2 DESCRIPTION OF PROPOSED PROJECT AND ALTERNATIVES

2.1 INTRODUCTION

TRPA has prepared a set of policy concepts to guide resource management and development within the shorezone and lakezone of Lake Tahoe. These concepts would be implemented through amendments to the TRPA Code of Ordinances (TRPA Code). These concepts and Code provisions are referred to as the Shoreline Plan. The Shoreline Plan would involve amendments to sections of the TRPA Code that address uses and development in the shorezone of Lake Tahoe (TRPA Code Chapters 80–86), and related amendments to TRPA Code Chapters 2, 10, 14, 50, 63, 66, and 90).

The proposed Shoreline Plan addresses primary policy areas related to boating, access, marinas, piers, and low lake level adaptation. The amendments are focused on structures that support water-dependent recreation in the Lake Tahoe shorezone, as well as resource management policies and regulations intended to accelerate threshold attainment. The overarching goal of the Shoreline Plan is to enhance the recreational experience along Lake Tahoe's shores while protecting the environment and responsibly planning for the future.

This EIS considers four Shoreline Plan alternatives, each of which takes a different approach to supporting recreation along the shoreline and attaining and maintaining thresholds. The alternatives address structures that could be developed or situated in the shorezone, including marinas, piers, buoys, and boat ramps. They involve authorizing new shorezone structures and identify different limits on the total number of structures that could be developed. The Shoreline Plan alternatives also involve refining permitting processes for shorezone structures and standards for the design of new and redeveloped structures, as well as policies and regulations governing watercraft operations.

2.2 LOCATION

The geographic area addressed by the Shoreline Plan alternatives is the 72-mile-long shoreline of Lake Tahoe, which encompasses the incorporated City of South Lake Tahoe, and portions of Placer and El Dorado counties in California, portions of Carson City, including the Carson City Rural Area, and portions of Washoe and Douglas counties in Nevada (Exhibit 2-1). The TRPA Code of Ordinances (Chapter 83) defines the shorezone as the area consisting of the nearshore, foreshore, and backshore (Exhibit 2-2). While not technically defined as a part of the shorezone, the lakezone is critical to understanding the effects of the Shoreline Plan because many of the structures built in the shorezone would affect the lakezone. TRPA Code defines the geographic limits of those areas as follows:

- Nearshore: The zone extending from the low-water elevation of Lake Tahoe (6,223.0 feet Lake Tahoe datum [LTD]) to a lake bottom elevation of 6,193.0 feet LTD, but in any case, a minimum lateral distance of 350 feet measured from the shoreline.
- ▲ Foreshore: The zone of a lake-level fluctuation that is the area between the high- and low-water elevation (for Lake Tahoe, elevations of 6,229.1 feet LTD and 6,223.0 feet LTD, respectively).
- Backshore: The land area located between the high-water line of the lake (6,229.1 feet LTD) and either the upland area of instability (as determined by a site assessment) or the wave run-up area plus 10 feet, whichever is greater.
- ▲ Lakezone: The area of the lake extending beyond the lakeward limits of the nearshore.





Exhibit 2-1 Shoreline Location and Jurisdictional Boundaries





Source: TRPA 2016



2.3 STRUCTURES REGULATED BY THE SHORELINE PLAN

The primary types of shoreline structures addressed by the Shoreline Plan alternatives include piers, moorings for motorized watercraft (i.e., buoys, slips, and boat lifts), boat ramps, and marinas. The distribution of existing shorezone facilities is displayed on Exhibits 4-1 through 4-5 in Chapter 4, "Land Use."

2.3.1 Piers

Piers are defined by TRPA as fixed or floating structures extending from the backshore to beyond the highwater elevation of the lake (Exhibits 2-3 and 2-3B). Piers in the shorezone often allow for temporary boat access but do not allow for overnight mooring unless they are equipped with a boathouse or lift. Piers on Lake Tahoe fall into one of three categories: public, private multiple-use, or individual private:

Public piers are owned and operated by a public agency and provide public access or another public service, or are owned and/or operated by a private organization that provides access to the general public free of charge. There are 24 public piers on Lake Tahoe.

- ▲ Private multiple-use piers are privately owned and serve either a homeowner's association (HOA) or two or more private littoral parcel owners. There are 191 private multiple-use piers on Lake Tahoe.
- ▲ Individual private piers are privately owned and serve a single private littoral parcel. There are 547 individual private piers on Lake Tahoe.

2.3.2 Moorings

Moorings are structures used for the long-term storage of boats. They include buoys, slips, and boat lifts. These structures can store boats permanently, seasonally, or overnight.

BUOYS

Buoys are anchored floats for mooring boats (Exhibit 2-3D). On Lake Tahoe, buoys are generally used seasonally for overnight or longer-term mooring. A semi-permanent anchor block is placed on the lakebed and is attached with a tether to a removable float. Although the anchors remain in place year-round, buoy floats are usually removed during winter, when the buoy moorings are not used. Navigational buoys, such as buoys demarcating swim areas or navigational hazards, are not regulated as buoys under the Shoreline Plan alternatives, and all references to buoys in this EIS refer to mooring buoys. There are an estimated 4,690 buoys on Lake Tahoe, approximately 490 of which are believed to have been placed after 1972 without the required governmental permits.

SLIPS

A slip is a mooring location for a boat along a dock or between walkways, pilings, or wharves (Exhibit 2-3E). On Lake Tahoe, slips are typically located in marinas or human-made lagoons or harbors. These moorings are designed for long-term or seasonal boat storage. Slips can be categorized as either public or private:

- Public slips are available for rent to the general public and typically located in marinas. There are 1,218 public slips on Lake Tahoe.
- ▲ Private slips are privately owned and serve a single user. They are typically located in private harbors, private littoral parcels, or HOA facilities. There are approximately 2,887 individual private slips on Lake Tahoe. These include an estimate of 2,443 spaces for boats in slips or docks in the Tahoe Keys subdivision and 444 elsewhere on the lake.

BOAT LIFTS

A boat lift is a mechanism used for storing boats that is capable of raising boats out of the water and lowering them into the water (Exhibit 2-3C). Boat lifts are attached to piers and can store boats out of the water and allow a boat to be launched directly from the pier. Some boat lifts are contained in boat houses, which are described in the following section. There are approximately 261 private boat lifts on Lake Tahoe.

BOAT HOUSES

Boat houses are enclosed structures designed to contain boats (Exhibit 2-3F). They are typically constructed on the end of a pier. While boat houses are not moorings by themselves, they contain either lifts or slips and are considered separately for the purpose of estimating boating use. There are 165 boat houses on Lake Tahoe. The current 1987 Regional Plan does not allow new boat houses and none would be authorized under any of the Shoreline Plan alternatives.





A. Public Pier

B. Private Pier



C. Boat Lifts





E. Slips Source: Provided by TRPA in 2018



Exhibit 2-3 Structures Regulated by the Shoreline Plan



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2.3.3 Boat Ramps

Boat ramps extend from the shore into a water body, allowing boats to be launched into, or retrieved from, the water. They serve as the primary means of boating access to Lake Tahoe. The ramps are used by day users, who launch their boat and remove it from the lake each day, and by seasonal users, who launch their boat once each boating season and store it on a mooring throughout the boating season. Boat ramps are often located adjacent to or as a component of related upland facilities, such as marinas, beaches, and parks. Boat ramps are particularly susceptible to low lake conditions because they are fixed structures and close to shore. They can be categorized as public, quasi-public, or private:

- Public boat ramps are owned and operated by a public agency and provide public access or another public service, or ramps owned and operated by a private organization that provide access to the general public. There are 19 public boat ramps on Lake Tahoe.
- Quasi-public boat ramps serve an HOA or members of another organization. There are three quasi-public boat ramps on Lake Tahoe, two that serve HOAs and one that serves residents in the Incline Village General Improvement District.
- Private boat ramps are privately owned and serve a single littoral parcel. There are an estimated 16 private boat ramps on Lake Tahoe. Private boat ramps typically provide access for a single user, similar to a single mooring (e.g., a buoy or slip).

2.3.4 Marinas

A marina is a specially designed harbor that provides support services for boating and moorings for pleasure craft and other boats. Marinas on Lake Tahoe offer slips, buoys, or onshore racks to store boats long term. They often contain public or private boat ramps, gantry or forklift boat launch equipment, and fueling and maintenance facilities. Marinas are operated by private entities but are generally open to the public and may provide boat rentals and other services for a fee. Marinas are one of the main sources of access to Lake Tahoe. There are 14 marinas on Lake Tahoe, 12 in California and two in Nevada.

2.3.5 Other Structures

Other structures along the shoreline include breakwaters, jetties, floating platforms, and navigational buoys. Under the Shoreline Plan alternatives, the creation of breakwaters and jetties that are not part of habitat restoration projects would be prohibited. Navigational buoys would not be regulated.

2.4 BOAT USE ON LAKE TAHOE

Boat use on Lake Tahoe is seasonal, with virtually all boating activity occurring between May 1 and September 30. Boat use is greatest during summer weekends, with peak boat use occurring during the Independence Day and Labor Day holiday weekends (Appendix A). Boating on Lake Tahoe includes both nonmotorized watercraft such as kayaks, stand-up paddle boards, and peddle boats; and motorized watercraft such as pleasure craft, personal watercraft (including jet skis), ski boats, and fishing boats.

2.4.1 Nonmotorized Watercraft

The types of nonmotorized watercraft typically used on the lake include kayaks, canoes, stand up paddleboards, and dinghies that do not contain motors. Nonmotorized watercraft can be launched by hand from many locations around the lake and stored on beaches or in upland areas when not in use. This decentralized use pattern makes it extremely difficult to estimate levels of nonmotorized boat use. However, nonmotorized boating is clearly popular, with nonmotorized watercraft outnumbering motorized watercraft in many parts of Lake Tahoe. Anecdotal observations indicate that the use of nonmotorized watercraft—and stand-up paddle boards, in particular—has increased over the last decade. Nonmotorized watercraft use appears to be highest near public beaches and undeveloped shoreline with easy public access, such as along state parks. Nonmotorized watercraft typically travel closer to the shore than motorized watercraft. In response to the rising popularity of nonmotorized watercraft, the California Tahoe Conservancy and the volunteer Lake Tahoe Water Trail Association developed the Lake Tahoe Water Trail, a 72-mile water route for kayaks, paddle boards, and other nonmotorized watercraft around the lake. The water trail website guides nonmotorized use by providing information on where to access and exit the lake for day and overnight trips, how to protect Lake Tahoe from aquatic invasive species (AIS), and safety recommendations.

Storage racks are available in many locations around the lake for seasonal or yearly storage of kayaks, paddleboards, and other nonmotorized craft. New and existing storage areas would be regulated under the Shoreline Plan as an accessory use to an existing upland use. Storage racks can be associated with residences, tourist accommodation uses, public recreation areas, or rental concessions. Nonmotorized watercraft do not require shoreline structures for launching, and the use of nonmotorized watercraft, like motorized boat use, would not be directly regulated under any of the Shoreline Plan alternatives. The effects of the alternatives on the safety, navigation, and enjoyment of nonmotorized watercraft are analyzed in the applicable resource sections in Chapters 4 through 17.

2.4.2 Motorized Boat Use

Motorized boat use on Lake Tahoe involves a wide variety of watercraft, including pleasure craft with outboard, inboard, and sterndrive motors; personal watercraft, such as jet skis; and sailboats with auxiliary engines.. A review of boat registration data and boat inspections conducted during 2015 (the most recent year for which data are available), indicated that 13,617 separate motorized watercraft operated on Lake Tahoe during the boating season (Appendix A).

Motorized boats on Lake Tahoe are operated as day-use boats, boats moored on Lake Tahoe, or boat rentals:

- ▲ Day-use boats are boats launched and removed from the lake on the same day. They include boats transported to the Tahoe Basin and boats stored in upland locations in the Tahoe Basin (e.g., on a boat trailer or in a rack system). Day-use boats are launched at a boat ramp or marina. Based on boater surveys conducted during AIS inspections in 2015, between 50 and 60 percent of all boats that operated on Lake Tahoe during the year were day-use boats (TRPA 2016).
- Boats moored on Lake Tahoe are those boats stored for multiple days on a mooring (i.e., a buoy, slip, boat lift, or boat house). Boats moored on Lake Tahoe are typically launched in spring or early summer at a marina or boat ramp, then stored on a seasonal mooring during some or all of the boating season. Based on 2015 boat user survey results, between 40 percent and 50 percent of the boats that operated on Lake Tahoe at any point during the year were moored on Lake Tahoe (TRPA 2016).
- Boat rentals are boats that are rented for short-term use (e.g., hourly or daily rentals). Rental boats are owned by private parties and stored at marinas or other facilities around Lake Tahoe. They include boats rented and operated by private parties, as well as charter boats. Approximately 3 percent of the motorized boats on Lake Tahoe are boat rentals. However, they account for a larger proportion of the

boats in use at any time because rental boats tend to be in use more often than personal boats. There are an estimated 463 motorized boats available for rent at Lake Tahoe (TRPA 2017a).

The number of shoreline structures (boat ramps and associated parking, buoys, boat lifts, and slips) limits the total capacity for day-use and moored boats on Lake Tahoe. The Shoreline Plan alternatives identify different numbers of new structures; therefore, the level of potential motorized boat use will be determined by the alternative selected.

