# 14 TERRESTRIAL BIOLOGICAL RESOURCES (WILDLIFE AND VEGETATION)

## 14.1 INTRODUCTION

This chapter describes the common and sensitive terrestrial wildlife and vegetation resources known or with potential to occur in the shorezone and nearby upland areas. Terrestrial biological resources include common vegetation and habitat types, sensitive plant communities, and special-status plant and animal species. Federal, TRPA, state, and local regulations related to biological resources are summarized. Potential impacts of the proposed alternatives are analyzed, and mitigation measures are provided for those impacts determined to be significant. Cumulative biological resources impacts are addressed in Chapter 17, "Cumulative Impacts."

The primary issues raised during scoping that pertain to terrestrial biological resources included:

- consideration for effects of piers on osprey and other avian species, and
- potential effects of increases in lateral access along the shoreline on vegetation.

For this analysis, information about common and sensitive terrestrial biological resources known or with potential to occur in the plan area is based primarily on the following available data sources: Section 3.10, "Biological Resources," of the Regional Plan Update Environmental Impact Statement (RPU EIS) and Lake Tahoe Regional Transportation Plan (RTP, also known as *Mobility 2035*) and Sustainable Communities Strategy Environmental Impact Report and Environmental Impact Statement (RTP/SCS EIR/EIS); TRPA survey and GIS data; a records search of the California Natural Diversity Database (CNDDB 2018); California Native Plant Society Online Inventory of Rare and Endangered Plants (CNPS 2015); a database search of the U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPaC) and a list of federally proposed, candidate, threatened, and endangered species that may occur in the project region (USFWS 2018); U.S. Forest Service Region 5 EVeg land cover data (2014); and high resolution aerial imagery.

Section 14.3, "Affected Environment," discusses the terrestrial special-status plant and animal species evaluated in this analysis, with a focus on TRPA special interest wildlife and TRPA sensitive plant species that may be affected by alternatives. Generally, those terrestrial plant and animal species not expected to regularly occur, or with a low probability to occur (because of a lack of suitable habitat, existing disturbance levels, or lack of occurrence records) are not addressed further in the effects analysis. Implementation of the proposed alternatives would have no considerable effect on those species, including any species listed, proposed for listing, or designated as a candidate for listing under the federal Endangered Species Act (ESA). Additionally, although Lake Tahoe's shorezone provides important wildlife habitat functions, none of the alternatives would impose barriers to or otherwise impede the necessary movements of terrestrial wildlife. Therefore, potential effects on important wildlife movement corridors are not addressed further.

None of the Shoreline Plan alternatives would generate construction or uses that would affect old growth forest ecosystems; and, any future tree removal required for the construction of new facilities (e.g., marinas, boat ramps) in the shorezone would be relatively minor and likely similar in magnitude to potential effects that could occur under current ordinances. Additionally, modification of the shorezone chapters of the TRPA Code under any of the alternatives would not change existing policies, code provisions, project-level environmental review procedures and permitting requirements, sensitive design practices, and standard conditions of approval that address tree removal, disturbance of riparian and other sensitive habitats, use of fertilizers, or the potential introduction and spread of terrestrial invasive species as a result of specific projects. Therefore, shorezone ordinance modification under any of the alternatives are not expected to substantially change conditions related to these resources and issues, and they are not addressed further in the effects analysis.

# 14.2 REGULATORY SETTING

## 14.2.1 Federal

### FEDERAL ENDANGERED SPECIES ACT

Pursuant to the federal ESA (16 U.S.C. Section 1531 et seq.), USFWS and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) regulate the taking of species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of state law. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Two sections of the ESA address take. Section 10 regulates take if a non-federal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting the action. However, if a project would result in take of a federally-listed species and federal discretionary action (even if a non-federal agency is the overall lead agency) is involved (i.e., a federal agency must issue a permit), the involved federal agency consults with USFWS under Section 7 of the ESA. Because this project involves federal permits, interagency cooperation under Section 7 of the ESA is required. Section 7 of the ESA outlines procedures for federal interagency cooperation to protect and conserve federally listed species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

### EXECUTIVE ORDER 11990—PROTECTION OF WETLANDS

Executive Order 11990 established the protection of wetlands and riparian systems as the official policy of the federal government. The order requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

### CLEAN WATER ACT

Section 404 of the Clean Water Act (CWA) requires project proponents to obtain a permit from the U.S. Army Corps of Engineers (USACE) before performing any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, tidally influenced waters, and all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Many surface waters and wetlands in California meet the criteria for waters of the United States.

In accordance with Section 401 of the CWA, projects that apply for a USACE permit for discharge of dredged or fill material must obtain water quality certification from the appropriate regional water quality control board (RWQCB) indicating that the action would uphold state water quality standards.

### BALD AND GOLDEN EAGLE PROTECTION ACT

Under the Bald and Golden Eagle Protection Act, it is illegal to take bald eagles, including their parts, nests, or eggs unless authorized. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb means to agitate or bother a bald or golden eagle to a degree that

causes, or is likely to cause (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment (USFWS 2007: 31156). In addition to immediate impacts, this definition also addresses impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

### MIGRATORY BIRD TREATY ACT

The Migratory Bird Treaty Act (MBTA), first enacted in 1918, provides for protection of international migratory birds and authorizes the Secretary of the Interior to regulate the taking of migratory birds. The MBTA provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird. Under the MBTA, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities." A take does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The current list of species protected by the MBTA can be found in Title 50 of the Code of Federal Regulations (CFR), Section 10.13 (50 CFR 10.13). The list includes nearly all birds native to the United States.

### EXECUTIVE ORDER 13112—NATIONAL INVASIVE SPECIES MANAGEMENT PLAN

Executive Order 13112 directs all federal agencies to prevent the introduction and control the spread of invasive species in a cost-effective and environmentally sound manner to minimize economic, ecological, and human health impacts. It established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and advisory committee oversee and facilitate implementation of the executive order.

## 14.2.2 Tahoe Regional Planning Agency

### THRESHOLDS

The TRPA thresholds includes standards that have been developed to focus management efforts and provide a measure of progress for vegetation, wildlife, and fisheries. The adopted TRPA threshold standards for vegetation, wildlife, and fisheries, and the attainment status for each standard, are summarized in Table 14-1 (TRPA 2016).

**Table 14-1 TRPA Vegetation, Wildlife, and Fisheries Resource Threshold Indicators and their Attainment Status**

| TRPA Threshold Indicator | 2015 Attainment Status |
|---|---|
| **Vegetation** | |
| Common Vegetation: | |
| Vegetation Community Richness | At or Somewhat Better than Target |
| Relative Abundance of Red Fir Forest in Seral Stages Other Than Mature | Considerably Worse than Target |
| Relative Abundance of Yellow Pine Forest in Seral Stages Other Than Mature | Considerably Worse than Target |
| Relative Abundance of Meadow and Wetland Vegetation | Somewhat Worse than Target |
| Relative Abundance of Shrub Vegetation | Considerably Better than Target |
| Relative Abundance of Deciduous Riparian Vegetation | Considerably Worse than Target |
| Size of Forest Openings and Juxtaposition of Vegetation Communities – Management Standard | Implemented |

**Table 14-1 TRPA Vegetation, Wildlife, and Fisheries Resource Threshold Indicators and their Attainment Status**

| TRPA Threshold Indicator | 2015 Attainment Status |
|---|---|
| Consistency with Baily Land Capability System | Implemented |
| Nondegradation of Stream Environment Zones | Implemented |
| Appropriate Management Practices | Implemented |
| Uncommon Plant Communities: | |
| Upper Truckee Marsh | Somewhat Worse than Target |
| Taylor Creek Marsh | Insufficient Data to Determine Status |
| Pope Marsh | Insufficient Data to Determine Status |
| Osgood Swamp | Insufficient Data to Determine Status |
| Hell Hole | Insufficient Data to Determine Status |
| Grass Lake | Insufficient Data to Determine Status |
| Freel Peak Cushion Plant Community | Somewhat Worse than Target |
| Deep-Water Plants | Considerably Worse than Target |
| Sensitive Plants: | |
| Tahoe Yellow Cress | Considerably Better than Target |
| Tahoe Draba | Considerably Better than Target |
| Long-petaled Lewisia | Considerably Better than Target |
| Cup Lake Draba | Considerably Better than Target |
| Galena Creek Rockcress | Considerably Worse than Target |
| Late Seral/Old-Growth Ecosystems Overall and in Montane, Upper Montane, and Subalpine Elevation Zones | Considerably Worse than Target (in all elevation zones) |
| **Wildlife** | |
| Special Interest Species: | |
| Northern Goshawk Population Sites | Insufficient Data to Determine Status |
| Osprey | Considerably Better than Target |
| Nesting Bald Eagle Population | At or Somewhat Better than Target |
| Wintering Bald Eagle Population Sites | Considerably Better than Target |
| Golden Eagle Population Sites | Insufficient Data to Determine Status |
| Peregrine Falcon Population Sites | Considerably Better than Target |
| Waterfowl Population Sites | Somewhat Worse than Target |
| Deer | Insufficient Data to Determine Status |
| Disturbance Free Zones Management Standards | Implemented |
| Habitats of Special Significance: | |
| Riparian Habitat | Implemented |
| **Fisheries** | |
| Stream Habitat: | |
| Miles of Stream Habitat in Excellent Condition | Considerably Better than Target |
| Miles of Stream Habitat in Good Condition | Considerably Worse than Target |
| Miles of Stream Habitat in Marginal Condition | Considerably Worse than Target |

**Table 14-1 TRPA Vegetation, Wildlife, and Fisheries Resource Threshold Indicators and their Attainment Status**

| TRPA Threshold Indicator | 2015 Attainment Status |
|---|---|
| Instream Flow: | |
| Nondegradation Standard for Instream Flow | Implemented |
| Divert Stream Intakes to Lake Sources | Implemented |
| Lahontan Cutthroat Trout | Implemented |
| Lake Habitat: | |
| Acres of "Prime" Fish Habitat | At or Somewhat Better than Target |

Source: TRPA 2016

## GOALS AND POLICIES

The Conservation Element of the TRPA Goals and Policies document establishes goals for the preservation, development, utilization, and management of natural resources within the Tahoe Region. These goals and policies are designed to achieve and maintain adopted threshold standards and are implemented through the Code.

The Conservation Element includes 10 subelements that address the range of Lake Tahoe's natural and historical resources. The Vegetation, Wildlife, and SEZ Subelements are discussed in this section, and the goals related to the Shoreline Plan from each of these subelements are identified below.

Chapter 4 of the Goals and Policies identifies the following six goals for vegetation in the Tahoe Region:

GOAL Veg-1: provide for a wide mix and increased diversity of plant communities;

GOAL Veg-2: provide for the protection, maintenance, and restoration of such unique ecosystems as wetlands, meadows, and other riparian vegetation;

GOAL Veg-3: conserve threatened, endangered, and sensitive plant species and uncommon plant communities of the Lake Tahoe Region;

GOAL Veg-4: provide for and increase the amount of late seral/old-growth stands within the Lake Tahoe Region;

GOAL Veg-5: the appropriate stocking level and distribution of snags and coarse woody debris shall be retained in the Region's forests to provide habitat for organisms that depend on such features and to perpetuate natural ecological processes; and

GOAL Veg-6: TRPA shall work with fire protection agencies in the Region to reduce the risk of catastrophic wildfire.

