWCG) prioritizes invasive weeds of concern by management group. Group 1: watch for, report, and eradicate immediately. Group 2: manage infestations with the goal of eradication.

The California Department of Food and Agriculture's (CDFA) noxious weed list (<http://www.cdfa.ca.gov/phpps/ipc/>) divides noxious weeds into categories A, B, and C. A-listed weeds are those for which eradication or containment is required at the state or county level. With B-listed weeds, eradication or containment is at the discretion of the County Agricultural Commissioner. C-listed weeds require eradication or containment only when found in a nursery or at the discretion of the County Agricultural Commissioner. Q-listed weeds require temporary "A" action pending determination of a permanent rating.

Nevada Department of Agriculture (NDA) (http://agri.nv.gov/nwac/PLANT_NoXWeedList.htm divides) divides noxious weeds into categories A, B, and C. Category "A": Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations. Category "B": Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur. Category "C": Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.

Sierra Nevada Forest Plan Amendment (SNFPA) part 3.6 defines noxious weeds as: those plant species designated as noxious weeds by Federal or State law. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and generally non-native.

Table B-2. Noxious weed infestations in or near the Kings Beach Project Area.

ID ¹	UTM ²	Location	No. of Plants or Area (ft ²)
Bull thistle (<i>Cirsium vulgare</i>)			
CIVU-0207	10S 757547 4347042	Chipmunk St between Minnow Ave and SR-28	1 plant
CIVU-0307	10S 756596 4347974	Southeast corner of Specked Ave and Deer St	1 plant
Total in Project area:			2 plants
Cheatgrass (<i>Bromus tectorum</i>)			
BRTE-0207	10S 756363 4347896	Southwest corner of Cutthroat Ave and Wolf St	100
BRTE-0307	10S 757781 4347002	North end of Bend Ave, south of the intersection with Park Ln: extends from intersection south for 5 lots - scattered on the east and west sides of road	50
BRTE-0407	10S 757800 4346518	Southwest and southeast corners of Park Ln and SR-28	20
BRTE-0507	10S 757246 4347732	Southwest corner of Fox St and Loch Levon Ave	400
BRTE-0607	10S 757241 4347997	Southwest corner of Fox St and Speckled Ave	50
BRTE-0707	10S 757044 4347752	Northeast corner of Coon St and Loch Levon Ave: first lot	50
BRTE-0807	10S 757020 4347816	Southwest corner of Dolly Varden Ave and Coon St	10
BRTE-0907	10S 757033 4348015	Northeast corner of Speckled Ave and Coon St	10
BRTE-1007	10S 757340 4347489	East End of Rainbow Ave, north side of the road along fence	10
BRTE-1107	10S 757383 4347404	East end of Trout Ave., north side of the road: approximately three lots to the west of the eastern end of Trout	10
BRTE-1207	10S 757522 4347211	Southwest corner of Chipmunk St and Salmon Ave	10
BRTE-1307	10S 756391 4347815	Northeast and northwest corners of Dolly Varden Ave and Wolf St.	200
BRTE-1407	10S 756410 4347815	Wolf St north of Dolly Varden Ave: along first lot north of Dolly Varden Ave on the east side of the road.	10
BRTE-1507	10S 756572 4347998	Speckled Ave at Deer St: northwest corner	10
BRTE-0108	10S 0757624 4347985	Forest Service parcel east side of Beaver St north of Cutthroat Ave	750
BRTE-0208	10S 0757342 4348104	Forest Service parcel north of Speckled Ave east of Fox St	20
Total in Project area:			1,910 ft²
Field bindweed (<i>Convolvulus arvensis</i>)			
COAR-0108	10S 0757624 4347985	Forest Service parcel east side of Beaver St north of Cutthroat Ave	10
Total:			10 ft ²
Total in Project area:			10 ft²
Woolly mullein (<i>Verbascum thapsus</i>)			
VETH-0206	10S 757610 4347490	Beaver St south of Bass Ave	2 plants
Total in Project area:			2 plants

¹ Infestation ID includes the species 4-letter code, sighting number, and year found. Ex: CIVU-0207 is for *Cirsium vulgare* (CIVU), and it is the second sighting (for this survey) found in 2007. The first sighting for this survey (CIVU-0107) was outside the Project area.