2.5 ESSENTIAL CONCEPTS

As described in Chapter 1, "Introduction," TRPA has adopted a Regional Plan, Code of Ordinances, and implementation programs to achieve the threshold standards, including those pertaining to scenic quality and fisheries. To that end, TRPA has developed a scenic management system and designated prime fish habitat, as described below.

2.5.1 Scenic Management System

TRPA adopted specific scenic threshold standards to protect and improve scenic quality. The TRPA scenic thresholds most likely to be affected by the Shoreline Plan alternatives are scenic threshold rating scores for shoreline travel routes and individually mapped scenic resources along the shoreline. Long-term, cumulative changes to views of the shoreline from the surface of Lake Tahoe are tracked by the TRPA shoreline travel route ratings, determined every four years based on updated scenic assessments. Lake Tahoe's shoreline is divided into 33 separate travel units. The following visual conditions in each unit are given numerical ratings to determine the overall threshold score for that shoreline travel unit: human-made features along the shoreline, general landscape views from the lake, and the variety of scenery viewed from the lake. Shoreline travel units are determined to be in attainment or not in attainment of the scenic threshold based on the numeric rating. In addition to the scenic shoreline travel units, each portion of the shoreline is classified as one of four shoreline character types, described below based on the level of human development that is visible (Exhibit 2-4):

- Visually dominated shoreline: These shorelines have marinas and other areas with large, prominent buildings; high boat density and buoy fields; equipment; and commercial activity. Considerable visual clutter usually is associated with these uses.
- ▲ Visually modified shoreline: Areas classified with this character type have visually prominent homes and other structures along the shoreline but have considerable vegetation intact. This character type can include limited areas with high intensity clusters of shoreline structures. Most of the developed portions of the shoreline fall into this category.
- ▲ Visually sensitive shoreline: Shorelines with this classification are highly scenic or vulnerable landscapes exhibiting the influence of human-made modifications within an otherwise natural setting. Visually sensitive areas include long, expansive sandy beaches where shoreline structures are highly visible and difficult to screen from view.
- Natural-dominated shoreline: These areas consist of either natural-appearing landscapes (e.g., east shore, Emerald Bay, Upper Truckee Marsh) or historical/traditional locations that include culturally modified landscapes in highly scenic locations (e.g., Thunderbird Lodge, Vikingsholm).

To attain and maintain the scenic threshold standards, TRPA evaluates and regulates the visible mass of shoreline structures. "Visible mass" is defined by TRPA as the total visible area of a shoreline structure, including all elements of the structure. Visible mass is calculated by summing the area (in square feet) of





Exhibit 2-4 TRPA Shoreline Character Types



visible elements of the structure when viewed in profile (i.e., parallel to the shore) and the area of visible elements of the structure when viewed from the end (i.e., perpendicular to the shore). The existing shorezone partial permitting program screening criteria require a pier rebuild project to offset any increase in visible mass at a 1:1 ratio in shoreline travel units that are in attainment of threshold standards, and at a 1.5:1 ratio in units that are not in attainment (TRPA 2011). Additional information on the scenic management system, including maps of the scenic shoreline travel units and shoreline character types, is included in Chapter 9, "Scenic Resources."

2.5.2 Prime Fish Habitat

TRPA has designated and mapped different types and qualities of fish habitat in Lake Tahoe and a TRPA threshold standard requires no net loss in the amount of prime fish habitat in Lake Tahoe. "Prime" fish habitat is spawning habitat and feed and cover habitat (Exhibit 2-5), Spawning habitats are composed of relatively small-diameter, rocky or gravel substrates used by native minnows for spawning and rearing fry. Feed and cover habitats are composed of larger diameter cobbles and boulders used by a variety of native and nonnative species as foraging habitat and to provide refuge from predation. TRPA Code Section 84.4 (adopted in 1987) prohibits the placement of new structures in prime fish habitat. It also calls for the completion of a study "to assess the impacts resulting from the construction and use of structures, including mooring buoys, on fish habitat and spawning areas...." In accordance with this code requirement, several studies were completed that evaluated the construction and operation of shoreline structures in prime fish habitat. The results of the studies suggest that the placement of piers and buoys in spawning or feed and cover habitat has limited impact on native fish populations and that the impacts can be mitigated (Byron et al. 1989; Beauchamp et al. 1991, 1994). Spawning habitat (gravel) in the nearshore of Lake Tahoe is naturally limited because of upland geology, and where suitable habitat exists, spawning has been observed in the immediate vicinity of piers and buoys (Allen and Reuter 1996). Empirical observations suggest that boating activity associated with piers and buoys does not appear to adversely affect spawning activity or egg viability (Allen and Reuter 1996). As part of a previous shorezone ordinances adopted in 2008, TRPA developed mitigation approaches for prime fish habitat. These approaches involved the replacement of any prime fish habitat with the same type of substrate elsewhere in the lake. Additional information on Lake Tahoe fisheries, including prime fish habitat and related code provisions, is provided in Chapter 5, "Fish and Aquatic Biological Resources."

2.6 RELATED REGIONAL PLAN PROVISIONS AND POLICY ISSUES NOT SUBJECT TO CHANGE

The Shoreline Plan is limited in scope, addressing the placement and operation of structures that could be developed within the shorezone of Lake Tahoe. The Shoreline Plan alternatives focus on structures to support water-dependent recreation within the shoreline and effective resource management to ensure threshold attainment. Numerous provisions of the TRPA Regional Plan and other shoreline-related policy issues, described in the following sections, would remain unchanged under all alternatives.

2.6.1 Shorezone Tolerance Districts

Eight shorezone tolerance districts are identified along the shoreline of Lake Tahoe. These districts, described in Chapter 83 of the Code of Ordinances, reflect the physical ability of the shoreline to support use and development, with Shorezone Tolerance District 1 being the most sensitive and Tolerance District 8 being the least sensitive. None of the Shoreline Plan alternatives would change the definition, location, process for determining district boundaries, or tolerance district development standards described in the Code of Ordinances. The approximate locations of shoreline tolerance districts are shown in Exhibit 2-6.





Exhibit 2-5 TRPA Fish Habitat Designations









2.6.2 Scenic Shoreland Ordinances

In 2002, Chapter 66 of the Code of Ordinances was amended to include design standards to protect shoreline areas from scenic degradation caused by development. This amendment is known as the Scenic Shoreland Ordinances and is intended to attain and maintain the threshold standards as older development is gradually replaced with newer development that has reduced visual impacts. The shoreland ordinances limit the visual magnitude of upland development adjacent to the shorezone and visible from the lake. Chapter 66 of the Code of Ordinances also establishes procedures for calculating the visible mass of shoreline structures and evaluating the scenic impacts of these structures. None of the Shoreline Plan alternatives would alter the visual magnitude system or the limitations on allowable visual magnitude for upland development adjacent to the shoreline, and none would modify the approach for calculating visible mass and evaluating the visual impact of shoreline structures.

2.6.3 Environmental Improvement Program

The Lake Tahoe Environmental Improvement Program (EIP) is a partnership of federal, state, and local agencies, private interests, and the Washoe Tribe, created to protect and improve the extraordinary natural and recreational resources of the Tahoe Region and attain and maintain thresholds. EIP partners implement projects that fall within on or more of the six EIP areas: (1) watersheds, habitat, and water quality; (2) forest management; (3) air quality and transportation; (4) recreation and scenic resources; (5) applied science; and (6) program support. None of the Shoreline Plan alternatives would modify the EIP. TRPA would continue to identify environmental improvement projects with a nexus with recreational impacts and present them as opportunities to advance expanded recreational access in concert with environmental restoration. Projects under the Shoreline Plan could include public or private projects that result in environmental improvements consistent with one or more of the six EIP areas.

2.6.4 Nearshore Threshold and Policy Development

Compared with mid-lake water clarity, nearshore conditions and the science needed to explain nearshore ecosystem dynamics is an emerging area of scientific inquiry in the Tahoe Region. The nearshore is defined as the area of the lake with a depth shallower than 30 feet or to a minimum distance of 350 feet from the shoreline. The Nearshore Agency Working Group (including representatives of TRPA, the U.S. Environmental Protection Agency, the Lahontan Regional Water Quality Control Board (RWQCB), and the Nevada Division of Environmental Protection) is preparing a nearshore work plan, called the Nearshore Resource Allocation Plan, to guide nearshore monitoring and coordination needed to understand and manage nearshore conditions. The nearshore research needed to answer all the questions that could arise in the context of shoreline planning is unlikely to be available within the timeframe to complete a shoreline plan. The Nearshore Agency Working Group is proceeding on a separate timeline and track from shoreline planning, looking at issues beyond the scope of the Shoreline Plan, such as stormwater runoff, coverage, and fertilizer use. The best available information on nearshore conditions is incorporated into this EIS. None of the Shoreline Plan alternatives would modify the nearshore threshold and policy development process. Results and recommendations from the Nearshore Resource Allocation Plan could be used to inform design, development, and mitigation of projects implemented under the Shoreline Plan.

2.6.5 Upland Development and Growth Control System

Regional Plan and code provisions that govern upland development, including the development of structures along the shoreline but outside of the shorezone, would not be altered by any of the Shoreline Plan alternatives. Standards for development outside of the shorezone would continue to be regulated by sections

of the Code of Ordinances that would not change, and permissible uses outside the shorezone would continue to be established in area plans, plan area statements, and community plans. None of the Shoreline Plan alternatives would alter the land use commodity system that controls growth in the Tahoe Region.

2.6.6 Aquatic Invasive Species Management

The Shoreline Plan alternatives recognize the Tahoe Region's ongoing program addressing AIS as governed and guided by the *Lake Tahoe Region Aquatic Invasive Species Management Plan, California–Nevada* (TRPA 2014). This EIS incorporates information collected at AIS inspection stations and assesses the effects of the Shoreline Plan alternatives on AIS. None of the alternatives would alter existing AIS detection, control, and eradication efforts.

2.6.7 Other Lakes in the Tahoe Basin

The Shoreline Plan alternatives address the shoreline of Lake Tahoe and do not apply to other lakes in the Tahoe basin, such as Fallen Leaf Lake and Cascade Lake. However, the policies and ordinances developed for Lake Tahoe would be used as guidelines for other lakes in the Tahoe basin. Separate plans governing the shoreline of other lakes in the Tahoe basin could be developed in the future if necessary.

2.6.8 Essential Public Health and Safety Facilities

TRPA Code Section 84.10.2 establishes a framework for providing essential emergency access and egress to Lake Tahoe to protect public health and safety. TRPA allows for the designation of up to one essential public health and safety facility in each county-jurisdiction (El Dorado County, Placer County, Washoe County, and Douglas County), plus the U.S. Coast Guard Lake Tahoe Station, which is a second essential public health and safety facility in Placer County. In drought years, TRPA allows first-responder organizations to designate locations for temporary moorings for regional public safety purposes. The permanent locations of the designated essential public health and safety facilities can be an existing facility, such as a marina, pier, or buoy, or a site where a new pier could be constructed under TRPA code. None of the Shoreline Plan alternatives would modify the essential public health and safety provisions.

2.6.9 Tahoe Keys

The development standards in the Shoreline Plan would not apply to the docks and slips located in the lagoons of the Tahoe Keys Property Owners Association (TKPOA) but would apply to the Tahoe Keys Marina. TRPA is not currently permitting new structures in the Tahoe Keys pending adoption of a Memorandum of Understanding between TRPA and the TKPOA. The Shoreline Plan accounts for the anticipated environmental impacts of the Tahoe Keys by including Tahoe Keys lagoon structures and associated boat activity as part of the baseline conditions. The highest priority issue in the Tahoe Keys is AIS management. TRPA and the Lahontan RWQCB are actively working with the TKPOA to develop and implement an invasive species management plan.

2.7 KEY DIFFERENCES AMONG THE ALTERNATIVES

Four alternatives are being considered as part of the shoreline planning process, including the existing shorezone policies and ordinances, and three sets of potential modifications. All four alternatives have been developed according to the following organizing principles: (1) protect and where feasible enhance the environment, (2) provide a fair and reasonable system of access, (3) adapt to changing lake levels, (4)

preserve high-quality recreation and public safety, and (5) implement predictable and consistent rules. Each of the alternatives represents a different approach to regulating the number, amount, type, location, and design of shoreline structures and associated resource management provisions, as follows:

- ▲ Alternative 1 Proposed Shoreline Plan. The goal of this alternative is to enhance the recreational experience at Lake Tahoe while protecting the environment and responsibly planning for the future. This alternative, developed through a consensus-based approach, incorporates the policies developed by the Steering Committee and was endorsed by the Regional Plan Implementation Committee (RPIC) of the TRPA Governing Board. The Shoreline Plan would meter out new private and public development over time. At buildout, it would allow for up to 2,116 new moorings (buoys, lifts or public slips), 128 new private piers, 10 new public piers, and two new public boat ramps. Some new and existing buoys could be converted to slips and vice versa at facilities open to the public (e.g., marinas).
- ▲ Alternative 2 Maintain Existing TRPA Shorezone Regulations (No Project). This alternative would retain the existing Regional Plan Shorezone Subelement Goals and Policies and TRPA Shorezone Code (Code of Ordinances Chapters 80–86). The goal of this alternative 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 shoreline 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 6,936 new moorings, 476 new piers, six new boat ramps, and two new marinas.
- ▲ Alternative 3 Limit New Development. The goal of this alternative is to reduce the risk of environmental impacts by limiting new shoreline development. 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 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 shoreline structures to be removed and rebuilt in different locations if a 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 shoreline structures.