The two goals identified for wildlife are as follows:

GOAL WL-1: maintain suitable habitats for all indigenous species of wildlife without preference to game or nongame species through maintenance and improvement of habitat diversity, and

GOAL WL-2: preserve, enhance, and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the Region.

The goal identified for SEZs is:

GOAL SEZ-1: provide for the long-term preservation and restoration of stream environment zones.

## CODE OF ORDINANCES

The applicable provisions of the TRPA Code regarding terrestrial vegetation and wildlife are summarized below.

### Protection and Management of Vegetation

The Code requires the protection and maintenance of all native vegetation types. Chapter 61, "Vegetation and Forest Health," Section 61.3, "Vegetation Protection and Management," provides for the protection of SEZ vegetation, other common vegetation, uncommon vegetation, and sensitive plants in SEZs (TRPA 2012). TRPA defines an SEZ as an area that owes its biological and physical characteristics to the presence of surface water or groundwater. SEZ includes perennial, intermittent, or ephemeral streams; meadows and marshes; and other areas with near–surface water influence within the Tahoe Basin. No project or activity may be implemented within the boundaries of an SEZ except as otherwise permitted for habitat improvement, dispersed recreation, vegetation management, or as provided in Code Chapter 30, "Land Coverage." TRPA can require the preparation and implementation of a remedial vegetation management plan, where the need has been identified, for the purposes of threshold standard maintenance or attainment. In addition, Chapter 61, Section 61.4, "Revegetation," specifies minimum criteria for revegetation programs.

### Protection of Sensitive and Uncommon Plants

Code Chapter 61, Section 61.3.6, "Sensitive and Uncommon Plant Protection and Fire Hazard Reduction," establishes standards for preserving and managing sensitive plants and uncommon plant communities, as referenced above in Thresholds. Projects and activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat must fully mitigate their significant adverse effects. Measures to protect sensitive plants and their habitat include:

- fencing to enclose individual populations or habitat,
- restricting access or intensity of use,
- modifying project design as necessary to avoid adverse impacts,
- dedicating open space to include entire areas of suitable habitat, and
- restoring disturbed habitat.

### Tree Removal

TRPA regulates the management of forest resources in the Tahoe Basin to achieve and maintain the threshold standards for species and structural diversity, to promote the long-term health of the resources, and to create and maintain suitable habitats for diverse wildlife species. Tree removal is subject to review and approval by TRPA (TRPA 2012). Provisions for tree removal are provided in the following chapters and sections of the TRPA Code: Chapter 61, "Vegetation and Forest Health," Section 61.1, "Tree Removal," Section 61.3.6, "Sensitive and Uncommon Plant Protection and Fire Hazard Reduction," and Section 61.4, "Revegetation;" Chapter 36, "Design Standards;" and Chapter 33, "Grading and Construction," Section 33.6, "Vegetation Protection During Construction."

Applicants must obtain a tree removal permit from TRPA for cutting of live trees 14 inches diameter at breast height (dbh) or greater. However, trees of any size marked as a fire hazard by a fire protection district or fire department that operates under a memorandum of understanding with TRPA can be removed without a separate tree permit.

With limited exceptions, Code Section 61.1.4, "Old Growth Enhancement and Protection," prohibits the removal of trees greater than 24 and 30 inches dbh in eastside and westside forest types, respectively. Code Section 61.1.4 allows private landowners to remove trees larger than these size classes provided the

landowner follows one of the planning processes identified in that section of the Code. However, trees larger than 30 inches dbh in westside forest types and larger than 24 inches dbh in eastside forest types may be removed for Environmental Improvement Program projects or large public utilities projects if TRPA finds there is no other reasonable alternative.

In addition, trees and vegetation not scheduled to be removed must be protected during construction in accordance with Chapter 33, "Grading and Construction," Section 33.6, "Vegetation Protection during Construction." If a project would result in substantial tree removal, a tree removal or harvest plan must be prepared by a qualified forester. The required elements of this plan, and TRPA's review process for tree removal plans, are described in Chapter 61, Section 61.1.5 of the Code. Substantial tree removal is defined under Code Section 61.1.8 as activities on project areas of three acres or more and proposing the removal of more than 100 live trees 14 inches dbh or larger. Code Chapter 62 also provides quantitative requirements for retention and protection of snags and coarse woody debris by forest type, in terms of size, density, and decay class.

## Wildlife

TRPA sets standards for preserving and managing wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas (Code Chapter 62). Specific habitats that are protected include riparian areas, wetlands, and SEZs; wildlife movement and migration corridors; important habitat for any species of concern; critical habitat necessary for the survival of any species; nesting habitat for raptors and waterfowl; fawning habitat for deer; and snags and coarse woody debris. In addition, TRPA-designated special-interest species (also referred to as "threshold species"), which are locally important because of rarity or other public interest, and species listed under the ESA or CESA are protected from habitat disturbance by conflicting land uses.

TRPA-designated special-interest wildlife species are northern goshawk (*Accipiter gentilis*), osprey (*Pandion haliaetus*), bald eagle (*Haliaeetus leucocephalus*), golden eagle (*Aquila chrysaetos*), peregrine falcon (*Falco peregrinus anatum*), mule deer (*Odocoileus hemionus*), and waterfowl species.

The Code includes the following requirements for protection of wildlife movement and migration corridors.

- SEZs adjoining creeks and major drainages that link islands of habitat will be managed, in part, for use by wildlife as movement corridors. Structures, such as bridges, proposed within these movement corridors will be designed to avoid impairment of wildlife movement.

- Projects and activities in the vicinity of deer migration areas will be required to mitigate or avoid significant adverse impacts.

The Code also contains several provisions regarding critical habitat. TRPA defines critical habitat as any element of the overall habitat for any species of concern that, if diminished, could reduce the existing population or impair the stability or viability of the population. This applies also to habitat for special-interest species native to the Tahoe Basin whose breeding populations have been extirpated, but could return or be reintroduced. The Code includes the following critical-habitat provisions.

- No project or activity will cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.

- No project or activity will threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.

- Wetlands shall be preserved and managed for their ecological significance, including their value as nursery habitat to fishes, nesting and resting sites for waterfowl, and as a source of stream recharge, except as permitted pursuant to Chapter 30 of the TRPA Code.

## 14.2.3 California

### CALIFORNIA ENDANGERED SPECIES ACT

Pursuant to the California Endangered Species Act (CESA), a permit from California Department of Fish and Wildlife (CDFW) is required for projects that could result in the "take" of a plant or animal species that is listed by the state as threatened or endangered. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the CESA definition of take does not include "harm" or "harass," like the ESA definition does. As a result, the threshold for take is higher under CESA than under ESA. Authorization for take of state-listed species can be obtained through a California Fish and Game Code Section 2081 incidental take permit.

### CALIFORNIA NATIVE PLANT PROTECTION ACT

In addition to CESA, the California Native Plant Protection Act provides protection to endangered and rare plant species, subspecies, and varieties of wild native plants in California. The California Native Plant Protection Act definitions of "endangered" and "rare" closely parallel the CESA definitions of endangered and threatened plant species.

### CALIFORNIA FISH AND GAME CODE SECTIONS 3503 AND 3503.5—PROTECTION OF BIRD NESTS AND RAPTORS

Section 3503 of the Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 of the California Fish and Game Code states that it is unlawful to take, possess, or destroy any raptors (i.e., species in the orders *Falconiformes* and *Strigiformes*), including their nests or eggs. Typical violations include destruction of active nests as a result of tree removal or disturbance caused by project construction or other activities that cause the adults to abandon the nest, resulting in loss of eggs and/or young

### CALIFORNIA FISH AND GAME CODE FULLY PROTECTED SPECIES

Protection of fully protected species is described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species and do not provide for authorization of incidental take. CDFW has informed nonfederal agencies and private parties that their actions must avoid take of any fully protected species.

### CALIFORNIA FISH AND GAME CODE SECTION 1602—STREAMBED ALTERATION

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by CDFW under Section 1602 of the California Fish and Game Code. Under Section 1602, it is unlawful for any person, governmental agency, or public utility to do the following without first notifying CDFW:

- substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake; or
- deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel that has banks and supports fish or other aquatic life. This definition includes watercourses with a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's

jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife. A CDFW streambed alteration agreement must be obtained for any action that would result in an impact on a river, stream, or lake.

## 14.2.4 Nevada

### NEVADA NATURAL HERITAGE PROGRAM

The Nevada Natural Heritage Program (NNHP) systematically collects information on Nevada's at-risk, rare, endangered, and threatened biological features and acts as a single source of information on Nevada's imperiled biodiversity. Taxa considered at risk and actively inventoried by NNHP typically include those with federal or other Nevada agency status, indicating some level of imperilment. The following statutes and codes specify guidelines and provisions for those species afforded some level of protection by the state of Nevada, and which are included in the NNHP at-risk species list.

### NEVADA ADMINISTRATIVE CODE 527.010 AND NEVADA REVISED STATUTES 527.260, NRS 527.270, AND NRS 527.300

Under Nevada Revised Statutes (NRS) 527.270, state law provides that a species or subspecies of native flora shall be regarded as threatened with extinction when the state forester fire warden, after consultation with competent authorities, determines that its existence is endangered and its survival requires assistance because of overexploitation, disease, or other factors or because its habitat is threatened with destruction, drastic modification, or severe curtailment. These species are also on a state list of fully protected species of native flora (Nevada Administrative Code 527.010), also known as the Critically Endangered Species List. The law also authorizes a program for the conservation, protection, restoration, and propagation of selected species of flora and for the perpetuation of the habitats of such species (NRS 527.260 and NRS 527.300).

### NEVADA REVISED STATUTES, TITLE 45

The Nevada Department of Wildlife manages fish and wildlife resources on the Nevada side of the Tahoe Basin under Title 45, Wildlife, of the NRS. Title 45 consists of provisions that address wildlife management, including protective measures that establish a program for the conservation, protection, restoration, propagation, and perpetuation of native fish and other vertebrate wildlife species.

### NEVADA REVISED STATUTES 503.610 AND NEVADA REVISED STATUTES 503.620

Bald eagles, golden eagles, and migratory birds are specifically protected under NRS 503.610 and NRS 503.620. Under these statutes, it is unlawful for any person or organization to "kill, destroy, wound, trap, injure, possess dead or alive, or in any other manner to catch or capture, or to pursue with such intent," bald eagles and golden eagles or other birds protect under the MBTA (16 USC Section 703 *et seq.*).

## 14.3 AFFECTED ENVIRONMENT

### OVERVIEW OF TERRESTRIAL LAND COVER AND HABITAT TYPES

Natural terrestrial habitats within the shorezone consist primarily of beach (with variable composition of sand, gravel, and cobble, depending on location) and a mix of conifer forest (Jeffrey pine, lodgepole pine, Sierran mixed conifer), scattered conifer trees and snags, and patches of montane riparian and wet meadow vegetation. Additionally, urban/developed and ruderal (disturbed) areas are distributed throughout the shorezone where existing facilities (e.g., boat ramps, marinas, buildings, trails) and lake access are present.

## SENSITIVE BIOLOGICAL RESOURCES

In this analysis, sensitive biological resources include those species and biological communities that receive special consideration through the TRPA Goals and Polices and TRPA Code, ESA, CESA, CWA, or local plans, policies, and regulations; or that are otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. Sensitive biological resources evaluated as part of this analysis include sensitive natural communities and special-status plant and animal species. These resources are addressed in the following sections.