² UTM in WGS 84

B. Habitat Vulnerability (vegetative cover types, previous disturbance, soil cover, shade, soil type, aspect/slope):

Habitat is Jeffrey pine forest and urban/residential. Any new disturbance in the vicinity of cheatgrass, bull thistle, field bindweed and woolly mullein may enhance their spread.

C. Non-Project Dependent Vectors (existing roads and trails, traffic use, livestock/wildlife migration, wind patterns, drainage flow direction):

Traffic, people, and wind are non-Project vectors (Table B-3).

Table B-3. Weed spread factors not associated with proposed Project (pre-existing circumstances).

Non-Project dependent factors	Current Conditions	Risk	Rationale
A. Inventory	Cheatgrass Bull thistle Field bindweed Woolly mullein	Medium	These species are either LTBWCG Group 2, CDFA Group C, or not included in the LTBWCG/CDFA listings, and are therefore not high priority species.
B. Habitat vulnerability	Open urban areas.	High/Medium	Urban areas are often open and have little ground cover.
C. Non-Project dependent vectors	Roads and drainage channels present, pedestrian, vehicle, and animal traffic.	High	There are several current vectors, especially along roads. The riparian area contains several paths and some road intersections. There is a risk of weeds spreading from non-Project areas.

D. Habitat Alteration Expected as a Result of the Project:

Many of the proposed improvements for the Project are to be installed along existing disturbed roadsides. No appreciable habitat alteration is expected from these proposed improvements. Additional proposed improvements away from the road may represent an increased level of disturbance. All disturbed areas will be revegetated with native species.

E. Increased Vectors as a Result of Project Implementation:

There will be a short-term increase in traffic due to construction, but the installation of Project improvements will not result in a long-term increase in vectors (Table B-4).

Cheatgrass

Project activity that disturbs soil containing cheatgrass seed may further spread this noxious weed. All infestations of cheatgrass within the Project area (Figure B-1 and Table B-2) may be affected by installation of Project improvements. The risk of spreading cheatgrass will be mitigated by the measures described in “Mitigation Measures” below.

Bull thistle

Project activity that disturbs soil containing bull thistle seed may further spread this noxious weed. All infestations of bull thistle within the Project area (Figure B-1 and Table B-2) may be affected by installation of Project improvements. The risk of spreading bull thistle will be mitigated by the measures described in “Mitigation Measures” below.

Field bindweed

Project activity that disturbs soil containing field bindweed seed may further spread this noxious weed. All field bindweed infestations within the Project area (Figure B-1 and Table B-2) may be affected by installation of Project improvements. The risk of spreading field bindweed will be mitigated by the measures described in “Mitigation Measures” below.

Woolly mullein

Project activity that disturbs soil containing woolly mullein seed may further spread this noxious weed. All infestations of woolly mullein within the Project area (Figure B-1 and Table B-2) may be affected by installation of Project improvements. The risk of spreading woolly mullein will be mitigated by the measures described in “Mitigation Measures” below.

Table B-4. Weed spread factors associated with Project implementation.

Project dependent factors	Post-construction conditions	Risk	Rationale
D. Habitat alteration expected as a result of the Project	Soil disturbance from construction activities; shade removal.	Medium	Minimal shade removal, but soil disturbance will occur. Disturbance localized to specific Project improvements; majority of disturbance will occur in previously disturbed areas.
E. Increased vectors as a result of Project implementation	Short-term increase in traffic during construction.	Medium	Long-term use of area will not increase because of Project
F. Mitigation measures	If no mitigation measures implemented	Higher risk	
	If some mitigation measures implemented	Moderately reduced risk	
	If all mitigation measures implemented	Greatly reduced risk	
G. Summary (anticipated weed response to proposed Project)	Moderate potential for weed spread.	Medium	Some high risk factors, mitigation plan reduces risk to medium.

F. Mitigation Measures (prevention and control):

All measures listed below will be implemented.