2.7.1 Shoreline Structures Comparison

Each alternative includes different provisions that regulate the number of structures that could be built along the shoreline. Regulatory limits and other provisions that limit the maximum number of shoreline structures that could be developed under each alternative are summarized in Table 2-1. Although regulatory and other provisions provide limits on the number of structures that could be allowed under the alternatives, it is useful to consider the practical effects of implementing those provisions and how that could be manifested in terms of the number of structures constructed at buildout. This EIS estimates the maximum number of structures that could exist under each alternative. The estimated maximum number of shoreline structures at buildout of each alternative is presented in Table 2-2 and Exhibit 2-7.

Table 2-1	Table 2-1 Shorenne Structures Anoweu under Lach Alternative						
Structure	Туре	Baseline Conditions	Alternative 1– Proposed Shoreline Plan	Alternative 2 – Maintain Existing TRPA Shorezone Regulations (No Project)	Alternative 3 – Limit New Development	Alternative 4 – Expand Public Access and Reduce Existing Development	
Piers	Public	24ª	10 new	No cap; location limited by	5 new	15 new	
	Private multiple- use	191ª	128 new	fish habitat 8	86 new	None; transfers allowed at 2:1 reduction	
	Individual private	547ª			No new	No new	
Buoys	All	4,200 ^b	10,847 mooring cap, up to 2,116 new	No cap; location limited by fish habitat	365 new, at marinas or public facilities only	No new; transfers to buoy fields allowed at 2:1 reduction	
Slips	Public	1,218°	Marinas and public agencies could trade for buoys at 1:1	No cap; location limited by fish habitat	Marinas and public agencies could trade for buoys at 1:1	None	
	Individual private	2,887 ^d	None		None		
Boat ramps ^e	Public	19	2 new	No cap; location limited by fish habitat	1 new	None; transfers allowed at 2:1 reduction	
	Individual private	16	No new		No new	No new	
	Quasi-public	3	No new		No new	No new	
Marinas ^g	All	14	No new marinas, expansions allowed with environmental improvements	New and expanded marinas allowed with a master plan	No new marinas, expansions allowed with environmental improvements	No new or expanded marinas, environmental improvements required at existing	
Boat lifts	Individual private ^h	261	Pier owners could trade for buoys at 1:1	Limited by number of piers and 2 moorings per parcel	No new	No new	
	Gantry lift ⁱ	5	Not specified	Not specified	Not specified	Not specified	
Boat houses	Private/public ⁱ	165	No new	No new	No new	No new	

Table 2-1 Shoreline Structures Allowed under Each Alternative

^a Number of existing piers listed in TRPA technical memo "Private Piers" as well as Piers GIS layer. Three categories of structure types have been identified and are defined as follows: "public" facilities are available for unrestricted public use, "private multiple-use" facilities are private facilities that serve more than one landowner, and "individual private" facilities serve only one landowner.

^b A total of 4,690 mooring buoys were observed during a 2016 buoy inventory. However, an estimated 490 of these were placed after 1972 without permits from TRPA or another agency. These unpermitted buoys are not considered part of the baseline conditions. See Chapter 3 for more information.

e Estimated. Total of all counted from TRPA technical memo "Summary of Water Access for Marinas and Public Boat Ramps," dated November 28, 2016.

^d Taken from SDE. Shorepoints GIS layer (2008 data). These include slips on private properties, in private harbors, and on quasi-public properties such as HOAs, including the Tahoe Keys.

e Data sourced from SDE.Boat_Ramp GIS layer. Quasi-public boat ramps include Incline Village General Improvement District, Lakeside Park Association Inc, and a HOA.

^f Although 53 private parcels are potentially eligible for a boat ramp, because of restrictions on new coverage on the backshore, it is unlikely that any new, individual private boat ramps would be authorized.

^g From "Summary of Water Access for Marinas and Public Boat Ramps," dated November 28, 2016. Data also located in SDE. Marinas GIS layer.

^h From SDE. Shorepoints GIS layer plus the four additional lifts permitted since 2002 (Ken Kasman Shorezone Permit Spreadsheet since 2002).

Private gantry lifts counted in "Summary of Water Access for Marinas and Public Boat Ramps," dated November 28, 2016.

From SDE. Shorezone GIS layer minus the three boathouses removed in accordance with permit data since 2002.

Structure	Baseline Conditions	Alternative 1 - Proposed Shoreline Plan	Alternative 2 – Maintain Existing TRPA Shorezone Regulations (No Project) ¹	Alternative 3 – Limit New Development	Alternative 4 – Expand Public Access and Reduce Existing Development
		Моо	rings		
Buoys ²	4,200	6,206	9,071	4,500	4,200
Slips ²	4,105	4,170	6,002	4,170	4,105
Boat lifts ²	261	306	429	291	261
Boat houses	165	165	165	165	165
All moorings	8,731	10,847	15,667	9,126	8,731
		Other F	acilities		
Piers	762	900	1,238	853	777
Public and quasi-public boat ramps	22	24	28	23	22
Private boat ramps ³	16	16	16	16	16
Marinas	14	14	16	14	14

Table 2-2 Maximum Number of Shoreline Structures at Buildout of Each Alter	native
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¹ There is no numeric cap on the number of structures that would be allowed under Alternative 2; however, maximum structure estimates have been derived based on the 2016 TRPA Fish Habitat Survey GIS Layer. Structure eligibility would be based on site verification; therefore, actual buildout numbers could vary from these estimates.

² The total number of moorings is capped, but the buoy, slip, and lift numbers for Alternatives 1 and 3 are estimated. Buoys and slips may be exchanged on a 1:1 basis at marinas or by public agencies.

³ Private boat ramps are structures that are identical in form to public and quasi-public boat ramps but that function more like a mooring in that generally only a single user/boat launches from that location. Nevertheless, although they function as such, private boat ramps are not moorings and are therefore not included in the mooring cap proposed under Alternatives 1, 3, and 4.

Source: Appendix A



Exhibit 2-7

2-7 New Shoreline Structures at Buildout of Each Alternative

New Moorings

Alternatives 1, 2, and 3 would allow different numbers of new moorings (i.e., buoys, slips, and boat lifts). Exhibit 2-8 shows the maximum percent increase in the number of moorings that could be authorized under each alternative.



Exhibit 2-8 Estimated Percent Increase in Moorings under Each Alternative

New Piers

Each alternative would authorize a different number of new piers, including single-use, multiple-use, and public piers. The increase in the number of piers under each alternative is shown in Exhibit 2-9.



Exhibit 2-9 Estimated Percent Increase in Piers under Each Alternative

New Boat Ramps

Alternatives 1, 2, and 3 would allow new public boat ramps. The maximum percent increase in the number of public and quasi-public boat ramps is shown in Exhibit 2-10.





2.7.2 Projected Boating Activity

Under the Shoreline Plan alternatives, changes in the number of moorings (i.e., buoys, slips, boat lifts, and boat houses) and access points (i.e., boat ramps) would result in changes in the amount of motorized boating activity on Lake Tahoe. To develop a reasonable estimate of changes in boating activity, the Joint Fact-Finding Committee (JFF)—a group of technical experts from public agencies, universities, and stakeholder groups—gathered and assessed available information during a series of public working meetings. The JFF developed estimates of engine-hours (i.e., the amount of time a motorized boat is on the lake with its engine running) and boat trips that would result from each additional mooring or access point developed under a Shoreline Plan alternative. A comparison of the baseline level of boating activity and the boating activity that could result from buildout of each alternative is presented in Table 2-4.

Table 2-4 Projected Boating Activity under Each Alternative					
	Project Effects (Peak Day)	Project Effects (Annual)	Buildout (Peak Day)	Buildout (Annual)	
Engine-Hours				-	
Baseline Conditions	12,512	489,155	No change	No change	
Alternative 1	+1,584	+77,659	14,096	566,814	
Alternative 2	+5,427	+253,105	17,939	742,260	
Alternative 3	+469	+18,213	12,982	507,368	
Alternative 4	0	0	Same as baseline	Same as baseline	
Boat Trips					
Baseline Conditions	5,899	234,102	No change	No change	
Alternative 1	+767	+38,257	6,666	272,359	
Alternative 2	+2,639	+124,834	8,537	358,936	
Alternative 3	+222	+8,820	6,121	242,923	
Alternative 4	0	0	Same as baseline	Same as baseline	

The estimated increase in boat trips on a peak day (i.e., summer holiday weekend), and on an annual basis is shown in Exhibit 2-11. Additional detail on the data sources, assumptions, and calculations of boating activity is provided in Appendix A.



Exhibit 2-11 Estimated Percent Increase in Boat Trips under Each Alternative

2.7.3 Resource Protection Measures

The Shoreline Plan alternatives would include regulatory requirements and management programs that restore and protect natural resources. These provisions are summarized in Table 2-3 and described in greater detail below.

Table 2-3 Resource Protection Measure Comparison				
Resource Protection Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Shoreline Protection Are	as			
Prohibit placement of new piers within 200 feet of the inlet of the 24 major streams and rivers that drain into Lake Tahoe.	Х	Х	Х	X
Designate shoreline preservation areas that prohibit new private shorezone structures.	Х		Х	Х
Provide incentives for relocation of piers from stream mouths and shoreline preservation areas with multiple-use design standards, and scenic credit for relocated piers.	Х		Х	
Require consultation with water purveyors for projects within 600 feet of water intakes.		Х		
Require consultation with water purveyors for projects within 1/4 mile of water intakes.	Х		Х	Х
Marinas	•	•		
Require AIS management plans for marina reconfigurations or expansions.	Х		Х	
Require AIS management plans for all existing marinas.				Х
Require marina master plans for expansions of more than 10 moorings		Х		
Demonstrate reduction in aquatic invasive species (AIS) habitat conditions and/or reduced need for dredging for marina expansions.	Х		Х	
Contribute to lake-wide AIS control with marina expansions.	Х		Х	
Install stormwater best management practices that treat a runoff volume greater than existing TRPA and, if in California, Lahontan RWQCB requirements.			Х	Х
Require public restrooms, fueling facilities, chemical fire-retardant distribution system, trash receptacles, and pump-out facilities for boat sewage.	Х	Х	Х	Х
Connect boat washing facilities, if any, to a sewer system.	Х	Х	Х	Х
Piers				
Limit the rate or new pier development.	Х		Х	
Enforce pier design standards for new and rebuilt piers.	Х	Х	Х	Х
Provide incentives for the transfer of piers out of stream mouth protection areas and scenic travel units that are not in attainment of thresholds.	Х		Х	Х
Require minimum of 40-foot setbacks from adjacent pierheads.	Х			
Include transfer ratios to allow some shoreline structures to be removed and rebuilt elsewhere with a 2:1 reduction in the number of structures				Х
Relocation of Structure	S	•		
Allow the relocation or transfer of piers to less sensitive areas as a strategy to attain and maintain environmental thresholds	Х		Х	Х
Allow relocation of existing boat ramps to sites that are better suited to low lake levels	Х		Х	Х
Dredging Requirement	s			
New dredging only allowed at marinas, public health and safety facilities, and public boat ramps.	Х		Х	
New dredging only allowed if it is linked to an environmental improvement project.			Х	

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Resource Protection Measures	Alternative 1	Alternative 2	Alternative 3	Alternative 4
New dredging would only be approved after environmental review and only if significant impacts can be mitigated.	Х	Х	Х	
New dredging could only be allowed if TRPA finds that it is beneficial to water quality.		Х		Х
Maintenance dredging would be allowed in previously dredged areas where it is necessary to continue an existing use.	Х	Х	Х	Х
No-Wake Zone				
Maintain no-wake zone at 600 feet from the water line with a speed limit of 5 mph.	Х	Х	Х	Х
Expand the no-wake zone to include all of Emerald Bay.	Х		Х	Х
Increase no-wake zone education and enforcement.	Х		Х	Х
Expand the no-wake zone to 1,200 feet from the water line in front of some parks.				Х
Aquatic Invasive Specie	S			
Require that every motorized watercraft be inspected prior to launching on Lake Tahoe.	Х	Х	Х	Х
Continue existing aquatic invasive species (AIS) control programs.	Х	Х	Х	Х
Include a new funding source to expand AIS control.	Х		Х	Х
Require that all marinas prepare and implement an AIS management plans.				Х
Require AIS management plans with marina expansions or reconfigurations.	Х		Х	
Boater Education Progra	ms			
Provide boater education on no-wake zone, AIS, fueling, bilge, and sewage operations at boat inspections, marinas, and motorized rental concessions.	Х		Х	Х
Require training for marina staff and motorized rental concessions.	Х		Х	Х
Provide information on boater safety, AIS, no-wake zone, and bilge, ballast and fuel practices at all public motorized boat access points.	Х		Х	Х
Prime Fish Habitat Mitiga	tion			
Mitigate prime fish habitat disturbance at a 1.5:1 ratio.	Х		Х	
Mitigate prime fish habitat disturbance at a 2:1 ratio.				Х
Prohibit new structures in prime fish habitat.		Х		
Scenic Requirements				
Shoreland areas must achieve minimum contrast ratings as part of a shorezone structure approval	Х		Х	Х
Limits on the maximum visible mass of shorezone structures	Х		Х	Х
Increases in visible mass in the shorezone must be offset, with greater offsets required in shoreline travel units that are not in attainment		Х		
Increases in visible mass in the shorezone must be offset, with greater offsets required in more sensitive shoreline character types.	Х		Х	Х
Include a scenic credit banking system to encourage accelerated scenic improvements	Х		Х	Х
Nearshore Water Qualit	by			
Expand monitoring to guide adaptive management of nearshore water quality	X		Х	х

Table 2-3 Resource Protection Measure Comparison

2.8 ALTERNATIVES

The following narrative describes the major features of the Shoreline Plan alternatives, including the maximum number, applicable standards, and allocation process for new moorings (i.e., buoys, slips, boat lifts, and boat houses), piers, and boat ramps; low lake level adaptation strategies; designated shoreline protection areas; regulations governing new, expanded, or reconfigured marinas; applicable standards for other shoreline structures; scenic requirements; mitigation strategies; and other features.