### Sensitive Natural Communities and Habitats

Sensitive habitats include those that are of special concern to resource agencies or are afforded specific consideration through the TRPA Goals and Policies and TRPA Code, Section 404 of the CWA, and other applicable regulations. Sensitive natural habitats may be of special concern to these agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status, or because they provide important habitat to common and special-status species. For the California side of the Tahoe Basin, many of these communities are tracked in the CNDDB. Sensitive terrestrial natural communities and habitats in the project site are montane riparian and montane meadow.

Most of the wetland/riparian habitats in the shorezone area would likely be considered jurisdictional by USACE and, in California, the Lahontan Regional Water Quality Control Board (Lahontan Water Board) under Section 404 of the federal CWA and the state's Porter-Cologne Act. In addition, on the California side of the Tahoe Basin, CDFW has jurisdiction over activities affecting the bed and bank of drainages. Additionally, habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) are designated by TRPA as habitats of special significance. The TRPA threshold standard for habitats of special significance is nondegradation while providing for opportunities to increase the acreage of these habitats.

Most of the areas within wetland/riparian habitats in the Tahoe Basin are also designated as stream environment zone (SEZ), which is one of two TRPA-adopted threshold standards for soil conservation. SEZ is a term used specifically in the Tahoe Basin to describe perennial, intermittent and ephemeral streams; wet meadows, marshes, and other wetlands; riparian areas; and other areas expressing the presence of surface and ground water through its biological and physical characteristics.

For reasons discussed in Section 14.1, "Introduction," sensitive terrestrial habitats are not addressed further in the effects analysis for terrestrial biological resources. Potential effects of the Shoreline Plan alternatives on lands designated specifically as SEZ are addressed in Chapter 7, "Soil Conservation."

### Special-Status Species

Special-status species include plants and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies and conservation organizations. Special-status species are defined as plants and animals in the following categories.

- Designated as a sensitive, special interest, or threshold species by TRPA.
- Listed or proposed for listing as threatened or endangered under ESA.
- Designated as a candidate for listing as threatened or endangered under ESA.
- Listed or proposed for listing as threatened or endangered under CESA.
- Listed or a candidate for listing by the state of California as threatened or endangered under CESA.
- Listed as fully protected under the California Fish and Game Code.

- Animals identified by CDFW as species of special concern.
- Plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks [CRPR] of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; and 2, considered rare or endangered in California but more common elsewhere). The California Rare Plant Ranks correspond with and replace former CNPS listings. While these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under CEQA.
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Guidelines Section 15125 [c]) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G).
- Otherwise meets the definition of rare or endangered under CEQA Guidelines Section 15380(b) and (d).
- Plant species on Nevada's state list of fully-protected species of native flora (Nevada Administrative Code, Section 527.010), also known as the Critically Endangered Species List.
- Designated as an At-Risk Species by the Nevada Natural Heritage Program (NNHP).

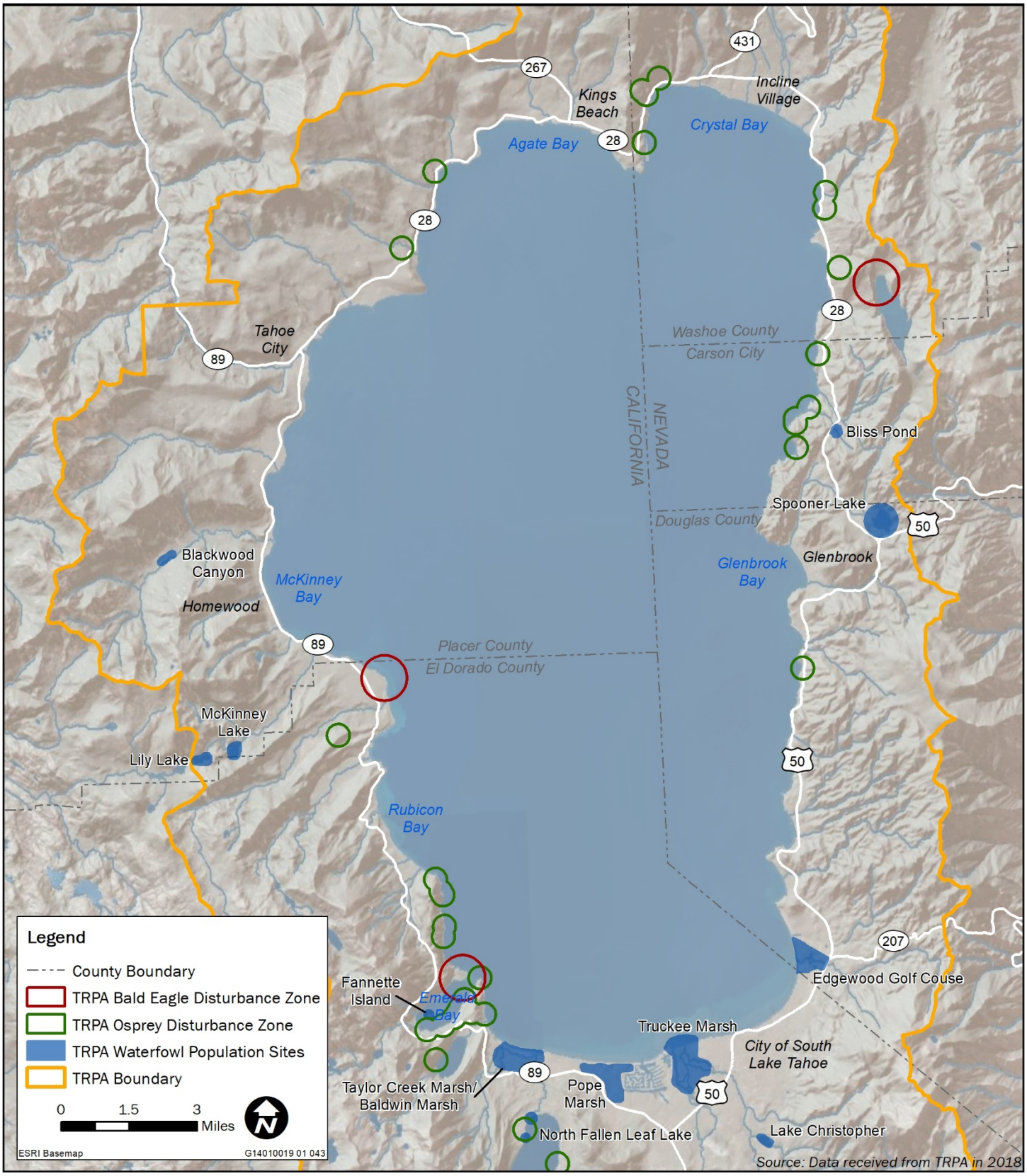
A preliminary list of special-status plant and animal species known or with potential to occur in the project site was developed based on a review of the sources listed at the beginning of this chapter. The data review identified 49 and 39 special-status terrestrial plant and wildlife species, respectively, known or with potential to occur in the shorezone or vicinity. Three special-status wildlife species (osprey, bald eagle, waterfowl) and one special-status plant species (Tahoe yellow cress [*Rorippa subumbellata*]) are known to occur in the shorezone and could be affected by shorezone ordinance modifications under the alternatives. These species are the focus of the impact analysis for special-status species presented in Section 14.4, "Environmental Consequences and Mitigation Measures," and are described below. Other special-status terrestrial species could use or occur in portions of the shorezone area but are not expected to be affected considerably by the proposed modifications to the shorezone ordinances.

#### Osprey

Osprey is designated by TRPA as a special interest species. Osprey is associated with large fish-bearing waters. In the Tahoe Basin, osprey nests are distributed primarily along the northern portion of the east shore and the southern portion of the west shore of Lake Tahoe. Other osprey nests in the Tahoe Basin are located along the shorelines of smaller lakes (such as Fallen Leaf Lake) and in forest uplands up to 1.5 miles from water. Ospreys forage in Lake Tahoe as well as several other fish-bearing lakes, streams, and rivers within the Tahoe Basin.

The osprey population in the Tahoe Basin has increased over the last several years. For example, between 1997 and 2015, the number of active nests increased steadily from 12 to 31 (TRPA 2016). The status of the Tahoe Basin's osprey population has been in attainment with respect to TRPA's environmental threshold standard for this species during the last six threshold evaluation periods (1991, 1996, 2001, 2006, 2011, 2016). The TRPA threshold standard for osprey includes maintaining a minimum of four population sites (i.e., four nests).

TRPA maintains a nondegradation standard for habitat within a 0.25-mile buffer zone ("disturbance zone") around each osprey nest site. The number of nesting pairs, active nests, and associated disturbance zones in the shorezone vary annually, and the locations of nest sites have shifted over the last several years. For example, some trees along Lake Tahoe that were historically used by osprey for nesting have fallen down in recent years. Exhibit 14-1 shows the most recent (2017) distribution of osprey disturbance zones, based on years of annual nest monitoring coordinated by TRPA.




TAHOE REGIONAL PLANNING AGENCY

**Exhibit 14-1** **TRPA Osprey and Bald Eagle Disturbance Zones and Waterfowl Population Sites**

SHORELINEPLAN
Enhancing Recreation & Protecting Lake Tahoe's 72 Miles of Shoreline

### Bald Eagle

Bald Eagle is designated by TRPA as a special interest species. Bald eagle is also federally protected by USFWS under the Bald and Golden Eagle Protection Act. Bald eagles require large bodies of water or free-flowing streams with abundant fish and adjacent snags or other perches for hunting. They generally nest in undisturbed coniferous forests, usually within one mile of a lake or reservoir. Bald eagle habitat typically consists of several components, most significantly, proximity to large bodies of water and wetlands associated with lakes, mature coniferous stands with presence of dominant trees, and adequate protection from human disturbance. Over the past several years, bald eagles have nested consistently in two areas of the Tahoe Basin–Marlette Lake and Emerald Bay. More recently, a third bald eagle nest site was documented at Sugar Pine Point along the west shore; this nest was active in 2013, 2014, and 2015 (TRPA data). The three bald eagle nest sites known in the Tahoe Basin from 2011 to 2017 are displayed in Exhibit 14-1. The Tahoe Basin is also a wintering area for bald eagles, and the wintering population is considerably greater than during the breeding season.

### Waterfowl

"Waterfowl" is designated by TRPA as a special-interest group of species because its nesting habitat in the Tahoe Basin is limited. Several waterfowl species occur in the Tahoe Basin during spring and summer months, including Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), green-winged teal (*A. crecca*), common merganser (*Mergus merganser*), ruddy duck (*Oxyura jamaicensis*), northern pintail (*A. acuta*), northern shoveler (*A. clypeata*), cinnamon teal (*A. cyanoptera*), American widgeon (*A. americana*), gadwall (*A. strepera*), ring-necked duck (*Aythya collaris*), and others. Most of these species nest along shallow-water margins of streams or lakes, in areas of emergent vegetation or other vegetation that provides concealment. Typically, nests are in marshes or adjacent meadows. Most of these ducks are dabblers and feed on vegetation in water approximately 6–10 inches deep. Ring-necked duck and common mergansers feed by diving under water, in aquatic areas that are anywhere from 3 feet to 10 feet deep. In the Tahoe Basin wetlands provide nesting, resting, and foraging habitat for waterfowl. Important areas for waterfowl include Pope Marsh, Truckee Marsh, Taylor Creek Marsh, Grass Lake, and Spooner Lake (TRPA 2016).