1. All off-road equipment and vehicles used for Project implementation are required to be weed-free. All equipment and vehicles will be cleaned of all attached mud, dirt, and plant parts. This will be done at a vehicle washing station or steam cleaning facility (power or high-pressure cleaning) before the equipment and vehicles enter the Project area or National Forest System lands, and before vehicles enter the Basin (if they originate from outside the Basin).
2. All earth-moving equipment, gravel, fill, or other materials are required to be weed-free. Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain weed-free materials from gravel pits and fill sources that have been approved by TRPA or by a botanist or ecologist at the Lake Tahoe Basin Management Unit.
3. Minimize the amount of ground and vegetation disturbance in the construction areas. Reestablish vegetation on all disturbed bare ground to minimize weed establishment and infestation.
4. Use weed-free equipment, mulches, and seed sources (prevention will include Seeding Specifications which restrict cheatgrass and other weed seed from seed mixes). Salvage topsoil from Project area for use in onsite revegetation, unless contaminated with noxious weeds. All activities that require seeding or planting must utilize locally collected native seed sources when possible. Plant and seed material should be collected from or near the Project area, from within the same watershed, and at a similar elevation when possible. Persistent non-natives such as *Phleum pretense* (cultivated timothy), *Dactylis glomerata* (orchard grass), or *Lolium* spp. (ryegrass) will not be used. This requirement is consistent with the USFS Region 5 policy that directs the use of native plant material for revegetation and restoration for maintaining “the overall national goal of conserving the biodiversity, health, productivity, and sustainable use of forest, rangeland, and aquatic ecosystems”. Proposed seed mixes will be required to be submitted by the Contractor and pre-approved by the Placer County project engineer prior to application. 90% design specifications outlining seed mixture requirements will be submitted to the LTBMU for review before plans and specifications are finalized.

5. Staging areas for equipment, materials, or crews will not be sited in weed-infested areas.
6. Conduct pre-construction surveys for listed noxious or invasive weeds in areas to be disturbed by Project activity. This includes beach sites. Weed infestations identified within fifty (50) feet of planned Project activities or along travel routes in the Project area will be flagged and avoided, or treated (if weeds are unavoidable) according to the species present and Project constraints. *Note: existing weed infestations within the Project area that are more than fifty (50) feet from Project activities, or on inaccessible property, will not be flagged or treated as part of this Project; however, contractor(s) will be encouraged to notify appropriate agencies (LTBMU or Placer County) of weed infestations meeting those criteria.*
7. If ground disturbance is necessary within an infested area, none of the excavated material will be removed from the site. If there is excess material from the infested area, this soil will be labeled as contaminated, and transported outside the Lake Tahoe Basin to a facility that will accept contaminated soil. Contaminated material will be covered/contained during transport to prevent spillage or loss by blow-off. The material will not under any circumstances be used at any other site in the Basin.
8. The Project area will be monitored by LTBMU personnel during construction and for 3 years after Project completion to ensure weeds do not become established in the areas affected by the Project. Monitoring personnel will submit annual reports to the LTBMU noxious weed coordinator to ensure compliance. If noxious weeds are found, the noxious weed coordinator on the LTBMU will be notified immediately.
9. To enhance the establishment of native plants, inoculate revegetation areas with weed-free native topsoil obtained from the Project site.

G. Summary

The overall risk of introducing or spreading noxious weed as a result of the Project is considered to be medium (Table B-4). This determination is based on the following:

1. Surveys identified three noxious weed species (cheatgrass, bull thistle, and woolly mullein) in the Project area.
2. There are established roads in the Project area, as well as foot and animal traffic (which serve as vectors), and construction will result in a short-term increase in traffic in the area.
3. The majority of disturbance will occur in previously disturbed areas, although disturbance will be localized to specific areas within the Project area.
4. A mitigation plan has been adopted as a part of the proposed Project. The mitigation plan is expected to decrease the risk of Project-related weed spread to a level that is at or below pre-construction conditions.