2.8.1 Alternative 1 – Proposed Shoreline Plan

Alternative 1 was developed through a collaborative process to obtain consensus from stakeholders, to the extent possible. A steering committee of state, federal, and regional agency leadership representatives and other stakeholders developed the proposed Shoreline Plan through a series of facilitated discussions, incorporating feedback from the TRPA RPIC. The proposed Shoreline Plan includes provisions for most aspects of development within the shorezone, including buoys, piers, marinas, boat ramps, and dredging activities, and aims to adapt shoreline access and use to lower lake levels that are anticipated in the future.

LOW LAKE LEVEL ADAPTATION

The Shoreline Plan would use a tiered approach to adapt to periodic low lake levels over the next 20 years. The approach would authorize different adaptation strategies at each of the following lake level phases:

- Phase 1: 6,223 feet LTD. This is the natural rim of Lake Tahoe and the current low lake level used in regional planning.
- Phase 2: 6,220 feet LTD. The JFF Committee identified 6,220 feet LTD as an appropriate low lake management level based on a review of the historic low lake levels (an elevation below 6,220 feet LTD has not been observed in 110 years of record keeping) and because it is the lowest lake level expected to occur during the next 20 years based on the average of multiple forecasts included in the U.S. Bureau of Reclamation *Truckee Basin Study: Basin Study Report* (Reclamation 2015). An elevation of 6,220 feet LTD is considered low for planning decisions and policy development, intended to accommodate some access during low lake levels.
- ▲ Phase 3: Below 6,220 feet LTD. Lake elevations below 6,220 feet LTD would be considered too low to provide access. In some years, the lake surface elevation may drop so low that boating and other access cannot reasonably be provided. When lake levels drop this low, access to the lake would necessarily be restricted, and private shoreline structures would not be expected to accommodate access.

Low lake level adaptation under Phases 1 and 2 would accommodate watercraft up to 30 feet long, which is the approximate average length of boats on the lake. The proposed Shoreline Plan would, to the extent feasible based on site-specific considerations, allow for the reconfiguration of some structures such that they would be operational at Phase 2 lake levels. During periods of Phase 2 lake levels, boats would be directed to marinas and public ramps that are operational at such elevations, clustering access near areas with infrastructure and transportation options. The following list of low lake level adaptation strategies would be included under Alternative 1:

- Marina buoy fields would be able to include an additional row of lakeward anchors to accommodate low lake levels. Buoy floats could be relocated to the lakeward anchors during low lake levels without increasing the total number of buoys.
- Marinas would be allowed to use temporary floating pier extensions to provide access for boats when lake levels fall below 6,225 feet LTD.

- Permits would be streamlined and fees would be reduced for marinas that make accommodations to provide access for private property owners who cannot access private moorings during low lake level conditions (see the section titled "Marina Expansions and Reconfigurations," below, for more details).
- Individual parcels could add an additional buoy block that would allow property owners to relocate a buoy float to deeper water during low lake level conditions without increasing the total number of buoys.
- Public boat ramps could be expanded to extend farther into the lake, subject to permit conditions.
- New dredging could be allowed at marinas, public boat ramps, and essential public health and safety facilities subject to protective findings and permit conditions.

SHORELINE PROTECTION AREAS

Shorezone Preservation Areas

The proposed Shoreline Plan would designate some public lands as Shorezone Preservation Areas (Exhibit 2-11) and would prohibit construction of private shorezone structures in such areas.

Stream Mouth Protection Areas

TRPA Code (Sections 84.5.1.B, 84.6.1.B, 84.7.1.B, 84.8.1.B, and 84.9.2) prohibits the placement of new piers, boat ramps, buoys, floating platforms, and general multiple-use facilities within 200 feet of the inlet of the 24 major streams and rivers that drain into Lake Tahoe (Exhibit 2-12). The proposed Shoreline Plan would maintain the prohibition on these shorezone structures in stream mouth protection areas and would expand the provision to encompass all mooring types. It would also provide new incentives to encourage the relocation of existing piers from these areas, by allowing relocated single-use piers to qualify for multiple-use design standards (i.e., those standards that would apply to a pier serving two parcels; see Table 2-5) and by offering upland scenic credits for relocated piers, as described below.

Water Intake Protection Areas

TRPA Code Section 60.3.3 requires that TRPA consult with water purveyors when evaluating applications and development of permit conditions for any proposed shoreline structure within 600 feet of a drinking water intake. The proposed Shoreline Plan would expand this requirement to apply to any proposed shoreline structure within one quarter mile of a drinking water intake.

MOORINGS

The proposed Shoreline Plan would regulate all structures that allow for overnight mooring of watercraft on Lake Tahoe (i.e., buoys, slips, lifts, and boat houses). It would establish a numerical cap of up to 10,847 moorings, of which 2,116 would be new structures allowed by the plan. Most of these new moorings would be buoys. A smaller proportion of the new moorings would be new slips at marinas or public facilities and new boat lifts associated with new or existing piers. Boat houses would be prohibited by way of the prohibition on superstructures and limits on visible mass.

Watercraft moored overnight would be required to moor to legally existing buoys, slips, boat lifts, or other watercraft storage facilities, except in the following cases:

- ▲ mooring of construction watercraft for purposes of and use during TRPA-authorized construction activities;
- mooring of public service watercraft for health and safety purposes; or
- ▲ mooring of watercraft for occasional overnight purposes, limited to up to 72 hours within a 2-week period.









Buoys

The proposed Shoreline Plan would recognize the continued use of legally existing buoys (i.e., those with an existing permit or placed on the lake before 1972) and authorize up to 2,116 new buoys. The actual number of new buoys would likely be less than 2,116 because this figure represents the cap on moorings of all types; the construction of slips or boat lifts would reduce the number of new moorings available for buoys. This alternative would establish a permitting and allocation process intended to limit the pace of new buoy approvals and would provide an equitable distribution of new buoys between marinas, public agencies, private littoral parcel owners, and HOAs. It would establish location standards for the placement of buoys and implement an enforcement program to remove illegal buoys from the lake.

Buoy Permitting and Allocation

The Shoreline Plan would first issue permits to existing buoys that do not have a TRPA permit based on presentation of (a) a valid buoy permit issued by a federal or state agency with appropriate jurisdiction or (b) clear evidence of the existence of the buoy(s) before 1972. The maximum number of existing buoys that could be recognized for a littoral parcel would be:

- up to three buoys allowed for littoral parcels greater than 50 feet in width (approximately 61 parcels fit this criterion) and
- ▲ up to two buoys allowed for littoral parcels less than 50 feet in width.

For non-littoral parcels, buoys placed before 1972 would be recognized only after the applicant has received authorization from the applicable California or Nevada state agency with jurisdiction at Lake Tahoe.

All buoys would be required to conform to the location standards for new buoys described below, unless the existing buoy location does not interfere with the buoys of adjacent property owners and relocating them would not create adverse environmental impacts.

TRPA would then announce a second call for new buoy applications. Initially, up to 800 new buoy permits would be issued, and the remainder (up to 1,316) would be held in a reserve pool. Marinas would have sole access to 330 of the reserved buoys, which would be set aside to incentivize environmental improvements at marinas (see the section titled "Marina Expansions and Reconfigurations," below, for details on environmental improvements). All potential applicants, including public agencies, would have access to the other 986 buoys in the reserve pool. Public agencies would also be provided an allotment from the reserve pool, the number of which would be determined based on current and projected mooring needs at each public facility. Any buoys allotted to marinas and public agencies could be converted to slips, and in that instance, they would be subtracted from the buoy cap such that the conversion would not result in additional moorings.

HOAs would be allowed to apply for new buoys in buoy fields. In the first five years of Shoreline Plan implementation, HOAs that have buoys for 50 percent or more of the applicable housing units would not be eligible to apply for new buoys. For HOAs that are eligible to apply in the first five years, the request for new buoys could be up to a 20 percent increase of the total number of existing TRPA-permitted moorings (buoys, slips, boat lifts, and boat houses). After the first five years, HOAs with buoys for 50 percent or more of the applicable housing units could apply for additional moorings, provided the total number of moorings does not exceed the number of units.

Through an adaptive management review process, allocation of all buoys, including the reserve pool and allocation to associations, would first be revisited the year after the 2019 Threshold Evaluation Report is issued. Future evaluation of buoy allocations would occur at a minimum interval of every 8 years after the first evaluation.

Buoy Location Standards

Buoys may be placed either within a buoy field or outside of a buoy field, lakeward of individual littoral parcels. Buoys outside buoy fields could be located up to 600 feet lakeward from elevation 6,220 feet LTD,

measured perpendicularly to the shore. Buoys would be required to be located a minimum of 20 feet from adjacent property boundaries and a minimum of 50 feet from other legally existing buoys. For properties located within coves, each littoral parcel would be limited to one buoy, if inferred parcel boundary projection lines would prohibit placement of a buoy based on its proximity to adjacent property boundaries. For constricted parcels unable to meet setback or spacing requirements, TRPA may adjust property projection lines on a case-by-case basis.

A parcel outside of a buoy field could have up to three permanent anchor blocks for flexibility in positioning buoys floats as long as there were only two moorings at any one time. Other locational requirements (up to 600 feet lakeward and at least 50 feet from other buoys) would need to be met.

All buoys serving HOAs or commercial or tourist uses would continue to be required to be in a buoy field. Buoy fields would be designed in a grid using the same setback and spacing standards as for littoral parcels (a minimum 20 feet from adjacent property boundaries and a minimum 50 feet from other legally existing buoys) and 300 feet in width. TRPA could approve deviations from these standards based on site-specific considerations, including neighboring uses and structures, state permit requirements, U.S. Coast Guard recommendations, navigational considerations, and bathymetric constraints.

Marina buoy fields would have to comply with the same placement standards as other buoy fields, although they could extend further lakeward (more than 600 feet from 6,220 feet LTD), if consistent with existing authorizations. Marina buoy fields would be able to include additional rows of lakeward anchors to accommodate low lake level adaptation. Buoy floats could be relocated from landward anchors to lakeward anchors during low lake conditions without increasing the total number of buoys.

Buoy Enforcement

After the first call for buoy permits that would allow applications for existing buoys, TRPA, in coordination with state and federal agencies that have jurisdiction over the lake, would implement a buoy enforcement program. This program would prioritize the identification and removal of buoys that were placed on the lake after 1972 and do not have permits from TRPA, state agencies, or the U.S. Army Corps of Engineers.

Slips

No new individual private boat slips would be permitted. Marinas and public agencies could exchange new or existing buoys for slips on a 1:1 basis.

Boat Lifts

New boat lifts could be authorized through a new pier or pier reconfiguration permit. New boat lifts would count toward the total mooring cap (Table 2-1). Single-use piers could be allowed up to one boat lift, and multiple-use piers could be allowed up to four boat lifts. All new boat lifts would be subject to limitations on the total number of mooring per littoral parcel (described above under "Buoys"), and limitations on allowable visible mass (Table 2-5).

PIERS

The proposed Shoreline Plan would allow a maximum of 128 new private piers and 10 new public piers to be constructed along the shoreline. It would include distribution and density standards intended to result in an equitable distribution of new piers around the lake and limit the number of piers within visually sensitive scenic character types. The plan would include incentives for multiple-use piers that provide access to more than one property owner, and it would include provisions that would result in the retirement of pier development potential through deed restrictions. The proposed Shoreline Plan would regulate the rate of new pier approvals and would institute pier design standards intended to protect navigation, recreational access, and limit scenic impacts. It would also include incentives to restore stream mouths and areas with degraded scenic conditions by encouraging the transfer of existing piers out of stream mouth protection areas and scenic travel units that are not in attainment of threshold standards. Private piers could not be used for permanent boat moorage, therefore piers would not directly affect boating levels on Lake Tahoe.

Table 2-5	Alternative 1 Pier Design Standards
1 auto 2-5	Alternative I Fiel Design Stanuarus

		Multiple Use ¹				
Specification	Single Use	Serves One to Two Units	Serves Three to Four Units or Two Littoral Parcels	Serves Five to 20 Units or Three Littoral Parcels	Serves More Than 20 Units or More Than Four Littoral Parcels	
Length ²	To 6,219 feet LTD or pierhead line, whichever is more limiting	Same as single use	To 6,219 feet LTD or 30 feet lakeward of pierhead line, whichever is more limiting	To 6,219 feet LTD or 30 feet lakeward of pierhead line, whichever is more limiting	To 6,219 feet LTD or 30 feet lakeward of pierhead line, whichever is more limiting	
Width	Maximum 10 feet	Same as single use	Maximum 15 feet ³	Maximum 15 feet ³	Maximum 15 feet ³	
Side setback	Minimum 20 feet from each property edge for new piers, and 5 feet from property edge for existing piers	Same as single use				
Visible mass ⁴	Maximum 220 square feet	Same as single use	Maximum 400 square feet	Maximum 460 square feet	Maximum 520 square feet	
Location	Minimum 40 feet from any other pier, measured at the pierhead	Same as single use				
Catwalk	Maximum 3 feet wide and 30 feet long	Same as single use	Maximum 3 feet wide and 45 feet long	Maximum 3 feet wide and 45 feet long	Maximum 3 feet wide and 45 feet long	
Boat lift	1 allowed	Same as single use	Up to 4 allowed	Up to 4 allowed	Up to 4 allowed	

¹ Residential units may have access to a pier structure, even if they are located in the upland. Upland units are eligible for a multiple-use pier at the development standards identified above. Littoral parcels also have access to multiple-use pier structures at the development standards identified above. Note that more than one residential property can be located on a single littoral parcel. These development standards have been identified to limit the size of a pier serving multiple upland units that have only one littoral parcel.