Generally, recreational activities and human access to wetlands may disrupt normal waterfowl behavior (Knight and Cole 1995). TRPA has established threshold standards and regulates activities within 18 designated waterfowl population sites. The distribution of TRPA waterfowl population sites is displayed in Exhibit 14-1. Because of increased recreational encroachment into wetland areas over the last several decades, habitat quality at TRPA-designated waterfowl population sites has been degraded and the 2016 TRPA threshold attainment status is considered below target (TRPA 2016).

Existing TRPA regulations prevent new projects from directly degrading wetland and riparian habitats, including mapped waterfowl population sites (Code of Ordinances Section 62.3.3). However, several waterfowl population sites coincide with recreation destinations, such as Fannette Island, Fallen Leaf Lake, Lake Baron, and Edgewood Golf Course, which are used extensively for recreational activities and could reduce their suitability to waterfowl for breeding, feeding, and resting (Korschgen and Dahlgren 1992).

### Tahoe Yellow Cress

Tahoe yellow cress (TYC) occurs only on the sandy beaches of Lake Tahoe. This species is designated as a sensitive plant and threshold indicator species by TRPA and is state-listed as critically endangered and endangered by the states of Nevada and California, respectively. The distribution and abundance of TYC are closely linked to lake level, with greater abundance and more occurrences present during low lake levels when more beach habitat is available for colonization (Pavlik et al. 2002, Stanton et al. 2015). The species exhibits a metapopulation dynamic, where populations or clusters of plants at some locations may periodically disappear or decline in number in some years (e.g., in high water years), and TYC may recover or colonize exposed suitable habitats during other periods (Pavlik et al. 2002). The timing and probability of these dynamic extirpation and colonization events depend primarily on lake level and disturbances from recreation or development, but also on the biophysical characteristics of the sites themselves. The primary anthropogenic disturbances to this species are recreational use of beaches occupied by TYC and potentially development of marinas, boat ramps, and piers, which result in trampling and degradation or loss of habitat.

In response to low numbers of TYC occurrences in the late-1990s, a multiagency technical advisory group (TAG) was formed to develop and implement a conservation strategy for the species. The Tahoe Yellow Cress Conservation Strategy was completed in 2002 (Pavlik et al. 2002) and updated in 2015 (Stanton et al. 2015), and a memorandum of understanding and conservation agreement were signed by 13 state and local agencies and stakeholders to implement the strategy. In 2002, the TAG initiated a research program that has included seed collection, greenhouse propagation, experimental outplantings of container-grown TYC plants, translocation of naturally occurring TYC among sites, and some limited genetic analysis. In 2005, members of the TAG transitioned to being members of an adaptive management working group (AMWG). A central goal of the Conservation Strategy is to ensure a sufficient level of protection and conservation for the species that will preclude the need for USFWS to list TYC under the ESA.

The AMWG conducts regular population surveys at known and potential TYC population sites in the shorezone. The cumulative distribution of TYC occurrences (based on numerous years of data) is displayed in Exhibit 14-2.

## 14.4 ENVIRONMENTAL CONSEQUENCES AND MITIGATION MEASURES

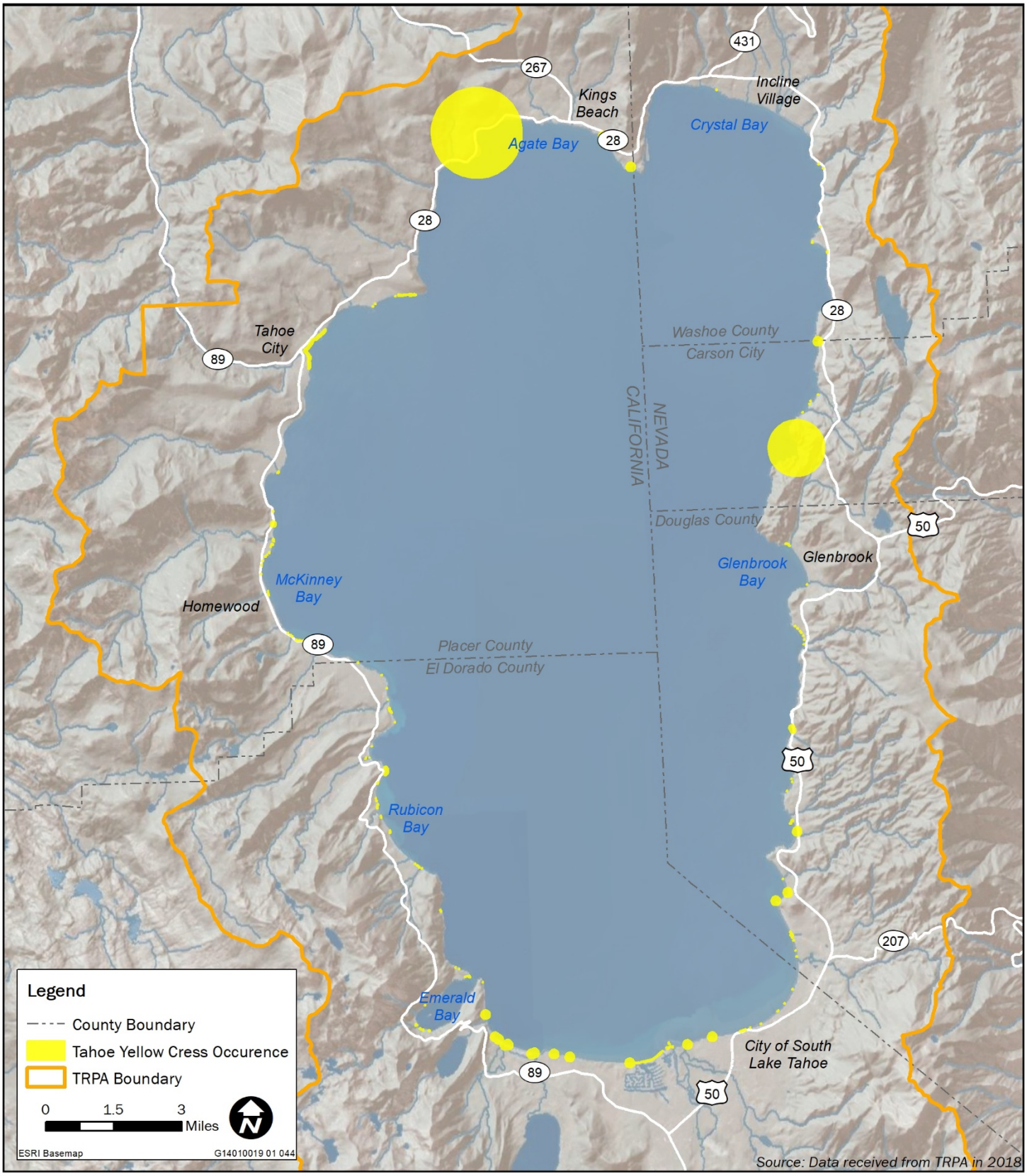
### 14.4.1 Methods and Assumptions

The analysis of potential impacts to terrestrial biological resources from the Shoreline Plan alternatives is based on the data review, resource mapping, environmental review documents, and technical studies referenced in Section 14.1, “Introduction.” The information obtained from these sources was reviewed and summarized to understand existing conditions and to identify potential environmental effects, based on the significance criteria identified below. In determining the level of significance, the analysis assumes that the proposed project would comply with relevant federal, state, and regional laws, regulations, and ordinances.

Potential impacts of the project on biological resources can be classified as either temporary or permanent. Temporary impacts generally include ground or lake-bottom disturbances associated with temporary construction activities for new pier and boat ramp projects, including: removal of existing structures; construction staging; minor cut and fill that would be restored to existing conditions after project completion; potential construction disturbances assumed to occur adjacent to permanent project features; and noise, ground vibration, airborne particulate (dust) generated, and turbidity caused by construction activities.

Permanent impacts generally include physical effects associated with conversion of land use and cover (e.g., permanent vegetation removal) or permanent disturbance of upland areas or the lake bed as a result of: earthwork/excavation, new paving for the shared-use path and parking facilities, landscaping, and installation of new structures. In addition, permanent impacts include long-term changes to recreational uses (e.g., boating, beach use) that can result in disturbances to wildlife and vegetation. Changes in patterns and intensity of human activity as a result of the Shoreline Plan alternatives could cause changes to noise levels, visual disturbances, and physical disturbances that may affect wildlife and vegetation, particularly for species that are sensitive to these factors.

As discussed in Chapter 3, “Approach to the Environmental Analysis,” because of the broad geography and long timeframe to which the proposed Shoreline Plan alternatives apply and the policy-oriented nature of the their guidance, the potential effects of each alternative on terrestrial biological resources are analyzed at a program level. This analysis focuses on the potential effects of policies and ordinances, which—because they are to be implemented through later site-specific projects over the duration of the Plan—are inherently less precise than analyses that evaluate implementation programs or specific projects.




TAHOE REGIONAL PLANNING AGENCY

**Exhibit 14-2 Tahoe Yellow Cress Occurrences**

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This analysis is not intended to replace more detailed project-specific environmental documentation that will be needed to evaluate individual projects proposed following approval of a Shoreline Plan. For future projects that are not otherwise exempt or qualified exempt, TRPA will review those site-specific projects to determine the appropriate level of environmental review. For projects that could result in significant effects on biological resources, TRPA would—in coordination with other federal, state, or local agency with jurisdiction by law, or specialized expertise—conduct project-level, site-specific analysis to identify adverse effects and develop feasible mitigation measures that must be implemented to minimize any such effects.

## 14.4.2 Significance Criteria

Significance criteria related to vegetation and wildlife are summarized below. The applicable TRPA threshold standards, the vegetation and wildlife criteria from the TRPA Initial Environmental Checklist, and other relevant information were considered in the development of the significance criteria. An impact would be considered significant if it would:

- create substantial adverse effects on any unique, rare, or endangered terrestrial plant or animal species, or
- result in substantial change in the distribution or abundance of common terrestrial plant and animal species, or reduced quantity and quality of native habitats.

## 14.4.3 Environmental Effects of the Project Alternatives

### Impact 14-1: Disturbances to osprey, bald eagle, and waterfowl from construction and recreational uses

Osprey, bald eagle, and waterfowl are designated by TRPA as special interest species and use the shorezone and adjacent locations for breeding and foraging. Potential effects of the Shoreline Plan alternatives on osprey and bald eagle could include construction-related disturbances to nesting activities from new piers and boat ramps, long-term increased disturbance to osprey and bald eagle and suitable habitat from boating and other recreational uses, and habitat degradation within TRPA-designated osprey and bald eagle disturbance zones. Although suitable nesting habitat for waterfowl is limited in the shorezone where new projects would be permitted (e.g., outside of TRPA-designated waterfowl population sites), construction-related activities that may occur within suitable habitat could disturb nesting attempts of waterfowl. The types of potential impacts to osprey, bald eagle, and waterfowl would be similar for Alternatives 1, 2, 3, and 4, with some differences in magnitude based on the locations, amounts, and quality of habitats potentially affected. The potential disturbance to osprey and bald eagle nest sites and disturbance zones, and disturbance or loss of waterfowl nests, under Alternatives 1, 2, 3, and 4 would be a **significant** impact. However, with implementation of Mitigation Measures 14-1a and 14.1b, potential impacts to osprey, bald eagle, and waterfowl would be **less than significant** for all alternatives.