Appendix C

Willow Flycatcher Survey Report

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Willow Flycatcher Survey Report
Kings Beach Water Quality and SEZ Improvement Project
Lake Tahoe Basin Management Unit
July 30, 2008

Willow flycatcher (*Empidonax traillii*) is a California listed Threatened species, and is also on the U.S. Forest Service Region 5 Sensitive list in California. The subspecies present in the Tahoe Basin is *E.t. brewsteri*, “little willow flycatcher.” In fall of 2006, eight locations were identified along Griff Creek as potential willow flycatcher nesting habitat. A survey for willow flycatcher was conducted by ENTRIX in June and July of 2007 by ENTRIX biologist Sara Ebrahim, following protocol from Bombay, et al (2000).

The survey protocol requires a minimum of two surveys at each site, during specific times. The survey periods chosen for the Kings Beach Project area were Survey Period 2 (between June 15-25) and Survey Period 3 (June 26 – July 25).

METHODS

Potential willow flycatcher habitat was identified along the Griff Creek corridor. Eight survey locations were established based on the distribution of potential habitat (Figure C-1). GPS coordinates were taken and the points flagged on nearby (non-willow) vegetation. The same points were used for both visits. All survey activity took place between 5 and 10 a.m. Pre-recorded willow flycatcher songs were broadcast at specific intervals, alternating with listening for responses, with 6 minutes spent at each survey point, according to Bombay, et al (2000).

RESULTS

No willow flycatchers were detected at any of the survey sites in the Project area. Brown-headed cowbirds were detected within the Project area. Data forms from the Protocol are attached; Form 1, Field Survey Form – one for each visit per survey site, Form 2, Site Description, and Form 3, Results Summary.

REFERENCE

Bombay, Ritter, and Valentine. 2000. A Willow Flycatcher Survey Protocol for California.