² If an applicant (including marinas) needs additional pier length for proper function, TRPA standards would allow up to an additional 15 feet lakeward of the pierhead line, provided that the increase in water depth over the additional 15 feet is a minimum of 0.5 foot, or 6 inches (equal to 3-percent grade).

³ The visible mass calculations must include catwalks, but a boat lift, boat, and safety railings do not have be included. Visible mass above the limits specified above must be mitigated.

⁴ Flexibility in the design of the pierhead is allowed for multiple-use piers to accommodate multiple simultaneous users. The pierhead design must be included in the visible mass calculation.

Public Piers

Up to 10 new public piers could be constructed under the proposed Shoreline Plan. Because public piers provide a public benefit, applications for public piers would be evaluated on a case-by-case basis. Design standards for public piers are not proposed; however, design standards for multiple-use piers (described below) could serve as a guideline for the review of public pier applications. Public piers could exceed design standards that apply to private multiple-use piers to the extent necessary to provide a public service, such as emergency access, public access during low lake conditions, or public transportation. All public pier applications would be subject to environmental review, and the approval of public piers would be based on the proposed location, objectives, public benefit, consistency with adopted plans, and environmental impacts of the proposed pier. Allocation of public piers would not be dependent on jurisdictional boundaries; that is, a valid public pier proposal could occur anywhere on the lake and would not be constrained by the existing density of public piers in the county in which it is proposed.

Private Piers

Up to 128 new private piers could be constructed under the proposed Shoreline Plan, consistent with eligibility criteria. A private littoral parcel could be eligible for a new pier if that parcel is not deed-restricted to prevent pier development, there is not already a pier on the property, and setback and locational requirements could be met. The placement of new private piers would be restricted to areas outside of stream mouth protection areas and shorezone preservation areas.

Littoral parcels in an HOA that already have access to an HOA pier would also be eligible to apply for a new pier, provided that the application would retire pier development potential through a deed restriction on at least one other littoral parcel. Within a visually sensitive shoreline character type, a littoral parcel in an HOA with an existing pier would be required to retire pier development potential on at least two other littoral parcels within the same scenic travel unit.

Private Pier Distribution and Density

The 128 new private piers would be distributed around Lake Tahoe based on jurisdictional boundaries as shown in Table 2-6. The number of piers that would be allocated to each jurisdiction is based on the proportion of parcels eligible for piers within that jurisdiction. To reduce the potential scenic impacts of piers, only multiple-use piers would be allowed in visually sensitive shoreline character types, up to the limits shown in Table 2-6. In addition, each pier would be required to be a minimum of 40 feet from any adjacent pier.

	IVE I	
Total	Percent of Allocation ¹	Allowed in Visually Sensitive Character Types
86	67	13
58	45	7
28	22	6
42	33	6
21	16	3
21	16	3
128	100	19
	Total 86 58 28 42 21 22 23	Total Percent of Allocation1 86 67 58 45 28 22 42 33 21 16 128 100

Table 2-6 Private Pier Distribution under Alternative 1

Notes: ¹Percent does not add to 100 due to rounding

Private Pier Design Standards

All new private piers would have to comply with the applicable design standards shown in Table 2-5 and Exhibits 2-13 and 2-14. To incentivize owners and operators of piers that provide access for more than one littoral parcel owner, multiple-use piers would be allowed to comply with different design standards depending on the number of littoral parcels or HOA units (i.e., residences) served by the pier (Table 2-5).



Source: Provided by TRPA in 2018



Exhibit 2-13 Pier Location Standards



SINGLE-USE PIER NOTES:

- A) PIERS SHALL EXTEND NO FURTHER THAN 6,219 LTD OR PIERHEAD LINE, WHICHEVER IS MORE LIMITING, 15' ADDITIONAL LENGTH MAY BE CONSIDERED
- B) PIERS MAY BE UP TO 10' IN WIDTH
- C) PIERS MAY HAVE ONE CATWALK, UP TO 3' WIDE AND 30' LONG.
- D) PIERS MAY HAVE ONE BOAT LIFT WITH FORKS MAXIMUM 10' LONG



FOR PIERS SERVING 2 PARCELS, AND 45' LONG FOR PIERS SERVING 4. H) PIERS MAY HAVE ONE BOAT LIFT PER PARCEL, UP TO 4, WITH FORKS MAXIMUM 10' LONG

Source: Provided by TRPA in 2018



Exhibit 2-14 Single- and Multiple-Use Pier Design Standards



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Rate of Private Pier Development

New private piers would be authorized gradually to allow for the periodic assessment of the effects of the proposed Shoreline Plan. Initially, TRPA would allow for the approval of up to 96 of the 128 new private piers over a 16-year period, at a rate of up to 12 approvals every two years. If during a two-year period fewer than 12 piers are permitted, the remaining balance would roll over to subsequent years. TRPA would review the allocation of piers, including monitoring the geographic distribution of new piers and evaluating pier availability. The review of pier allocations would occur as part of the existing four-year TRPA threshold evaluation process and through a new eight-year pier and buoy permitting activity report. Authorization of the amount of pier development potential retired. Exhibit 2-15 depicts the rate of private pier development and the cumulative number of new piers that could be developed.

Retirement of Pier Development Potential

The proposed Shoreline Plan includes requirements for the deed restriction of littoral parcels in some cases, which would prevent future development of piers on some parcels. Two types of pier applications would be accepted: single-parcel pier applications (i.e., those that do not retire pier development potential) and multiple-parcel (i.e., those that retire pier development potential through deed restricting another parcel). The term "multiple-parcel" in this context means that at least one parcel would become deed-restricted through the permitting process, thereby precluding future pier development on that parcel.

Private pier permit applications would be prioritized and allocated depending on the type of application. Of the 128 private piers that could be approved, 20 percent (or 26) would be allocated to single-use piers, and 80 percent (or 102) would be reserved for multiple-parcel piers. This allocation mix is intended to help reduce overall pier development potential. The process of obtaining and retiring pier development rights could be more time consuming than single-parcel pier applications; therefore, it is expected that in the early years of program implementation, there would be more single-parcel pier applications than multiple-parcel pier applications would be considered by TRPA. For every eight multiple-parcel pier applications that are approved (which would translate into a minimum of eight new deed-restricted properties), three additional pier allocations would be released starting after the initial 16-year period, until the 128-pier cap is reached. Under this rate defined by this allocation system, the earliest possible buildout year would be 2040.

Prioritization of Private Pier Applications

Under the proposed Shoreline Plan, TRPA would prioritize private pier applications based on how much development potential the application would retire and the number of parcels served by the pier. Pier applications would then be processed according to the priority they receive. If more than 12 pier applications are received during a two-year period, those applications that receive a lower priority would not be processed during that two-year period. Applications would be prioritized in the following order:

- 1. Private pier applications that deed-restrict other parcels to retire pier development potential (i.e., multiple-parcel applicants) as follows:
 - a. Applications that propose to retire the most development potential within the same shoreline character type, within the same scenic travel unit;
 - b. Applications that retire the most development potential, regardless of shoreline character type and unit;
 - c. Applications in shoreline character types from least to most sensitive (i.e., beginning with "visually dominated," then "visually modified," and finally "visually sensitive"); and then
 - d. Multiple-parcel applications that already have access to an HOA pier.



RATE OF PIER PERMIT ISSUANCE



- 2. After multiple-parcel applications, the next priority would be given to applications that serve the greatest number of users, to encourage an increase in lake access.
- 3. Last priority would be given to single-use piers that do not retire pier development potential. Applications would be considered by priority criteria, as identified above. If over the two-year application window, there are more single-use pier applications that do not retire development than there are allotted permits, they would be processed by lottery.

Commercial and Tourist Accommodation Piers

Commercial and tourist accommodation piers would be allocated from the pool of 128 private piers. Applications for new piers associated with commercial or tourist accommodation uses would be prioritized as a part of the private pier application and allotment process, described above, regardless of whether they are proposed as publicly accessible or restricted to patrons or a specific user group. Commercial and tourist accommodation piers would be allowed only when the upland use also includes a commercial use. Eligible piers that do not allow public access would be restricted to single-use design standards, whereas eligible piers that are open to the public could be designed to multiple-use design standards for four or more littoral parcels (20 or more residential units).

Pier Relocations, Transfers, and Conversions

The proposed Shoreline Plan would allow the relocation or transfer of piers to less sensitive areas as a strategy to attain and maintain thresholds. Pier relocation refers to replacement of an existing pier with a new pier in a different location on the same parcel, whereas pier transfer is the construction of a new pier on a parcel that does not currently have one in exchange for removal of a pier on a different parcel. Under the proposed Shoreline Plan, piers could be relocated or transferred within the same scenic unit or to another scenic unit that is in attainment of scenic threshold standards. Piers could not be transferred to a scenic unit that is out of attainment. Relocated or transferred piers would have to meet all location and design criteria for a new pier (Table 2-6). When a pier is transferred or relocated, the old pier would be removed and the area restored to a natural condition. In the case of pier transfers, the sending parcel would become deed-restricted to prevent future pier development. TRPA would encourage pier owners to relocate piers out of stream mouth protection areas through incentives, including offering multiple-use design standards consistent with a two-parcel pier for a single-use pier or providing upland scenic credits. For pier transfers, both the sending and receiving parcels would have to meet scenic requirements for new piers.

For a pier transfer, boat lifts from the sending parcel could be relocated to the receiving parcel, regardless of the number of moorings already located on the receiving parcel. Although a combined pier and boat lift transfer could cause the number of moorings on the receiving parcel to exceed the cap for a littoral parcel (three), the total number of moorings on Lake Tahoe would not change.

"Conversion" refers to the removal of a boat ramp and replacement with a pier. Conversions would continue to be allowed as they are under the existing code. Relocated, transferred, or converted piers would not count as new piers allocated under the plan.

Pier Expansions and Modifications

Existing piers that conform to location and design standards could be expanded under the proposed Shoreline Plan, to the extent allowed for new piers. Existing piers that do not conform to the location and design standards could not be expanded unless (1) the expansion is limited to the scenic improvement of an existing boat house and does not increase the functional capacity of the pier, (2) the effect of the expansion is to increase contrast rating of the structure (described below under "Scenic Requirements"), and (3) the expansion is the absolute minimum necessary to accomplish the scenic quality improvement. Existing piers that do not conform to location and design standards could be modified if the modification results in a material environmental benefit, brings the structure into greater compliance with location and design standards, and does not increase the degree of nonconformance with any location and design standard. Flexibility in pier design at marinas would be allowed based on site-specific navigation and environmental considerations. Marina pier extensions would be reviewed on a case-by-case basis and subject to the following requirements:

- ▲ A marina pier must serve the public.
- ▲ A marina pier extension must not adversely affect safe navigation.
- ▲ All impacts of a marina pier extension must be mitigated.

A marina pier may be extended 15 feet lakeward if the drop-in substrate (i.e., additional water depth) within the additional 15 feet is a minimum of 6 inches (minimum of 3 percent). Additional extensions may be allowed if the average slope in the area being extended is a minimum of 3 percent. However, the total length of a marina pier may not exceed 1,000 feet. A marina pier extension for the sole purpose of facilitating waterborne transit would be considered during the environmental review of the waterborne transit plan or project.

BOAT RAMPS

Under the proposed Shoreline Plan, up to two new public boat ramps would be allowed. Applications for new public boat ramps would be considered by TRPA based on the merits of the proposed site selected. This review would consider the existing geographic distribution of boat ramp access, the relationship of the proposed ramp to upland development centers and transportation hubs, and the suitability of the site to accommodate access during periods of Phase 2 low lake levels of 6,220 feet (e.g., depth, bathymetry).

TRPA would allow relocation of existing public boat ramps to new sites that are better suited to low lake levels. Where feasible, public ramps may extend farther into the lake to allow operation during fluctuating lake level conditions. TRPA and ramp operators would encourage nonmotorized boaters to use boat ramps that are not functional for motorized boats during periods of low water, provided there is adequate upland facilities for parking and access to the ramp.

MARINA EXPANSIONS AND RECONFIGURATIONS

No new marinas would be allowed under the proposed Shoreline Plan, and the current requirements for marina master plans would be eliminated. Instead, marina reconfigurations or expansions (including adding moorings) would be permitted only if the marina implements a series of environmental improvements.