This impact discussion addresses the significance criterion “substantial adverse effects on any unique, rare, or endangered terrestrial plant or animal species” as it relates to osprey, bald eagle, and waterfowl. Although osprey and waterfowl are not uncommon in the shorezone, they are special-status species and have special protections in the Tahoe Basin; therefore, they are analyzed here and separate from “common wildlife” addressed in Impact 14-3.

## Alternative 1: Proposed Shoreline Plan

### Osprey

Osprey is designated by TRPA as a special interest species. The most recent (2017) distribution of osprey population sites in the Tahoe Basin, based on years of annual nest monitoring coordinated by TRPA, is shown in Exhibit 14-1.

Potential effects of the proposed Shoreline Plan on osprey could include construction-related disturbances to nesting activities from new piers and boat ramps, long-term increased disturbance to ospreys and suitable habitat from boating and other recreational uses, and habitat degradation within TRPA-designated osprey disturbance zones. These impacts are discussed in the following sections.

New piers and boat ramps allowable under the proposed Shoreline Plan would be sited to avoid all TRPA-designated disturbance zones for osprey and other special interest species, to the extent feasible. Additionally, for areas outside of TRPA urban plan areas, TRPA maintains a nondegradation standard for habitat within a 0.25-mile buffer zone around osprey nest sites ("disturbance zones"). However, because specific locations and project-specific constraints of future piers and boat ramps have not been identified and would be evaluated during project-level planning and environmental review, this analysis conservatively assumes that a new pier or boat ramp could potentially be permitted within a disturbance zone under certain circumstances. Such projects would require appropriate compensation or other mitigation to meet the habitat nondegradation standard.

#### Construction-Related Disturbances

With Alternative 1, construction activity would be associated with new piers and boat ramps. At buildout, Alternative 1 would allow for a total of up to 10 new public piers and 128 new private piers (including private multi-use piers) for a total of 900 piers, and two new public boat ramps for a total of 24 public boat ramps. Project construction activities could temporarily disturb ospreys and/or their suitable habitat located within the shorezone. Depending on the specific locations of these facilities in relation to osprey nest sites and high-quality foraging areas, construction-related activities (including site preparation and equipment access) could disturb foraging or nesting activities.

Temporary disturbances resulting from construction noise, visual disturbance, and increased human activity within osprey habitat could cause individuals or breeding pairs to temporarily leave an area or abandon nests to avoid the disturbance. Although osprey sensitivity to disturbance is highly variable (discussed further in "Long-term Recreational Disturbances," below) and the species can habituate to human activity nearby, construction activities in close proximity to nests, particularly during the incubation and nesting stages, could disturb nesting birds, reduce nest success, or cause abandonment by introducing new disturbance sources at the nest during this sensitive period.

Project construction could also temporarily disturb osprey foraging activities. However, because of the presence of existing recreation uses and other activities throughout osprey foraging habitat on Lake Tahoe, particularly in the shorezone, the existing disturbance level is considerable; additional construction-related disturbance are not expected to substantially affect the foraging patterns of osprey. Also, abundant and suitable foraging habitat would be available nearby in other areas of Lake Tahoe.

#### Long-Term Recreational Disturbances

At buildout, in addition to the new piers and boat ramps discussed previously, Alternative 1 would allow for up to 2,116 new moorings (265 new public buoys, 1,741 new private buoys, 65 public slips, and 45 private lifts) for a total of approximately 10,800 moorings. Alternative 1 would maintain the existing 600-foot no-wake zone, which limits watercraft speed to 5 mph within 600 feet of shore and would expand the no-wake zone to include all of Emerald Bay.

Alternative 1 would result in an approximately 13 percent increase in peak day boat trips and an approximately 16 percent increase in annual boat trips over baseline conditions. The increase in number of boat trips are influenced by increases in boat launch capacity, which would be provided by the two new

public boat launches, and overnight mooring at buoys, slips, and boat lifts. Based on the number of existing and new shorezone structures, boat trips would be estimated to increase to 6,666 boat trips on a peak day and 272,359 boat trips annually.

Over the long term, the additional recreation capacity for motorized watercraft, nonmotorized watercraft, anglers, swimmers, and beachgoers could increase the frequency of recreationists within osprey disturbance zones and in close proximity to nests, which could increase the level of noise, visual, and physical disturbance to nesting pairs. The sensitivity of ospreys to human disturbance varies considerably by geographic region, the type and context of disturbance, and the specific individual or pair of birds. Some birds or pairs tolerate human disturbances more than others (Poole et al. 2002); this is apparent at Lake Tahoe, where some pairs nest very close to frequent disturbances (e.g., Emerald Bay, Memorial Point), while others nest in remote locations (TRPA 2002). The highest density and abundance of osprey nests in the Tahoe Basin are located at Emerald Bay, which receives some of the highest levels of recreation use (including motorized boating) in the area during the osprey breeding season.

In general, ospreys can habituate to human activity nearby. Throughout the species' range, its nesting distribution generally confirms a level of tolerance to relatively high levels of disturbance associated with boat traffic, highways and other roads, neighborhoods, and buildings. The type, duration, timing, and predictability of disturbances appear important to birds at specific locations. Pairs that select and initially nest near human activities typically develop a high tolerance to disturbance; however, birds that select areas away from human infrastructure may be sensitive to human activities (Poole et al. 2002). In the Tahoe Basin, where ospreys have established nests near roads, constant vehicle traffic does not appear to disturb individuals. However, humans approaching nests on foot often disturb and elicit agitation calls from ospreys. Also, breeding ospreys are likely most sensitive during the incubation to early nestling stages (approximately April to August). Human disturbances during this period can cause adults to abandon nests for long periods of time, resulting in mortality of embryos and nestlings (Van Daele and Van Daele 1982, Levenson and Koplin 1984).

With implementation of Alternative 1, most new shorezone structures would be located within areas with existing shorezone development; and, motorized watercraft users would likely follow existing patterns of travel to popular destinations around the lake, including Baldwin Beach, east shore beaches, and many of the state parks such as Emerald Bay and Sand Harbor, and public beaches along the south shore. Additionally, the increase in boat density (11.5 percent on a peak day) would be relatively small and motorized recreation users would congregate near existing popular destinations. For osprey nest sites in these areas (popular destinations, existing developed areas, and along popular watercraft routes), or pairs in other areas that have demonstrated acclimation to existing boat traffic and other recreation uses in the shorezone, the increase in motorized and nonmotorized recreation with Alternative 1 would likely not be substantial enough to degrade osprey habitat measurably above existing levels and may not cause additional disturbance to use of the nests. Therefore, potential impacts to most osprey nest sites as a result of increased recreation uses with Alternative 1 may not be substantial.

For other nest sites, whether this increase in disturbance would cause abandonment or nest failure at those locations is unknown. However, it is reasonable to assume that some new recreational disturbances in close proximity to the nests, particularly during the incubation and nesting stages, could disturb nesting birds, reduce nest success, or cause abandonment by introducing new disturbance sources at the nest during this sensitive period (Van Daele and Van Daele 1982, Levenson and Koplin 1984). Therefore, increased recreational disturbances have a potential to cause adverse effects on the success of osprey nests in some areas.

Additional motorized and nonmotorized watercraft use could also disturb osprey foraging activities. However, because of the presence of existing recreation uses and other activities throughout osprey foraging habitat on Lake Tahoe, particularly in the shorezone, the existing disturbance level is considerable; the projected increase in recreation uses under Alternative 1 is not expected to substantially affect the foraging patterns of osprey. Suitable foraging habitat in Lake Tahoe is abundant and ospreys can forage over large areas.

With Alternative 1, although increased recreation uses could disturb osprey nests and foraging activities, effects on the overall Tahoe Basin osprey population is not expected to be substantial. Despite steady levels of recreation activity and other uses in the shorezone over the last several decades, the osprey population has been increasing and the number of active nests (approximately 31) has been consistently well above TRPA's threshold standard for the species (four nests). Therefore, long-term recreational disturbances with Alternative 1 would not conflict with TRPA threshold attainment for osprey.

#### Habitat Degradation within TRPA Osprey Disturbance Zones

Regardless of the biological significance of population-level effects on osprey, or TRPA threshold attainment for the species, TRPA maintains a nondegradation standard for habitat within osprey disturbance zones. For areas outside of TRPA urban plan areas, Section 62.4.1, "Disturbance Zones," of the TRPA Code states that the habitat in TRPA-designated disturbance zones around osprey nests "shall not be manipulated in any manner unless such manipulation is necessary to enhance the quality of the habitat." Section 62.4.3, "Environmental Documents," states that "applicants for projects within disturbance zones shall submit with their applications appropriate environmental documentation prepared by a biologist that includes specific recommendations for avoiding significant adverse impacts to the … species."

To meet TRPA Code requirements, TRPA has determined for other projects proposed within osprey disturbance zones that habitat enhancement for osprey must be a project objective and would be required to compensate for significant effects of projects and improve osprey habitat conditions overall in the Tahoe Basin. Accordingly, with Alternative 1, the construction and operation of any new shorezone structures within osprey disturbance zones that would degrade habitat quality, without appropriate habitat enhancement objectives or mitigation, would conflict with the nondegradation standard for osprey disturbance zones.

#### Summary of Effects on Osprey

The loss of an active osprey nest or reduced nest success as a result of project construction, and potential habitat degradation within TRPA-designated osprey habitat disturbance zones, would be a **significant** impact.

### Bald Eagle

Bald Eagle is designated by TRPA as a special interest species. Bald eagle is also federally protected by USFWS under the Bald and Golden Eagle Protection Act. Bald eagles have nested consistently in two areas of the Tahoe Basin–Marlette Lake and Emerald Bay. More recently, a third bald eagle nest site was documented at Sugar Pine Point along the west shore; this nest was active in 2013, 2014, and 2015 (TRPA data). The three bald eagle nest sites known in the Tahoe Basin from 2011 to 2017 are displayed in Exhibit 14-1. The shorezone encompasses the Emerald Bay and Sugar Pine Point nest sites. The Tahoe Basin is also a wintering area for bald eagles, and the wintering population is considerably greater than during the breeding season.

With Alternative 1, the impact types and mechanisms described in detail previously for osprey are generally the same as those for bald eagle. Potential effects of the Proposed Shoreline Plan on bald eagle could include construction-related disturbances to nesting activities from new piers and boat ramps, long-term increased disturbance to bald eagles and suitable habitat from boating and other recreational uses, and habitat degradation within TRPA-designated bald eagle disturbance zones. However, nesting bald eagles are considered to be consistently more sensitive to visual and noise disturbances; and their distribution in the shorezone is limited to 3 nest sites, with no more than two being active during a year. Additionally, the TRPA disturbance zone for bald eagle is a 0.5-mile radius around nest sites.

For the same reasons described for osprey, the potential disturbance of bald eagle nests at Emerald Bay and Sugar Pine Point, and potential degradation of habitat within bald eagle disturbance zones at these locations, would be a **significant** impact.