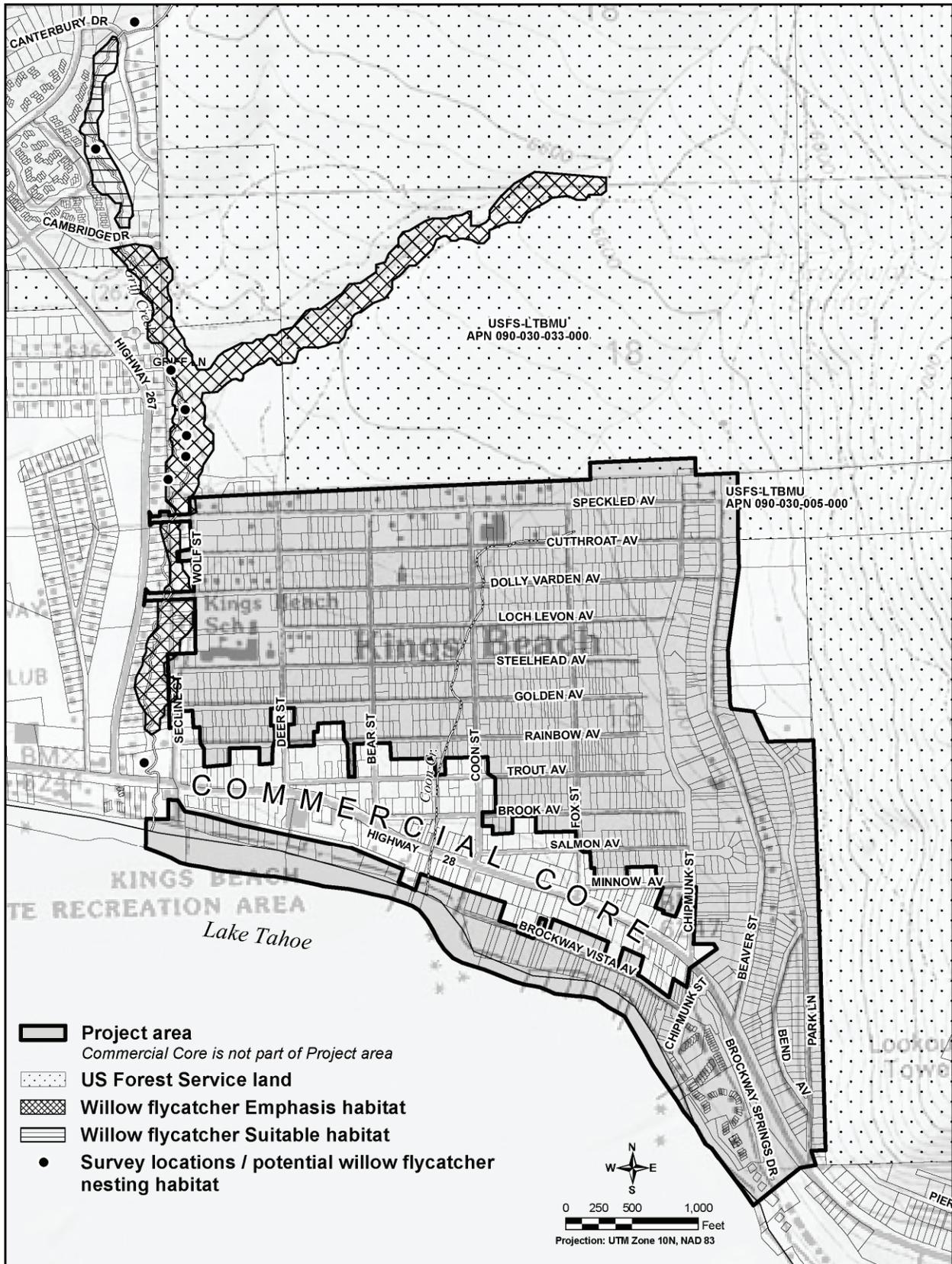


Figure C-1. Potential willow flycatcher habitat, and survey locations.

Form 2 Willow Flycatcher Survey Summary- Site Description

Date 06/22/07
Site Name Kings Beach / Griffole Observer S Ebrahim
Name of Manager / Owner _____ County Placer
USGS Quad Name _____ :UTMs: _____ north;
_____ east
Location T _____, R _____, Sec _____, 1/4. _____ 1/16 _____ Elev. _____

Willow Flycatchers present? NO breeding season / migrant; Estimate # Territories 0
(circle one)

SITE DESCRIPTION

Type: meadow; riparian system; other _____
size of area surveyed: _____ (specify units: acres/hectares)
total number of survey points 8

I. Vegetation

Percent of meadow with RDS (riparian deciduous shrub)
component no/little meadow - mostly riparian
Percent of RDS component consisting of: willow 30, alder 30, other 30
Average RDS height: <1 m; 1 - 2 m; >2 m
Distribution of RDS: linearly (along stream only) away from stream,
other _____
Dominant herbaceous vegetation:
 sedge; grasses; juncus; forbs
(rank species groups from 1 (least dominant) to 4 (most dominant); if unknown leave blank)
Percent overstory tree cover within RDS areas: <10%; 10-20%; 20-50%; >50%
overstory tree species: Mixed con

II. Hydrology

Percent of site with surface water or saturated soils 10%
Source of standing water within RDS patch:
 in-channel pools; oxbows, spring fed ponds(s); lake margin; seep/snowmelt
 other _____ NONE
Livestock present at time of survey? NO Evidence of beaver activity? NO
Evidence of: RDS highlining, RDS hedging bank disturbance
DESCRIBE NO
Evidence of nesting or color banded
WIFLs? NO

Form 2 Willow Flycatcher Survey Summary- Site Description

Date 07 / 14 / 07
Site Name Kings Beach / Griff Creek Observer SEbrahim
Name of Manager / Owner _____ Country Placer
USGS Quad Name _____ :UTMs: _____ north;
_____ east
Location T _____, R _____, Sec _____, 1/4 _____ 1/16 _____ Elev. _____

Willow Flycatchers present? NO breeding season / migrant; Estimate # Territories 0
(circle one)

SITE DESCRIPTION

Type: meadow; riparian system; other _____
size of area surveyed: _____ (specify units: acres/hectares)
total number of survey points 8