Marina expansions and reconfigurations would be allowed only if the marina is certified as a "clean marina" by the Clean Marina Program, an organization that educates, assists, and certifies marina compliance with best management practices (BMPs) to reduce the potential for pollution (see www.cleanmarina.org for more information). In addition to being certified as a clean marina, a marina seeking a reconfiguration or expansion would be required to develop and implement an AIS management plan. The plan would incentivize environmental improvements for marinas seeking expansions, such as:

- demonstrating flow improvements/reduction of AIS habitat conditions and/or reduced need for dredging;
- contributing to existing lakewide AIS control efforts;
- providing a boating rental and operations fleet that meets U.S. Environmental Protection Agency and/or California Air Resources Board standards, including electric boats;
- ▲ providing boater education of the 600-foot no-wake zone, boater safety, and clean boating practices;
- ▲ providing public access to marina fueling and/or pump-out stations;

- installing stormwater BMPs that treat a runoff volume greater than existing TRPA requirements, and, if in California, Lahontan RWQCB requirements;
- ▲ providing additional scenic improvements, such as rack or storage screening;
- providing boat ramps for public use, and if a ramp is not functional for motorized boating because of low lake level conditions, providing access for nonmotorized boaters;
- providing dedicated parking for nonmotorized boaters;
- ▲ demonstrating a low lake level capacity improvement;
- ▲ providing nonmotorized boat storage for public use;
- ▲ installing an electric charging station for boats and/or cars; and/or
- ▲ reducing on-site coverage.

If marina expansions add capacity or make other provisions to accommodate private property owners who cannot access private moorings during low lake level conditions, they would not be required to provide additional environmental improvements or additional mitigation fees.

As noted above, TRPA would set aside 330 new buoy allocations for marinas. New or existing buoys could be traded for slips at marinas. Additional buoys or slips over the allocated amount, but within the total cap on buoys, may be released to marinas from the reserve pool. Buoy or boat slip allocations could be used immediately or phased over time consistent with a project application.

Marinas would be allowed to use temporary floating structures to provide access for boats when lake levels fall below 6,220 feet LTD. Such structures should be removed when the lake levels rise above 6,220 feet LTD for a period of six consecutive months. Both TRPA and partner agencies would explore new permits and leases that can accommodate marina flexibility for taking these structures in and out of the water.

FLOATING (SWIM) PLATFORMS

Floating platforms or swim platforms would be allowed when tied to a permanent anchor in lieu of a buoy. Floating platforms are not moorings, and motorized watercraft would be prohibited from mooring on floating platforms. The proposed Shoreline Plan would limit floating platforms to no more than 100 square feet, not to exceed 10 feet on any side.

OTHER SHORELINE STRUCTURES

No new public or private breakwaters, jetties, rock crib piers, or sheet pile piers (or other structures of this type) would be permitted along the shoreline except as part of a habitat restoration project or as part of a marina environmental improvement project. No new boat houses or other superstructures on piers would be permitted.

SCENIC REQUIREMENTS

TRPA has an existing contrast rating and visual magnitude system that is used to evaluate and regulate the scenic effects of development in the shoreland (i.e., upland development adjacent to the shorezone). This system establishes a contrast rating for parcels along the shoreline based on the color, texture, articulation, amount of glass, and amount of visible perimeter of structures visible from the lake. Contrast ratings range from 3 to 35, with contrast ratings of 3 signifying parcels with the greatest visual impact and ratings of 35 indicating the least possible visual impact for a developed parcel along the shoreline (TRPA 2004). Currently,

contrast ratings are used to evaluate changes in upland development in the shoreland (i.e., areas along the shoreline that are upland of the backshore). Alternative 1 would expand the use of contrast ratings to ensure that shoreland properties achieve minimum contrast ratings as part of the approval process for new piers. For new private piers, TRPA would require an initial 21 contrast rating as part of the pier application. Following application submittal, applicants would have six months to increase their contrast rating to 25 to offset the visual impact of new or redeveloped piers. TRPA would exempt property owners from the 25-contrast rating if it is not feasible to achieve it.

Scenic offsets, in the form of removing or screening existing visible mass, would be required for any proposed pier that results in a net increase in visible mass, or where any structure would result in nonattainment of a scenic threshold standard. Scenic mitigation and improvement would be required as close to the proposed structure as feasible. TRPA would prioritize the location of scenic offsets as follows: first on the same parcel in the shorezone, then on the same parcel in the upland area, then elsewhere in the shorezone within the same shoreline scenic travel unit, then within the same travel unit in the upland, and lastly in another nonattainment scenic travel unit. Scenic offsets for new visible mass would increase with the scenic sensitivity of the developing parcel's location, as follows:

- ▲ for visually dominated areas, the visible mass offset ratio is 1:1.5;
- ▲ for visually modified areas, the visible mass offset ratio is 1:2; and
- ▲ for visually sensitive areas, the visible mass offset ratio is 1:3.

TRPA would implement a new scenic credit banking program to encourage property owners to implement scenic improvements. The current system encourages the preservation of development that degrades scenic quality, because property owners can use the removal of that development as an offset for a future shoreline structure. Under this program, scenic credits (measured as square feet of visible mass) could be banked on individual parcels in the shorezone and shoreland. Private parcels, public parcels, and marinas would be eligible to participate. Scenic improvements could occur anywhere on the parcel or in the shoreline travel unit, and any credit granted for the improvement would be applied to future projects on the parcel. Scenic credits could not be transferred or sold to other parcels.

DREDGING

TRPA divides dredging at Lake Tahoe into maintenance dredging, where lake bottom dredging has historically occurred, and new dredging, where dredging has not historically occurred. New dredging would be allowed only at marinas, essential public health and safety facilities, and at existing public boat ramps. New dredging would be approved only after environmental review and only if significant impacts can be mitigated. New dredging at public boat ramps could be allowed if increased functionality of the ramp can be demonstrated. Maintenance dredging would continue to be allowed.

TRPA would adopt a performance standard consistent with the U.S. Army Corps of Engineers Section 404 federal standard for new dredging (non-degradation). Applicants would also need to comply with each state's Section 401 permit requirements.

NO-WAKE ZONE

The no-wake zone is an area close to shore that provides navigational safety for boaters and nonmotorized watercraft and shoreline erosion protection from boat wakes. The no-wake zone would be maintained at 600 feet from the water line, and the speed limit within it for motorized watercraft would continue to be limited to 5 miles per hour (mph) lakewide. Within Emerald Bay, the no-wake zone would be expanded from its current extent so that all areas within the bay would be designated as a no-wake zone. There, the speed would be limited to 5 mph for all motorized watercraft except tour boats, which would be limited to 7 mph.

A new boat launch fee would generate funding for an additional TRPA boat crew to expand the no-wake zone education and enforcement program. TRPA and partner enforcement agencies would increase patrols in

areas that receive heavy nonmotorized watercraft use, such as D. L. Bliss State Park, Sugar Pine Point State Park, and Sand Harbor. Navigational signage and/or buoys may also be installed to delineate the no wake zone near marinas or around the state parks. The number and location of these demarcation signs and buoys would be determined by the appropriate land management agency and reviewed by TRPA to ensure that they do not reduce scenic quality. TRPA, in cooperation with these partner agencies, is working with stakeholder groups, marinas, concessionaires and lakefront property owners to develop additional tools to aid enforcement and compliance with the no wake zone regulations.

BOAT INSPECTION PROGRAM

The proposed Shoreline Plan would continue to require that every motorized watercraft be inspected before launching on Lake Tahoe. Stickers or tags would continue to be attached to inspected boats to allow personnel at launch sites to verify that watercraft have been inspected. The existing AIS inspection and decontamination requirements would remain unchanged.

BOATER EDUCATION PROGRAMS

Under the proposed Shoreline Plan, TRPA would coordinate with marinas, boat ramp operators, and other partners to implement boater education programs. These programs would educate watercraft operators about applicable regulations and appropriate watercraft operations to protect natural resources and public safety. The education programs would include the following elements:

- Boat inspectors would educate watercraft owners and operators during boat inspections. Watercraft owners and operators would be educated about the no-wake zone, and appropriate watercraft operations and maintenance, including fueling practices, bilge and sewage operations to prevent discharges into the lake, and appropriate engine tuning and propeller selection to reduce emissions during high-elevation boating.
- Staff at marinas and motorized watercraft rental concessions would receive training on appropriate watercraft operations and maintenance, including fueling practices, bilge and sewage operations, and appropriate engine tuning and propeller selection. In addition, staff at marinas and motorized watercraft rental concessions would be required to educate customers about the no-wake zone and appropriate watercraft operations.
- Signs and other public information would be provided at public boat ramps and other public access points along the shoreline. The information would educate boaters and other shoreline users about the no-wake zone, AIS preventions strategies, and public safety considerations.

EXPANDED AIS CONTROL

TRPA would establish a new AIS control fee on recreational boats to fund AIS control projects. The fee would be assessed as an addition to the fee currently collected at the AIS inspection stations. The funding would be used to implement an additional three acres of AIS control each year. It would fund implementation of projects that reduce the abundance or distribution of Asian clam, Eurasian watermilfoil, curly-leaf pondweed, coontail, and/or other AIS that are introduced in the future and that could be spread by recreational boating.

NONMOTORIZED WATERCRAFT

The proposed Shoreline Plan would recognize that nonmotorized boating is an increasing recreational activity at Lake Tahoe and would include policies to support efforts to provide safe access, egress, and navigation. It would provide opportunities for facilities to accommodate nonmotorized boating activities, including paddle boarding and kayaking. The proposed Shoreline Plan would include the following nonmotorized navigation and access provisions:

- ▲ Continuation of the no-wake zone (described above) at 600 feet and 5-mph speed limit, with an expanded no-wake zone in Emerald Bay.
- Opportunities for navigational buoys demarcating the no-wake zone near state parks, marinas, and other areas to improve compliance with the no-wake zone.
- ▲ Limits on pier length to protect nonmotorized navigation.
- ▲ Regulated pier distribution to preserve undeveloped areas of the shoreline
- ▲ Facilities for rental concessions in the shorezone.
- Access to public boat ramps for nonmotorized watercraft during periods of low lake conditions when ramps are not accessible for motorized boats.
- Coordinated enforcement of the no-wake zone and boating speed limits to protect nonmotorized boaters.

BOAT RENTAL CONCESSIONAIRES

The proposed Shoreline Plan regulates motorized and nonmotorized boat rental concessionaires. All rental concessions would be required to obtain a TRPA permit, and they could be permitted only if allowed under the applicable area plan, plan area statement, or community plan. The following requirements would apply to both motorized and nonmotorized concessions unless otherwise specified.

- Concessions would be permitted only as an accessory use for applicants that have a permitted upland commercial or public facility/use.
- ▲ Concessions would need to consider and demonstrate upland parking availability.
- New motorized boat concessions would be allowed only at marinas.
- ▲ Each concession for motorized boating would be allowed one watercraft per permitted mooring except for marinas, which may have two strings with no more than 12 personal watercraft.
- ▲ TRPA would issue only permanent permits. The permits would specify the number and type of boats, paddleboards, kiosks, racks, or other structures to support the concession.
- ▲ All concessions with a valid permit would be grandfathered to continue operating under their existing permit conditions. All new concessions would be required to meet the requirements of the Shoreline Plan.
- ▲ Moorings for concessions would be counted toward the mooring cap.
- When allowed, only one watercraft may be moored per buoy or slip. Use of buoy "trains" are not allowed outside of marinas.
- Storage racks would be allowed. The location of racks would be above high water wherever possible and provide for maximum access and recreational benefit, subject to visual screening requirements.
- ▲ All concessions must meet BMPs, including fueling BMPs, fire codes, and local jurisdiction permit(s).

FISH HABITAT MITIGATION

If new structures are proposed in areas designated by TRPA as prime fish habitat, the applicant would be required to mitigate affected fish habitat at a 1.5:1 ratio to ensure no net loss in prime fish habitat.

Mitigation could occur on site or elsewhere adjacent to existing prime fish habitat and would involve the creation of physical habitat by placing gravel, cobble, or boulder substrate. Mitigation would replace the same type of substrate affected by the project.

In addition, the proposed Shoreline Plan would encourage a monitoring program to confirm that placement of new piers and buoys has limited impact (direct or through an interaction with nonnative species) on native fish populations and that impacts are mitigated through design requirements.

NEARSHORE WATER QUALITY ADAPTIVE MANAGEMENT

TRPA would expand the Nearshore Water Quality Network or a similar effort to include monitoring stations located within areas of shallow lakebed but outside the no-wake zone. If the results of this monitoring indicate that boating activities contribute to an exceedance of TRPA's nearshore turbidity thresholds, TRPA would implement management actions to avoid or offset this impairment. Such management actions could include, but are not limited to:

- expanding the no-wake zone based on scientific findings and recommendations for nearshore areas identified to be susceptible to reduced clarity from boating activities; or
- enacting a nearshore water quality mitigation fee on recreational watercraft and using the revenue to fund compensatory mitigation projects that reduce other sources of nearshore water quality impairment, such as stormwater management projects, or fertilizer reduction initiatives.

PUBLIC TRUST EASEMENT IN CALIFORNIA

On the California side of Lake Tahoe, a public trust easement allows for public access between the low- and high-water elevation of Lake Tahoe. The California State Lands Commission manages this public trust easement for the benefit of all citizens of the state. TRPA and California State Lands Commission would adopt a memorandum of understanding (MOU) that details a process to coordinate review of applications for piers. The MOU would specify a review process that protects public trust values (e.g., public lateral access) within the public trust easement in California. Structural components required to maintain lateral public access (e.g., ladders to provide access over a pier) would be exempt from visible mass offset requirements.