### Waterfowl

Waterfowl species are common and abundant throughout the shorezone, and four TRPA-designated waterfowl population sites are concentrated along the south shore of the lake (Fannette Island, Taylor Creek/Baldwin Marsh, Pope Marsh, Truckee Marsh, Edgewood Golf Course; Exhibit 14-1). Generally,

recreational activities and human access to wetlands may disrupt normal waterfowl behavior (Knight and Cole 1995). TRPA has established threshold standards and regulates activities within waterfowl population sites. Because of increased recreational encroachment into wetland areas over the last several decades, habitat quality at TRPA-designated waterfowl population sites has been degraded and the 2016 TRPA threshold attainment status is considered below target (TRPA 2016). Because existing TRPA regulations prevent new projects from directly degrading wetland and riparian habitats, including mapped waterfowl population sites (Code of Ordinances Section 62.3.3), the construction of future shorezone facilities within TRPA waterfowl population sites that could degrade waterfowl habitat conditions would not be permitted under Alternative 1.

Nesting habitat for waterfowl species within other parts of the shoreline is very limited due to lack of extensive riparian vegetation or other natural areas that may provide adequate cover and limited buffer distance between beach recreation and wetland/open water habitats. However, small areas of nesting habitat may exist in areas near undisturbed emergent wetlands, ponds, and other aquatic features where vegetation cover is relatively dense. Surveys for nesting waterfowl have not been conducted within most of the shorezone and whether those areas are used for nesting is currently unknown.

Alternative 1 would result in construction and operation of new shorezone structures, as discussed in detail previously. Depending on the specific locations and size of individual projects in relation to suitable habitat for nesting waterfowl, construction-related activities that may occur within or adjacent to these areas could disturb nesting attempts and reduce reproductive success. In addition, other disturbances such as noise generated in association with construction could affect foraging and resting waterfowl. Although not highly likely, if waterfowl use any future shorezone areas for nesting, these disturbances could result in the loss of active nests, and injury or mortality to individuals. This would be a **significant** impact.

#### Alternative 2: Maintain Existing TRPA Shorezone Regulations (No Project)

The goal of Alternative 2 is to balance access and environmental protection by applying the approach that was developed under the 1987 Regional Plan. This alternative would not include a numeric cap on shorezone structures but would prohibit new structures within TRPA-designated prime fish habitat. This alternative would allow more shorezone structures than any other alternative and is the only alternative that would allow new marinas. At buildout, it would potentially allow for up to 6,768 new buoys and slips, 476 new piers, six new boat ramps, and two new marinas. Alternative 2 would maintain the existing 600-foot no-wake zone.

Alternative 2 would result in an approximately 45 percent increase in peak day boat trips and an approximately 53 percent increase in annual boat trips over baseline conditions at buildout conditions (i.e., by the year 2040). This is a substantially greater increase than the increase in peak day and annual boat trips for Alternative 1. As discussed in detail in Chapter 8, “Recreation,” of this EIS, the increase in the density of motorized watercraft on the lake would be considerable.

With Alternative 2, the types of potential impacts to osprey, bald eagle, and waterfowl would be similar to those described for Alternative 1, with differences in the amounts and locations of habitats affected between the alternatives. Because Alternative 2 includes the greatest number of new shorezone structures and the greatest projected increase in watercraft use, the potential magnitude of construction and recreational disturbances to osprey, bald eagle, and waterfowl is highest under this alternative.

For the same reasons described for Alternative 1, the potential disturbance to osprey and bald eagle nest sites and disturbance zones, and disturbance or loss of waterfowl nests, under Alternative 2 would be a **significant** impact.

#### Alternative 3: Limit New Development

With Alternative 3, motorized watercraft access would be more concentrated at marinas and public facilities, and fewer structures would be authorized under this alternative than under Alternative 1 or 2. At buildout, it would allow for a total of 365 new public buoys or slips, five new public piers, and one new public boat ramp. Eighty-six new private piers would be authorized under this alternative, but they would be restricted to

multiple-use piers. Alternative 3 would result in an approximately four percent increase in peak day boat trips and an approximately four percent increase in annual boat trips over baseline conditions. Alternative 3 would maintain the same no-wake zone as Alternative 1.

With Alternative 3, the types of potential impacts to osprey, bald eagle, and waterfowl would be similar to those described for Alternative 1, with differences in the amounts and locations of habitats affected between the alternatives. Because Alternative 3 includes fewer new shorezone structures and a substantially lower projected increase in watercraft use compared to Alternatives 1 and 2, the potential magnitude of construction and recreational disturbances to osprey, bald eagle, and waterfowl would be lower under this alternative. For the same reasons described for Alternative 1, the potential disturbance to osprey and bald eagle nest sites and disturbance zones, and disturbance or loss of waterfowl nests, under Alternative 3 would be a **significant** impact.

#### Alternative 4: Expand Public Access and Reduce Existing Development

The goal of Alternative 4 is to expand public access, reduce existing shorezone development, and increase restoration to minimize the risk of environmental harm. This alternative would include transfer ratios that would allow some private shorezone structures to be removed and rebuilt in different locations if the project would result in a 2:1 reduction in the number of structures. At buildout, this alternative would allow 15 new public piers and no other new shorezone structures. There would be no change in peak day or annual boat trips over baseline conditions and no change in density of boats on the lake, and the number of motorized watercraft on the lake would not increase substantially.

Implementation of Alternative 4 would include expanding the no-wake zone to include all of Emerald Bay and would increase the no-wake zone in front of priority areas to 1,200 feet lakeward from the waterline of the lake. These priority areas include portions of the lake adjacent to Sand Harbor and the surrounding Lake Tahoe Nevada State Park, D.L. Bliss State Park, and Sugar Pine Point State Park.

With Alternative 4, the types of potential impacts to osprey, bald eagle, and waterfowl would be similar to those described for Alternative 1, with differences in the amounts and locations of habitats affected between the alternatives. Because Alternative 4 includes substantially fewer new shorezone structures compared to the other Plan alternatives and no projected increase in watercraft use, the potential magnitude of construction and recreational disturbances to osprey, bald eagle, and waterfowl would be lower under this alternative. For the same reasons described for Alternative 1, the potential disturbance to osprey and bald eagle nest sites and disturbance zones, and disturbance or loss of waterfowl nests, under Alternative 4 would be a **significant** impact.

## Mitigation Measures

### Mitigation Measure 14-1a: Avoid construction disturbances to nesting osprey and bald eagle, install interpretive signage, and prepare and implement habitat enhancement plans or other compensatory measures for unavoidable activities within TRPA-designated disturbance zones

This mitigation measure would be required for Alternatives 1, 2, 3, and 4.

- Surveys for nesting osprey and bald eagle will be conducted prior to construction of new shorezone facilities, to identify active nests that could be disturbed during construction. No construction activities will occur within 0.25 mile of active osprey nests and 0.5 mile of bald eagle nests during the breeding season (approximately April to August), unless surveys confirm that the birds are not nesting. A qualified biologist can amend the start and end dates of this limited operating period (LOP) with concurrence from appropriate agencies if it can be determined that breeding has not started or that fledglings have left the nest. Additionally, with concurrence from appropriate agencies, the LOP could be waived in locations where construction disturbance is not expected to increase ambient levels or disturbance to an active nest through presence of visual screening or other factors.

- During project-specific planning, design, and environmental review of new shorezone facilities, avoid siting projects within TRPA-designated disturbance zones for osprey and bald eagle, to the extent feasible.

- For projects and uses that may result in unavoidable increased human intrusion into the terrestrial/upland portions of TRPA osprey or bald eagle disturbance zones, signage that describes the sensitivity of the area and discourages users to leave established trails or access routes or otherwise disturb nesting osprey or bald eagle will be designed and installed.

- For projects that could cause unavoidable long-term degradation of habitat within TRPA osprey or bald eagle disturbance zones, coordination with TRPA will occur to identify and implement appropriate compensatory measures that are effective and feasible for achieving TRPA's nondegradation standard for disturbance zones.

  Potential approaches to mitigating adverse effects and enhancing habitat within disturbance zones include preparation and implementation of a habitat enhancement and management plan that includes objectives, measures, techniques, performance standards, and adaptive management to enhance osprey habitat. Habitat enhancement would be implemented within the affected TRPA osprey or bald eagle disturbance zones and/or other osprey or bald eagle disturbance zones in the Tahoe Basin where enhancement opportunities and benefits to the regional osprey or eagle population could be maximized. Coordination with TRPA would occur to determine whether more focused measures to achieve habitat enhancement as part of the project could be implemented, or whether the current project design may benefit osprey or bald eagle habitat, in lieu of a formal habitat enhancement and management plan.

## Mitigation Measure 14-1b: Conduct preconstruction surveys for waterfowl and implement a limited operating period, if necessary

This mitigation measure would be required for Alternatives 1, 2, 3, and 4.

For construction activities that would occur in suitable habitat during the nesting season (generally April 1–August 31, depending on snowpack and other seasonal conditions), a qualified wildlife biologist shall conduct focused surveys for waterfowl nests no more than 14 days before construction activities are initiated each construction season. If an active nest is located during the preconstruction surveys, the biologist shall notify TRPA. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project objectives shall be evaluated and implemented to the extent feasible. If avoidance is not feasible or conflicts with project objectives, a limited operating period shall apply to avoid disturbances during the sensitive nesting season. Construction shall be prohibited within a minimum of 500 feet (or at a distance directed by the appropriate regulatory agency) of the nest to avoid disturbance until the nest is no longer active. These recommended buffer areas may be reduced through consultation with TRPA.

### Significance after Mitigation

Mitigation Measure 14-1a requires conducting preconstruction surveys for nesting ospreys and bald eagles, and implementing an appropriate exclusionary buffer and limited operating period to avoid or minimize effects of construction-related disturbance on nesting activity and breeding success.

Mitigation Measure 14-1a also requires avoiding the placement of new shorezone structures within TRPA-designated disturbance zones for osprey and bald eagle, to the extent feasible. For projects and uses that may result in unavoidable increased human intrusion into the terrestrial/upland portions of TRPA osprey or bald eagle disturbance zones, signage that describes the sensitivity of the area and discourages users to leave established trails or access routes or otherwise disturb nesting osprey or bald eagle will be designed and installed. For projects that may cause unavoidable long-term degradation of habitat within TRPA osprey or bald eagle disturbance zones, Mitigation Measure 14-1a also requires coordination with TRPA will occur to identify and implement appropriate compensatory measures that are effective and feasible for achieving TRPA's nondegradation standard for disturbance zones.

Implementation of Mitigation Measure 14-1b would avoid the loss of individuals and nests of waterfowl species.

In sum, with implementation of Mitigation Measures 14-1a and 14-1b, potential disturbances to osprey and bald eagle nest sites and disturbance zones, and disturbance or loss of waterfowl nests, under Alternatives 1, 2, 3, and 4 would be **less than significant**.

## Impact 14-2: Disturbance or loss of Tahoe yellow cress

Tahoe yellow cress (TYC) is a sensitive plant species found only on the sandy beaches of Lake Tahoe. This species is designated as a sensitive plant and threshold indicator species by TRPA, and is state-listed as critically endangered and endangered by the states of Nevada and California, respectively. Alternatives 1, 2, 3, and 4 would result in construction and operation of new shorezone structures within beach habitats. Depending on the specific locations and size of individual projects in relation to TYC occurrences and suitable habitat, construction-related activities that may occur within or adjacent to beach habitat occupied by TYC could result in the direct removal of TYC plants, or other disturbances through inadvertent trampling, soil disturbance, and dust deposition. Over the long term, the additional recreation capacity for motorized watercraft, nonmotorized watercraft, anglers, swimmers, and beachgoers could increase the frequency of recreationists within occupied TYC habitat, which could result in additional trampling, degradation, or loss of existing TYC, and adversely affect current or future TYC habitat suitability. The types of potential impacts to TYC would be similar among Alternatives 1, 2, 3, and 4, with some differences in magnitude based on the amounts and locations of beach habitats potentially affected.