I. Vegetation

Percent of meadow with RDS (riparian deciduous shrub)
component no/little meadow - mostly riparian
Percent of RDS component consisting of: willow 30, alder 30, other 30
Average RDS height: <1 m; 1 - 2 m; >2 m
Distribution of RDS: linearly (along stream only) away from stream,
other _____
Dominant herbaceous vegetation:
 sedge; grasses; juncus; forbs
(rank species groups from 1 (least dominant) to 4 (most dominant); if unknown leave blank)
Percent overstory tree cover within RDS areas: <10%; 10-20%; 20-50%; >50%
overstory tree species: mixed con

II. Hydrology

Percent of site with surface water or saturated soils 10 %
Source of standing water within RDS patch:
 in-channel pools; oxbows, spring fed ponds(s); lake margin; seep/snowmelt
 other _____ NONE
Livestock present at time of survey? no Evidence of beaver activity? no
Evidence of: RDS highlining, RDS hedging bank disturbance
DESCRIBE none
Evidence of nesting or color banded
WIFLs? none

Form 3 Willow Flycatcher Survey Summary- Results Summary

Site Name Kings Beach / Griff Creek Observer(s) S. Ebrahim

Name of Manager / Owner _____ County Placer

USGS Quad Name _____ :UTMs: _____ north;
 _____ east

Location T _____, R _____, Sec _____, 1/4 _____ 1/16

survey visit #	Date (mm/dd/yy)	survey time	WIFL (present/absent/unconf.)	# singing WIFLs	cowbirds present?
survey: <u>1</u> followup: <u>no</u>	<u>06/22/07</u>	Start: <u>0545</u> Stop: <u>0755</u>	<u>none</u>	<u>none</u>	<u>yes</u>
survey: <u>2</u> followup: <u>no</u>	<u>07/14/07</u>	Start: <u>0530</u> Stop: <u>0748</u>	<u>none</u>	<u>none</u>	<u>yes</u>
survey: _____ followup: _____		Start: _____ Stop: _____			
survey: _____ followup: _____		Start: _____ Stop: _____			

Total # of presumed breeding territories after all visits completed (no migrants)
0

willow flycatcher locations

dates present	WIFL #	WIFL location	detection types*
_____	_____	<input type="checkbox"/> T,R,sec,1/4,1/16 <input type="checkbox"/> lat/long <input type="checkbox"/> UTM	
		<input type="checkbox"/> T,R,sec,1/4,1/16 <input type="checkbox"/> lat/long <input type="checkbox"/> UTM	
		<input type="checkbox"/> T,R,sec,1/4,1/16 <input type="checkbox"/> lat/long <input type="checkbox"/> UTM	
		<input type="checkbox"/> T,R,sec,1/4,1/16 <input type="checkbox"/> lat/long <input type="checkbox"/> UTM	
		<input type="checkbox"/> T,R,sec,1/4,1/16 <input type="checkbox"/> lat/long <input type="checkbox"/> UTM	

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Appendix D
USFWS Consultation

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

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



July 15, 2008

Document Number: 080715112440

Robert Wurgler
ENTRIX, Inc.
701 University Avenue
Suite 200
Sacramento, CA 95835

Subject: Species List for Kings Beach Water Quality and SEZ Improvement Project

Dear: Interested party

We are sending this official species list in response to your July 15, 2008 request for information about endangered and threatened species. The list covers the California counties and/or U.S. Geological Survey 7½ minute quad or quads you requested.

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

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

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 13, 2008.

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

Endangered Species Division



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

Document Number: 080715112440

Database Last Updated: January 31, 2008

Quad Lists

Listed Species

Fish

Oncorhynchus (=Salmo) clarki henshawi
Lahontan cutthroat trout (T)

Candidate Species

Amphibians

Rana muscosa
mountain yellow-legged frog (C)

Mammals

Martes pennanti
fisher (C)

Quads Containing Listed, Proposed or Candidate Species:

KINGS BEACH (538A)

MARTIS PEAK (554D)

County Lists

No county species lists requested.

Key:

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

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

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

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

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

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

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

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

(X) *Critical Habitat* designated for this species

Important Information About Your Species List

How We Make Species Lists

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

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

within, the quads covered by the list.

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

Plants

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

Surveying

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

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

Your Responsibilities Under the Endangered Species Act

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

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

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

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

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

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

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

Critical Habitat

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

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

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

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

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

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be October 13, 2008.