2.8.2 Alternative 2 – Maintain Existing TRPA Shorezone Regulations (No Project)

The No Project Alternative would retain the existing shorezone regulations, including the Shorezone Subelement of the Regional Plan goals and policies, and the existing TRPA Shorezone Code (Code of Ordinances Chapters 80–86). The goal of this alternative is to balance access and environmental protection by applying the approach that was developed under the 1987 Regional Plan. This alternative would lift the temporary moratorium on new shoreline structures that has been in place since 2010, and development of shoreline structures would occur in accordance with existing code in Chapters 80–86.

The existing shorezone regulations are largely centered around prohibitions of shoreline structures (piers, boat ramps, and moorings) within TRPA-designated prime fish habitat. The existing TRPA Shorezone Code identifies the mechanism by which development projects in the shorezone are reviewed and defines all permissible uses and types of structures in the shorezone. The major parts of the code that are under consideration for revision with the Shoreline Plan are the development standards for shorezone structures.

LOW LAKE LEVEL ADAPTATION

The No Project Alternative would maintain existing development standards, focusing development around the natural lake rim elevation of 6,223 feet LTD. Buoy floats and anchors within buoy fields would continue

to be allowed to move farther lakeward during periods of low lake conditions. There are no other provisions to allow modifications to facilities or structures to be useable during low lake conditions.

SHORELINE PROTECTION AREAS

The No Project Alternative would not identify new shoreline protection areas. Existing requirements that address stream mouth protection areas and water intakes would remain. TRPA Code Section 84.5.1.B would continue to prohibit the placement of new piers within 200 feet of the inlet of the 24 major streams and rivers that drain into Lake Tahoe. TRPA Code Section 60.3.3 would continue to require that water purveyors be consulted with in the evaluation of applications and development of permit conditions for any proposed shoreline structure within 600 feet of a drinking water intake.

MOORINGS

Under the No Project Alternative, there would be no numeric cap on moorings. The number of moorings would be limited by the number of eligible parcels that could place moorings consistent with location standards, including the prohibition on structures within prime fish habitat. Existing permitted moorings would be allowed to remain. A maximum of two buoys and one boat lift would be allowed for each littoral parcel. Based on an assessment of the most recent prime fish habitat map and pier eligibility criteria, it is estimated that up to 4,871 new buoys, 1,897 new slips, and 168 new boat lifts could be developed under the No Project Alternative, for a total of 6,936 new moorings (Appendix A). There would be no code provision prohibiting temporary overnight mooring on structures other than buoys, slips, and boat lifts (i.e., no overnight mooring on piers or other structures).

Buoys

Buoy Permitting and Allocation

All buoys would require a TRPA permit. Buoys with clear evidence of existence before 1972, or with a federal or state permit, are eligible for a TRPA permit and would be unconditionally approved. Buoy permits would be issued on a first-come, first-served basis with no allocation process.

Buoy Location Standards

The placement of buoys would be limited to no further lakeward than necessary to provide safe mooring, but not to exceed 350 feet lakeward of the high-water line. Buoy fields would be allowed to deviate from these design standards because of their multiple-use designation. Buoy floats and anchors in buoy fields would be allowed to move lakeward during low water level conditions.

Buoy Enforcement

Under the No Project Alternative, TRPA would initiate an illegal buoy enforcement program. As with Alternative 1, the enforcement program would prioritize the identification and removal of buoys that were placed on the lake after 1972 and do not have permits from TRPA, state agencies, or the U.S. Army Corps of Engineers.

Slips

Under the No Project Alternative, there would be no numeric cap on the number of slips on Lake Tahoe. Slips are primarily within marinas, and the No Project Alternative would continue to require marina master plans and environmental improvements with any marina expansions that add more than 10 new slips (see the section titled "New, Expanded, and Reconfigured Marinas," below, for more information).

Boat Lifts

Under the No Project Alternative, there would be no numeric cap on the total number of boat lifts. Each littoral parcel with a pier would be allowed one private boat lift with a maximum width of 10 feet, subject to scenic and other mitigation requirements. Multiple-use piers would be evaluated on a case-by-case basis and could include more than one boat lift.

PIERS

All littoral parcels in existence as of July 1, 1987, except for properties served by or eligible to be served by a multiple-use facility (such as an HOA pier), would be eligible for one new pier. No piers would be allowed within TRPA-designated prime fish habitat or stream mouth protection areas. TRPA would continue the current system of permitting, in which permit applications are accepted and processed at any time. There would be no allocation process, prioritization of pier allocations, or provisions to address the distribution of piers in visually sensitive areas.

To incentivize multiple-use piers that serve more than one littoral parcel, TRPA would continue to allow multiple-use piers to deviate from pier design standards that limit the pier length, width, number of piers per parcel, property line setbacks, and number of boat lifts. The extent of deviation from these standards would be based on:

- ▲ the reduction in shoreline development potential that would result from the projects (through the deed restriction of other parcels served by the multiple-use pier) and
- the number of people served by the multiple-use pier, or the extent to which the pier is available for public use.

Public piers would be considered multiple-use piers and would be subject to the same evaluation criteria as private multiple-use piers.

Pier Design Standards

All pier applications would be required to comply with applicable design standards shown in Table 2-7.

Specification	Single-Use Piers	Multiple-Use Piers
Length	To 6,219 feet LTD or pierhead line, whichever is more limiting	
Width	Maximum 10 feet for pier Maximum of 13 feet with a catwalk	
Catwalk	Maximum 3 feet wide and 45 feet long	Multiple-use structures allowed to deviate from standards
Boat lift	1 allowed, maximum of 10 feet wide	
Side setback	Minimum 20 feet from each property edge for new piers, and 5 feet for existing piers	
Height	Maximum 6,232 feet LTD	Maximum 6,232 feet LTD
Visible mass	Floating or open piling foundation no less than 90% open space	Floating or open piling foundation no less than 90% open space
Location	Outside of prime fish habitat and stream mouth protection areas	Outside of prime fish habitat and stream mouth protection areas
Source: TRPA 2017b		

Table 2-7 Alternative 2 Pier Design Standards

Pier Relocations, Transfers, and Conversions

Under the No Project Alternative, there would be no provisions allowing the relocation or transfer of piers. Existing boat ramps could be converted to a pier, but the pier would be evaluated as a new structure.

Pier Modifications and Expansions

Pier modifications and expansions would continue to be allowed in accordance with TRPA Code Sections 82.4.4 and 82.4.5. Modifications and expansions of piers that currently comply with development standards would be allowed as long as the modified or expanded pier continued to comply with those standards. Existing piers that comply with some but not all design standards could be allowed if the expansion or modification decreases (or does not increase) the extent to which the pier does not comply with design

standards. Expansions or modifications of piers that do not comply with length and setback requirements could be approved in limited cases subject to the findings described in TRPA Code Section 82.4.4.C.

BOAT RAMPS

New public and private boat ramps would be allowed, and there would be no numeric cap on the total number of ramps. Up to one new boat ramp could be allowed per littoral parcel outside of prime fish habitat and stream mouth protection areas. Although the No Project Alternative would not specifically prohibit new private boat ramps, existing land coverage regulations would make it highly unlikely that any new private boat ramps could be authorized because boat ramps, by their very nature, require the placement of coverage within the backshore. TRPA defines the backshore as Land Capability District 1b (the most sensitive land capability district). TRPA Code Section 30.5.2 prohibits the placement of coverage in Land Capability District 1b unless it is for a stream crossing, public recreation facility, public service facility, or water quality improvement structure, none of which is the case with a private boat ramp. New public boat ramps could be authorized under the No Action Alternative. Based on an assessment of site constraints and access for new public boat ramps, it is estimated that up to six new public boat ramps could be developed under the No Project Alternative.

NEW, EXPANDED, AND RECONFIGURED MARINAS

New marinas could be authorized under the No Project Alternative. Based on an assessment of eligible locations and property ownership, it is assumed that up to two new marinas could be authorized. New, expanded, or reconfigured marinas would continue to be governed by TRPA Code Section 84.13. Any new marina or expansion of an existing marina by more than 10 moorings would require the preparation of a marina master plan and EIS.

In addition to the requirement for a Marina Master Plan and EIS, new marinas or additions of more than 10 moorings would require the following improvements:

- public restrooms, fueling facilities, chemical fire-retardant distribution system, trash receptacles, and pump-out facilities for boat sewage;
- ▲ boat washing facilities, if any, connected to a sewer system;
- gas pumping facilities that include emergency and standard shut-off systems to avoid gas leakage to the lake;
- ▲ adequate parking to accommodate all uses and activities associated with the marina; and
- water treatment system for waters contained within marinas.

FLOATING (SWIM) PLATFORMS

Up to one floating platform per littoral parcel could be authorized, subject to the limitations described in Code Section 84.8. Floating platforms could be in addition to the three moorings allowed per littoral parcel. They could not exceed 100 sq. ft. in area and could not be longer than 15 feet on any one side.

OTHER SHORELINE STRUCTURES

The No Project Alternative would allow for the approval of new private or public jetties, breakwaters, rock cribs, and fences within portions of the shorezone where they are not likely to accelerate erosion. There would be no numeric limit on the number of these structures that could be permitted. New structures would be required to comply with the design standards in Code Section 84.12, which focus on maintaining openings in this type of structure to allow for water circulation.

SCENIC REQUIREMENTS

As described above, TRPA has an existing contrast rating and visual magnitude system that establishes a contrast rating for parcels along the shoreline based on the color, texture, articulation, amount of glass, and amount of visible perimeter of structures visible from the lake. New shoreline projects could not decrease the existing contrast rating for a littoral parcel.

In addition, scenic offsets, in the form of removing or screening existing visible mass, would be required for any proposed pier that results in a net increase in visible mass, or where any structure would result in nonattainment of a scenic threshold standard. As with Alternative 1, scenic mitigation and improvement would be required as close to the proposed structure as feasible. Scenic offsets for new visible mass would be required at a 1:1 ratio for shoreline travel units that are in attainment of threshold standards, and at a 1.5:1 ratio for those that are not in attainment.

DREDGING

Maintenance dredging would be allowed in previously dredged areas where it is necessary to continue an existing use. New dredging could be allowed only if TRPA finds that it is beneficial to shorezone conditions and water quality. All dredging activity would be required to comply with applicable state permit requirements.

NO-WAKE ZONE

Under the No Project Alternative, the no-wake zone would be maintained at 600 feet from the water line and speed would continue to be limited to 5 mph.

BOAT INSPECTION AND STICKER PROGRAM

The No Project Alternative would maintain the existing AIS inspection and decontamination requirements. Every motorized watercraft would be inspected prior to launching on Lake Tahoe. Stickers or tags would continue to be attached to inspected boats to allow personnel at launch sites to verify that watercraft have been inspected.

BOAT RENTAL CONCESSIONAIRES

Water-oriented outdoor concessions could be permitted if allowed under the applicable area plan, plan area statement, or community plan pursuant to TRPA Code, Sec. 81.3.

FISH HABITAT MITIGATION

The No Project Alternative would continue to prohibit new structures in prime fish habitat. No prime fish habitat mitigation program would be established.

PUBLIC TRUST EASEMENT IN CALIFORNIA

As with Alternative 1, TRPA and California State Lands Commission would adopt an MOU that details a process to coordinate review of applications for piers. The MOU would specify a review process that protects public trust values (e.g., public lateral access) within the public trust easement in California. Under Alternative 2, structural components required to maintain lateral public access (e.g., ladders to provide access over a pier), would not be exempt from visible mass offset requirements.

2.8.3 Alternative 3 – Limit New Development

The goal of Alternative 3 is to reduce the potential for environmental impacts by limiting new shoreline development. This alternative would seek to concentrate motorized watercraft access at marinas and public facilities rather than at individual private facilities, and to maximize the number of people served by each new shoreline structure. This alternative would authorize fewer structures than Alternative 1 or 2, with up to 365 new public buoys or slips, five new public piers, and one new public boat ramp. This alternative would authorize 86 new private piers, but they would be restricted to multiple-use piers.

In other respects, Alternative 3 would be the same as Alternative 1, the proposed Shoreline Plan. Alternative 3 would include the same provisions described above for the proposed Shoreline Plan, in respect of the following topics:

- ▲ shoreline protection areas;
- recognition of existing buoys;
- ▲ buoy enforcement;
- ▲ pier relocations, transfers, and conversions;
- ▲ marina expansions and reconfigurations;
- ▲ floating (swim) platforms;
- ▲ other shoreline structures;
- ▲ boat inspection and sticker program;
- ▲ boater education programs;
- expanded AIS control;
- no-wake zone;
- ▲ boat rental concessions;
- nearshore water quality adaptive management;
- ▲ fish habitat mitigation; and
- ▲ public trust easement in California.

Differences between Alternative 3 and Alternative 1 are described below.

LOW LAKE LEVEL ADAPTATION

Alternative 3 would include the same low lake level adaptation provisions as the No Project Alternative. Buoy floats and anchors within buoy fields would continue to be allowed to move farther lakeward during periods of low lake conditions. Alternative 3 would include no other provisions to allow modifications to facilities or structures to be useable during low lake conditions.

MOORINGS

Alternative 3 would regulate all structures that allow for overnight mooring of watercraft on Lake Tahoe (i.e., buoys, slips, and lifts). It would allow for up to 365 new moorings, all of which would be public buoys or slips (including buoys and slips at marinas that are available to the public). No other new private moorings would be allowed. As with Alternative 1, watercraft moored overnight would be required to moor to legally existing buoys, slips, boat lifts, or other watercraft storage facilities, except in limited cases.