Subsection 61.3.6 of the TRPA Code states that "all projects or activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat, shall fully mitigate their significant adverse effects. Those projects or activities that cannot fully mitigate their significant adverse effects are prohibited." Additionally, in California, because TYC is listed as endangered under CESA, any take of TYC would require authorization by CDFW through a California Fish and Game Code Section 2081 incidental take permit. For Alternatives 1, 2, 3, and 4, any potential loss of TYC plants as a result of Shoreline Plan implementation would be a **significant** impact. With implementation of Mitigation Measure 14-2, potential impacts to TYC would be **less than significant** for all alternatives.

This impact discussion addresses the significance criterion "substantial adverse effects on any unique, rare, or endangered terrestrial plant or animal species" as it relates to Tahoe yellow cress.

### Alternative 1: Proposed Shoreline Plan

Tahoe yellow cress (TYC) is a sensitive plant species found only on the sandy beaches of Lake Tahoe. This species is designated as a sensitive plant and threshold indicator species by TRPA, and is state-listed as critically endangered and endangered by the states of Nevada and California, respectively. The cumulative distribution of TYC occurrences (based on numerous years of data) is displayed in Exhibit 14-2.

With Alternative 1, some construction activity would be associated with new piers, expanded marinas, and boat ramps. At buildout, this alternative would allow for a total of up to 10 new public piers and 128 new private piers (including private multi-use piers) for a total of 900 piers, and two new public boat ramps for a total of 24 public boat ramps. Depending on the specific locations and size of projects in relation to TYC occurrences and suitable habitat, construction-related activities (including site preparation and equipment access) that may occur within or adjacent to beach habitat occupied by TYC could result in the direct removal of TYC plants, or other disturbances through inadvertent trampling, soil disturbance, and dust deposition. Over the long term, the additional recreation capacity for motorized watercraft, nonmotorized watercraft, anglers, swimmers, and beachgoers could increase the frequency of recreationists within occupied TYC habitat, which could result in additional trampling, degradation, or loss of existing TYC, and adversely affect current or future TYC habitat suitability.

Subsection 61.3.6 of the TRPA Code states that "all projects or activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat, shall fully mitigate their significant adverse effects. Those projects or activities that cannot fully mitigate their significant adverse effects are prohibited." Additionally, in California, TYC is listed as endangered under CESA; and, any take of TYC would require authorization by CDFW through a California Fish and Game Code Section 2081 incidental take permit. Any potential loss of TYC plants as a result of project implementation would be a **significant** impact.

Alternative 2: Maintain Existing TRPA Shorezone Regulations (No Project)

Alternative 2 would not include a numeric cap on shorezone structures but would prohibit new structures within TRPA-designated prime fish habitat. This alternative would allow more shorezone structures than any other alternative and is the only alternative that would allow new marinas. At buildout, it would potentially allow for up to 6,768 new buoys and slips, 476 new piers, 168 boat lifts, six new boat ramps, and two new marinas.

With Alternative 2, the types of potential impacts to TYC occurrences and suitable habitat would be similar to those described for Alternative 1, with differences in the amounts and locations of beach habitats potentially affected between the alternatives. Because Alternative 2 includes the greatest number of new shorezone structures and the greatest projected increase in watercraft use, the potential magnitude of construction and recreational disturbances to beaches occupied by TYC is highest under this alternative. For the same reasons described for Alternative 1, any potential loss of TYC plants as a result of project implementation under Alternative 2 would be a **significant** impact.

Alternative 3: Limit New Development

With Alternative 3, motorized watercraft access would be more concentrated at marinas and public facilities, and fewer structures would be authorized under this alternative than under Alternative 1 or 2. At buildout, it would allow for a total of 365 new public buoys or slips, five new public piers, and one new public boat ramp. Eighty-six new private piers would be authorized under this alternative, but they would be restricted to multiple-use piers. Alternative 3 would result in an approximately four percent increase in peak day boat trips and an approximately four percent increase in annual boat trips over baseline conditions.

With Alternative 3, the types of potential impacts to TYC occurrences and suitable habitat would be similar to those described for Alternatives 1 and 2, with differences in the amounts and locations of beach habitats affected between the alternatives. Because Alternative 3 includes fewer new shorezone structures and a substantially lower projected increase in watercraft use compared to Alternatives 1 and 2, the potential magnitude of construction and recreational disturbances to beaches occupied by TYC would generally be lower under this alternative. For the same reasons described for Alternative 1, any potential loss of TYC plants as a result of project implementation under Alternative 3 would be a **significant** impact.

Alternative 4: Expand Public Access and Reduce Existing Development

Alternative 4 is designed to expand public access, reduce existing shoreline development, and increase restoration to minimize the risk of environmental harm. This alternative would include transfer ratios that would allow some private shorezone structures to be removed and rebuilt in different locations if the project would result in a 2:1 reduction in the number of structures. At buildout, this alternative would allow 15 new public piers and no other new shorezone structures. There would be no change in peak day or annual boat trips over baseline conditions and no change in density of boats on the lake (i.e., one boat for approximately every 21 acres on the lake during a summer holiday weekend), and the number of motorized watercraft on the lake would not increase substantially.

With Alternative 4, the types of potential impacts to TYC occurrences and suitable habitat would be similar to those described for Alternative 1, with differences in the amounts and locations of beach habitats affected between the alternatives. Because Alternative 4 includes substantially fewer new shorezone structures compared to the other Plan alternatives and no projected increase in watercraft use, the potential magnitude of construction and recreational disturbances to beaches occupied by TYC would be lowest under this alternative compared to Alternatives 1, 2, and 3. For the same reasons described for Alternative 1, any

potential loss of TYC plants as a result of project implementation under Alternative 3 would be a **significant** impact.

## Mitigation Measures

### Mitigation Measure 14-2: Conduct preconstruction surveys, avoid potential construction impacts, and avoid potential recreation impacts to Tahoe yellow cress plants

This mitigation measure would be required for Alternatives 1, 2, 3, and 4.

To avoid potential adverse effects on TYC plants resulting from construction activities and potential increased use of beaches that support TYC, the following actions shall be implemented:

(A) During project-specific planning, design, and environmental review of new shorezone facilities, avoid siting projects within areas known to support TYC occurrences, to the extent feasible.

(B) For any projects that could affect TYC, a qualified biologist familiar with the vegetation of the Tahoe Basin and identification of TYC shall conduct a focused preconstruction survey for TYC in all beach habitat where construction-related disturbance could occur in the vicinity of TYC populations during that year. Surveys shall be conducted between June 15 and September 30, when TYC is clearly identifiable, and shall follow *Survey Protocols for Tahoe Yellow Cress Annual Surveys* (Stanton and Pavlik 2009). Surveys shall be completed for each year that construction activities could occur in beach habitat. If no TYC stems are found during the survey, the results of the survey shall be documented in a letter report to TRPA and the TYC AMWG that shall become part of the project environmental record, and no further actions shall be required.

(C) If TYC stems are documented during the survey in areas potentially disturbed by construction activities, the stems shall be clearly identified in the field and protected from impacts associated with construction activities. Protective measures shall include installing high-visibility fencing around known stem locations during construction. No construction-related activities shall be allowed in areas fenced for avoidance, and construction personnel shall be briefed about the presence of the stems and the need to avoid effects on the stems.

(D) To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of increased recreation activity in the shorezone, protective fencing and educational signage about the need to avoid these areas shall be installed around all TYC clusters. In addition to beaches occupied by TYC where new shorezone facilities would be constructed and operated, other beach areas that support TYC that are likely to receive increased recreation uses as a result of the projects shall be identified and subject to these measures.

(E) Long-term fencing and signage will be periodically monitored and maintained, as necessary, to ensure that they remain effective and in good working condition. Also, because locations and concentrations of TYC could shift over time, the locations and configurations of fencing relative to TYC distribution shall be evaluated periodically. If necessary, fencing shall be moved or added in response to changes in TYC distribution to ensure that TYC plants are protected over time. The locations of TYC plants and shifts in their locations relative to fencing can be determined by surveys as part of the ongoing AMWG TYC monitoring program. The installation and maintenance of long-term protective fencing and signage will be designed to not interfere with necessary operations and maintenance activities at facilities.

#### Significance after Mitigation

With implementation of Mitigation Measure 14-2, TYC plants that are present in areas of potential disturbance would be identified before construction and disturbances to those plants would be avoided. To protect TYC plants from potential long-term increased beach use and disturbance as an indirect result of increased recreation activity in the shorezone, protective fencing and educational signage about the need to avoid these areas would be installed around all TYC clusters on beaches that may be affected. Therefore, potential impacts as a result of Alternatives 1, 2, 3, and 4 would be reduced to a **less-than-significant** level.

## Impact 14-3: Disturbance or loss of common terrestrial vegetation communities and wildlife habitats

Common natural terrestrial habitats within the shorezone and adjacent areas consist primarily of beach and a mix of conifer forest, scattered conifer trees, and snags. Additionally, urban/developed and ruderal (disturbed) areas are distributed throughout the shorezone where existing facilities (e.g., boat ramps, marinas, buildings, trails) and lake access are present. These habitats support several common native wildlife species that use them for nesting, foraging, resting, or wintering. Alternatives 1, 2, 3, and 4 would result in construction and operation of new shorezone structures, and associated increases in recreation use, that could disturb common vegetation and wildlife. The types of potential impacts to common vegetation and wildlife communities would be similar among Alternatives 1, 2, 3, and 4, with some differences in magnitude based on the locations, amounts, and quality of habitats potentially affected.

The potential disturbance or removal of terrestrial vegetation from future projects permitted under any of the Shoreline Plan alternatives would be relatively minor and not substantially reduce the quantity or quality of terrestrial vegetation communities and habitats in the region or cause a change in species distributions or diversity. Additionally, none of the alternatives are expected to increase construction-related or recreational disturbance levels in the shorezone above levels that would substantially affect most common species. Accordingly, the alternatives are not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any common wildlife species, or result in a change in species diversity. Therefore, effects of Alternatives 1, 2, 3, and 4 on common vegetation and wildlife communities would be **less than significant**.

This impact discussion addresses the significance criterion "substantial change in the distribution or abundance of common terrestrial plant and animal species, or reduced quantity and quality of native habitats."

### Alternative 1: Proposed Shoreline Plan

#### Common Vegetation

Common natural terrestrial habitats within the shorezone consist primarily of beach (with variable composition of sand, gravel, and cobble, depending on location) and a mix of conifer forest (Jeffrey pine, lodgepole pine, Sierran mixed conifer), scattered conifer trees and snags. Additionally, urban/developed and ruderal (disturbed) areas are distributed throughout the shorezone where existing facilities (e.g., boat ramps, marinas, buildings, trails) and lake access are present.

With Alternative 1, some construction activity would be associated with new piers and boat ramps. At buildout, this alternative would allow for a total of up to 10 new public piers and 128 new private piers (including private multi-use piers) for a total of 900 piers, and two new public boat ramps for a total of 24 public boat ramps. Depending on the specific locations and size of projects, construction-related activities (including site preparation and equipment access) could result in the disturbance or removal of terrestrial vegetation, including some conifer and other trees, shrubs (e.g., willow), and herbaceous vegetation. Because the footprints of new piers and boat ramps would likely cover mostly unvegetated areas (beach/sand), disturbance or permanent loss of vegetation would be minor and incidental; and, any temporarily disturbed areas would be restored following construction. TRPA's Handbook of Best Management Practices and standard conditions of approval require minimizing the disturbance footprint and amount of native vegetation removed by a project, temporarily fencing retained vegetation, and revegetating any temporarily disturbed areas.

While common vegetation could be permanently and/or temporarily removed or disturbed during construction of new piers and boat ramps with Alternative 1, the potential loss would be relatively minor for reasons discussed previously. Additionally, the terrestrial vegetation communities and habitats that may be affected are common and widely distributed in the Tahoe Basin and elsewhere in the Sierra Nevada, and the amount of habitat disturbance and loss would be very small relative to the total amount available in the area. Additionally, any tree removal that may be required would not substantially affect overall canopy cover or reduce the abundance of this vegetation type on the landscape.

In sum, potential disturbance or removal of terrestrial vegetation from future projects permitted under Alternative 1 would not substantially reduce the quantity or quality of vegetation communities and habitats in the region and would not result in a change in diversity or distribution of species in the region. Additionally, Plan implementation would not result in a substantial change in local population numbers of any common plant or tree species or any unique, rare, or endangered species of plants or animals. Any permanent and temporary loss and disturbance that would occur under Alternative 1 would be relatively minor and not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or disrupt the natural processes that support common vegetation communities in the shorezone. This impact would be **less than significant**.

#### Common Wildlife

Several common resident and migratory wildlife species use habitats in the shorezone for foraging, shelter, and breeding. Common wildlife species in the Plan area primarily include waterfowl species (discussed in Section 14.3, "Affected Environment"), and several other bird, mammal, reptile, and amphibian species. Common small mammals that use certain habitat elements in or adjacent to the shorezone (including patches of conifer trees) include golden-mantled ground squirrel (*Spermophilus lateralis*), California ground squirrel (*S. beecheyi*), western gray squirrel (*Sciurus griseus*), Douglas' squirrel (*Tamiasciurus douglasii*), and yellow-pine chipmunk (*Tamias amoenus*). Larger mammals also use the shorezone for foraging and access to water; these species include raccoon (*Procyon lotor*), coyote (*Canis latrans*), and black bear (*Ursus americanus*). In addition to waterfowl, common bird species in the shorezone include mountain chickadee (*Poecile gambeli*), red-breasted nuthatch (*Sitta canadensis*), pygmy nuthatch (*Sitta pygmaea*), American robin (*Turdus migratorius*), yellow-rumped warbler (*Dendroica coronata*), Steller's jay (*Cyanocitta stelleri*), dark-eyed junco (*Junco hyemalis*), Brewer's blackbird (*Euphagus cyanocephalus*), and brown-headed cowbird (*Molothrus ater*). Amphibians and reptiles known or likely to use portions of the shorezone include Sierran tree frog (*Pseudacris regilla*) and sagebrush lizard (*Sceloporus graciosus*).

Although waterfowl and osprey are not rare or uncommon in the shorezone, they are special-status species and have special protections in the Tahoe Basin; therefore, they are not addressed here as "common wildlife" and are analyzed separately in Impact 14-1.

Effects of Alternative 1 on vegetation communities and associated terrestrial wildlife habitats are discussed in "Common Vegetation," above. Some regionally and locally common wildlife species would be subject to direct effects including construction disturbance associated with new pier and boat ramp construction, and possibly a minor loss or disturbance of habitat, and indirect effects such as increased recreation disturbance. In addition to the shorezone structures described in "Common Vegetation," Alternative 1 would allow for up to 2,116 new moorings (265 new public buoys, 1,741 new private buoys, 65 public slips, and 45 private lifts) for a total of approximately 10,800 moorings. Alternative 1 would maintain the existing 600-foot no-wake zone, which limits watercraft speed to 5 mph within 600 feet of shore and would expand the no-wake zone to include all of Emerald Bay. Alternative 1 at buildout would result in an approximately 13 percent increase in peak day boat trips and an approximately 16 percent increase in annual boat trips over baseline conditions.

Regionally and locally common wildlife species could be disturbed over the long term by operation and use of new recreation facilities, through increased access to portions of the shorezone. Increased recreational use of these areas could reduce the habitat value for wildlife. Changes in patterns and intensity of human activity, including watercraft use, as a result of the proposed Shoreline Plan could cause changes to noise levels, visual disturbances, and physical disturbances that may disturb the breeding, foraging, or resting activities of common wildlife.

With implementation of Alternative 1, most new shorezone structures would be located within areas with existing shorezone development; and, motorized watercraft users would likely follow existing patterns of travel to popular destinations around the lake. Additionally, the increase in boat density (11.5 percent on a peak day) would be relatively small and motorized recreation users would congregate near existing popular destinations. Therefore, Alternative 1 is not expected to substantially increase construction-related or recreational disturbance levels in the shorezone above existing levels for most common species. These common species are relatively abundant locally and regionally, and generally are not limited by the

availability of habitat in the region. Habitat in the shorezone is not considered critical or limiting to the presence or viability of common wildlife populations in the region. Accordingly, Alternative 1 is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any common wildlife species, or result in a change in species diversity. Therefore, effects of Alternative 1 on common wildlife species and communities would be **less than significant**.

Alternative 2: Maintain Existing TRPA Shorezone Regulations (No Project)

Alternative 2 would not include a numeric cap on shorezone structures but would prohibit new structures within TRPA-designated prime fish habitat. This alternative would allow more shorezone structures than any other alternative and is the only alternative that would allow new marinas. At buildout, it would potentially allow for up to 6,768 new buoys and slips, 476 new piers, 168 boat lifts, six new boat ramps, and two new marinas. Additionally, Alternative 2 would result in an approximately 45 percent increase in peak day boat trips and an approximately 53 percent increase in annual boat trips over baseline conditions at buildout conditions.

With Alternative 2, the types of potential impacts to common vegetation and wildlife would be similar to those described for Alternative 1, with differences in the amounts and locations of habitats affected between the alternatives. Because Alternative 2 includes the greatest number of new shorezone structures and the greatest projected increase in watercraft use, the potential magnitude of construction and recreational disturbances to common vegetation communities/habitats and common wildlife species is highest under this alternative.

For the same reasons described for Alternative 1, potential disturbance or removal of terrestrial vegetation from future projects permitted under Alternative 2 would not substantially reduce the quantity or quality of vegetation communities and habitats in the region and would not result in a change in diversity or distribution of species in the region. Any permanent and temporary loss and disturbance that would occur under Alternative 2 would be relatively minor and not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or disrupt the natural processes that support common vegetation communities in the shorezone.

Alternative 2 is not expected to substantially increase construction-related or recreational disturbance levels in the shorezone above existing levels for most common species. These common wildlife species are relatively abundant locally and regionally, and generally are not limited by the availability of habitat in the region. Habitat in the shorezone is not considered critical or limiting to the presence or viability of common wildlife populations in the region. Accordingly, alternative 2 is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any common wildlife species, or result in a change in species diversity. Therefore, effects of Alternative 2 on common vegetation and wildlife communities would be **less than significant**.

Alternative 3: Limit New Development

With Alternative 3, motorized watercraft access would be more concentrated at marinas and public facilities, and fewer structures would be authorized under this alternative than under Alternative 1 or 2. At buildout, it would allow for a total of 365 new public buoys or slips, five new public piers, and one new public boat ramp. Eighty-six new private piers would be authorized under this alternative, but they would be restricted to multiple-use piers. Alternative 3 would result in an approximately four percent increase in peak day boat trips and an approximately four percent increase in annual boat trips over baseline conditions.

With Alternative 3, the types of potential impacts to common vegetation and wildlife communities would be similar to those described for Alternatives 1 and 2, with differences in the amounts and locations of habitats affected between the alternatives. Because Alternative 3 includes fewer new shorezone structures and a substantially lower projected increase in watercraft use compared to Alternatives 1 and 2, the potential magnitude of construction and recreational disturbances to common vegetation communities/habitats and common wildlife species would be lower under this alternative.

For the same reasons described for Alternative 1, potential disturbance or removal of terrestrial vegetation from future projects permitted under Alternative 3 would not substantially reduce the quantity or quality of

vegetation communities and habitats in the region and would not result in a change in diversity or distribution of species in the region. Any permanent and temporary loss and disturbance that would occur under Alternative 3 would be relatively minor and not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or disrupt the natural processes that support common vegetation communities in the shorezone.

Alternative 3 is not expected to substantially increase construction-related or recreational disturbance levels in the shorezone above existing levels for most common species. These common wildlife species are relatively abundant locally and regionally, and generally are not limited by the availability of habitat in the region. Habitat in the shorezone is not considered critical or limiting to the presence or viability of common wildlife populations in the region. Accordingly, alternative 3 is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any common wildlife species, or result in a change in species diversity. Therefore, effects of Alternative 2 on common vegetation and wildlife communities would be **less than significant**.

#### Alternative 4: Expand Public Access and Reduce Existing Development

The goal of this alternative is to expand public access, reduce existing shoreline development, and increase restoration to minimize the risk of environmental harm. This alternative would include transfer ratios that would allow some private shorezone structures to be removed and rebuilt in different locations if the project would result in a 2:1 reduction in the number of structures. At buildout, this alternative would allow 15 new public piers and no other new shorezone structures. There would be no change in peak day or annual boat trips over baseline conditions and no change in density of boats on the lake (i.e., one boat for every 20.8 acres on the lake during a summer holiday weekend), and the number of motorized watercraft on the lake would not increase substantially.

With Alternative 4, the types of potential impacts to common vegetation and wildlife communities would be similar to those described for Alternative 1, with differences in the amounts and locations of habitats affected between the alternatives. Because Alternative 4 includes substantially fewer new shorezone structures compared to the other Plan alternatives and no projected increase in watercraft use, the potential magnitude of construction and recreational disturbances to common vegetation communities/habitats and common wildlife species would be lowest under this alternative compared to Alternatives 1, 2, and 3.

For the same reasons described for Alternative 1, potential disturbance or removal of terrestrial vegetation from future projects permitted under Alternative 4 would not substantially reduce the quantity or quality of vegetation communities and habitats in the region and would not result in a change in diversity or distribution of species in the region. Any permanent and temporary loss and disturbance that would occur under Alternative 4 would be minor and not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type or disrupt the natural processes that support common vegetation communities in the shorezone.

Alternative 4 is not expected to substantially increase construction-related or recreational disturbance levels in the shorezone above existing levels for most common species. These common wildlife species are relatively abundant locally and regionally, and generally are not limited by the availability of habitat in the region. Habitat in the shorezone is not considered critical or limiting to the presence or viability of common wildlife populations in the region. Accordingly, alternative 4 is not expected to substantially affect the distribution, breeding productivity, viability, or the regional population of any common wildlife species, or result in a change in species diversity. Therefore, effects of Alternative 2 on common vegetation and wildlife communities would be **less than significant**.

## Mitigation Measures

No mitigation is required.

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