Buoys

As with the proposed Shoreline Plan, Alternative 3 would recognize the continued use of legally existing buoys (i.e., those with an existing permit or placed on the lake prior to 1972). It would authorize a total of 365 new moorings, all of which would be buoys or slips at marinas or public facilities. It would establish the same location standards as the proposed Shoreline Plan for the placement of buoys in buoys fields and would implement an enforcement program to remove illegal buoys from the lake. The 365 new moorings would be allocated to marinas and public facilities on a first-come, first-served basis.

Slips

No new individual private boat slips would be permitted. Marinas and public agencies could exchange new or existing buoys for slips on a 1:1 basis.

Boat Lifts

No new private boat lifts would be permitted. Legally existing boat lifts could remain.

PIERS

Alternative 3 would allow up to 86 new private piers and up to five new public piers to be constructed along the shoreline. All new private piers would be multiple-use piers that provide access to more than one property owner. Alternative 3 would include pier density standards intended to prevent the dense clustering of piers along any portion of the shoreline. It would include provisions that would result in the retirement of pier development potential through deed restrictions. The alternative would regulate the rate of new pier approvals and would institute pier design standards intended to protect navigation, recreational access, and limit scenic impacts. It would also include the same incentives as the proposed Shoreline Plan to restore stream mouths and areas with degraded scenic conditions. No pier would be eligible for use as permanent moorage, and piers would not directly affect boating levels on Lake Tahoe.

Public Piers

Up to five new public piers could be constructed under Alternative 3. Design standards for public piers are not proposed, however design standards for multiple-use piers (described below) could serve as a guideline for the review of public pier applications. As with the proposed Shoreline Plan, public piers could deviate from design standards that apply to private multiple-use piers to the extent necessary to provide a public service, such as emergency access, public access during low lake conditions, or public transportation. All public pier applications would be subject to environmental review, and the approval of public piers would be based on the proposed location, objectives, public benefit, consistency with adopted plans, and environmental impacts of the proposed pier. Allocation of public piers would not be dependent on jurisdictional boundaries; that is, a valid public pier proposal could occur anywhere on the lake. Public piers would be required to comply with the same density limits as private piers.

Private Piers

Up to 86 new private multiple-use piers could be constructed under Alternative 3, consistent with eligibility criteria. A private littoral parcel could be eligible for a new pier if that parcel is not deed-restricted to prevent pier development, there is not already a pier on the property, and setback and locational requirements can be met. The placement of new private piers would be restricted to areas outside of stream mouth protection areas and Shorezone Preservation Areas. As with Alternative 2, littoral parcels that already have access to an HOA pier or other multiple-use pier would not be eligible to apply for a new pier.

Private Pier Distribution and Density

The 86 new private multiple-use piers could be distributed to any eligible littoral parcel regardless of jurisdictional boundaries. To reduce the potential scenic impacts of dense clusters of piers, the following density standards would apply:

- Within Visually Modified and Visually Dominated shoreline character types, an average of no more than one pier per 100 feet of shoreline would be allowed; and
- Within Visually Sensitive shoreline character types, an average of no more than one pier per 300 feet of non-deed-restricted shoreline would be allowed.

Private Pier Design Standards

All new private piers would be multiple-use piers that serve more than one littoral parcel. The pier design guidelines shown in Table 2-8 would apply. TRPA would have discretion to authorize deviations from these

Table 2-8	Alternative 3 Pier Design Guidelines
Specification	Private Multiple-Use Piers
Length	Up to 300 feet the pierhead line, or 6,219 feet LTD, whichever is less, or the minimum necessary to get to navigable water
Width	Maximum 6 feet for pier Maximum of 10 feet with a catwalk Maximum of 10 feet at pierhead
Catwalk	Maximum of 10 feet wide (total) and 30 feet long
Pierhead	Maximum of 10 feet wide and 30 feet long
Boat Lift	Not allowed
Side Setback	Minimum 20 feet from each property edge
Height	Not specified
Visible Mass	280 square feet for 2 parcels and more visible mass could be allowed for 3 or more parcels to
Location	Outside of stream mouth protection areas, must comply with density standards
Source: TRPA	

guidelines based on site conditions, the number of people served by the pier, and the amount of development retired by the application.

Rate of Private Pier Development

New private multiple-use piers would be authorized gradually to limit the rate of new pier development and to allow for the periodic assessment of the effects of Alternative 3. Initially, TRPA would allow for the approval of up to 64 of the 86 new private piers over a 16-year period, at a rate of up to eight approvals every 2 years. If during a two-year period there are fewer than eight piers permitted, the remaining balance would roll over to subsequent years. TRPA would review the allocation of piers, including monitoring the geographic distribution of new piers and evaluating pier availability. The review of pier allocations would occur through a new four-year pier and buoy permitting activity report, released following each four-year threshold evaluation report. The authorization of the remaining 22 new private piers (after the 64 piers authorized in the first 16 years) would be dependent on the amount of pier development potential retired.

Retirement of Pier Development Potential

Alternative 3 would make the approval of new private multiple-use piers contingent upon the deed restriction of littoral parcels in some cases. All new private pier applications would be multiple use (i.e., serving more than one littoral parcel). Two types of pier applications would be accepted, single-parcel pier applications (e.g., a multiple-use pier that serves an HOA and does not retire development potential) and multiple-parcel (i.e., those that retire pier development potential through deed restricting at least one other parcel).

Private pier permit applications would be prioritized to encourage retirement of development potential, as described below. After the initial 16-year period, three pier allocations would be released for every eight multiple-parcel pier applications that are approved (which would translate to a minimum of eight new deed-restricted properties), until the 86-pier cap is reached.

Prioritization of Private Pier Applications

Under Alternative 3, TRPA would accept applications for private multiple-use piers, then prioritize pier applications based on the amount of development potential retired, and the number of parcels served by the pier. Prioritized pier applications would be processed first, and if more than eight pier applications are received during a 2-year period, those applications that receive a lower priority would not be processed during that 2-year period.

Private pier applications that deed-restrict other parcels to retire pier development potential (i.e., multipleparcel applicants) would first be prioritized in the following order:

- 1. applications that propose to retire the most development potential within the same shoreline character type, within the same scenic travel unit;
- 2. applications that retire the most development potential, regardless of shoreline character type and unit;
- 3. applications in shoreline character types from least to most sensitive (i.e., beginning with "Visually Dominated," then, "Visually Modified," and finally, "Visually Sensitive"); and then
- 4. multiple-parcel pier applications that already have access to an HOA pier.

After multiple-parcel pier applications, the next priority would be given to applications that serve the greatest number of users to encourage an increase in lake access.

Commercial and Tourist Accommodation Piers

No new private piers associated with commercial or tourist accommodation uses would be authorized.

Pier Expansions and Modifications

Modifications and expansions of existing piers at marinas would be regulated in the same manner as the proposed Shoreline Plan. No other expansions of existing piers would be authorized.

BOAT RAMPS

Under Alternative 3, up to one new public boat ramp would be allowed. Applications for a new public boat ramp would be considered by TRPA based on the merits of the proposed site selected. This review would consider the existing geographic distribution of boat ramp access, the relationship of the proposed ramp to clusters of upland development and transportation hubs, and the suitability of the site in terms of depth and bathymetry to accommodate access during periods of Phase 2 low lake levels to6,220 feet.

TRPA would allow relocation of existing boat ramps to new sites that are better suited to low lake levels. TRPA would encourage nonmotorized boaters to use boat ramps that are not functional for motorized boats during periods of low water, when these ramps may be closed to motorized users.

SCENIC REQUIREMENTS

As described above, TRPA has an existing scenic assessment system that establishes a contrast rating for parcels along the shoreline based on color, texture, articulation, amount of glass, and amount of visible perimeter of structures visible from the lake. Currently, contrast ratings are used to evaluate changes in upland development in the shoreland, Alternative 1 would expand the use of contrast ratings to ensure that shoreland properties achieve minimum contrast ratings as part of the approval process for new piers. For new private multiple-use piers, TRPA would require an initial contrast rating of 25 as part of the pier application.

Alternative 3 would include the same requirements for scenic offsets, and the same scenic credit program as the proposed Shoreline Plan.

DREDGING

New dredging would be allowed only at marinas, at essential public health and safety facilities, and at public boat ramps. New dredging would only be approved if it would result in environmental benefits. Maintenance dredging would continue to be allowed.

As with the proposed Shoreline Plan, TRPA would adopt a performance standard consistent with the Army Corps of Engineers Section 404 federal standard for new dredging (nondegradation). Applicants would also need to comply with each state's Section 401 water quality certification requirements.

NONMOTORIZED WATERCRAFT

As with the proposed Shoreline Plan, Alternative 3 would recognize that nonmotorized boating is an increasing recreational activity at Lake Tahoe and would include policies to support efforts to provide safe access, egress, and navigation. It would provide opportunities for facilities to accommodate nonmotorized boating activities, including paddle boarding and kayaking. The proposed Shoreline Plan would include the following nonmotorized navigation and access provisions:

- continuation of the no-wake zone (described above) at 600 feet and 5 mph speed limit, with an expanded no-wake zone in Emerald Bay;
- opportunities for navigational buoys demarcating the no-wake zone near state parks, marinas, and other areas to improve compliance with the no-wake zone;
- ▲ limits on pier length to protect nonmotorized navigation;
- regulated pier distribution to preserve areas without piers and distribute piers in areas where piers already exist;
- buoy location standards that create more space and a buffer for nonmotorized access on the landward side of buoy fields by allowing buoy fields to move their landward row of buoys lakeward during low lake levels;
- ▲ facilities for rental concessions in the shorezone;
- support for signage associated with the Lake Tahoe Water Trail to identify launch sites, landing locations, and other public access points;
- access to public boat ramps for nonmotorized watercraft during periods of low lake conditions when ramps are not accessible for motorized boats; and
- ▲ coordinated enforcement of the no-wake zone and boating speed limits to protect nonmotorized boaters.

2.8.4 Alternative 4 – Expand Public Access and Reduce Existing Development

The goal of Alternative 4 is to expand public access by providing new public piers and reduce existing shoreline development through transfer ratios that would reduce the overall number of shoreline structures on the lake. This alternative would allow 15 new public piers and no other new shoreline structures. The alternative would include transfer ratios that would allow some private shoreline structures to be removed and rebuilt in different locations provided the project resulted in a 2:1 reduction in the number of structures. Because this alternative would authorize no new moorings or boat ramps, it would not result in an increase in boat use.

Alternative 4 includes a combination of elements from Alternative 1, the proposed Shoreline Plan, and from Alternative 3. Alternative 4 would include the same provisions described above for the proposed Shoreline Plan to address the following topics:

- ▲ shoreline protection areas,
- ▲ recognition of existing buoys,

- ▲ buoy enforcement,
- ▲ floating (swim) platforms,
- ▲ other shoreline structures,
- ▲ boat inspection,
- ▲ boater education programs,
- expanded AIS control,
- ▲ boat rental concessions,
- nearshore water quality adaptive management, and
- ▲ public trust easement in California.

Alternative 4 would include the same provisions described above for Alternative 3 to address the following topics:

- ▲ low lake level adaptation,
- ▲ pier density and design standards,
- ▲ scenic requirements, and
- ▲ nonmotorized watercraft.

The elements of Alternative 4 that are different from Alternatives 1 and 3 are described below.

MOORINGS

Alternative 4 would prohibit new moorings on Lake Tahoe. Existing public or private moorings could be converted to public moorings and transferred to other locations if the transfer resulted in a 2:1 reduction in moorings (i.e., two existing moorings are removed, and one public mooring is placed in a new location). These transfer ratios would likely result in a net reduction in the number of moorings on Lake Tahoe, and a corresponding reduction in boating activity. However, there would be little incentive for property owners to reduce existing moorings through this transfer program. Therefore, this analysis takes a conservative approach and assumes that the total number of existing moorings on Lake Tahoe would remain the same. As with Alternative 1, watercraft moored overnight would be required to moor to legally existing buoys, slips, boat lifts, or other watercraft storage facilities, except in limited cases.

Buoys

No new private buoys would be permitted. Existing public or private buoys could be transferred for use in marina or other public facilities if the transfer resulted in a 2:1 reduction in the number of buoys. Location standards for buoy fields would be the same as described under Alternative 1.

Slips

No new individual private boat slips would be permitted. Marinas and public agencies could exchange buoys for slips on a 1:1 basis.

Boat Lifts

No new private boat lifts would be permitted. Legally existing boat lifts could remain.

PIERS

Alternative 4 would allow up to 15 new public piers. New multiple-use piers could be allowed if the application involves removal two existing piers (i.e., a 2:1 reduction in the number of piers), but no new private piers would be otherwise allowed. Public pier applications would be considered on a first-come, first-served basis. There would be no allocation or prioritization process. Public piers and multiple-use private piers would comply with the same location and density standards described for Alternative 3, above. The pier design standards described above for the proposed Shoreline Plan would apply to new multiple-use private piers. Parcels with access to an existing multiple-use pier would not be eligible for a new multiple-use pier.

Pier Expansions and Modifications

Modifications of existing piers would only be permitted if the modification reduced the visible mass of the pier. No expansions of existing piers would be authorized.

BOAT RAMPS

Under Alternative 4, no new boat ramps would be authorized. TRPA would allow the relocation of existing public boat ramps to new sites that are better suited to low lake levels, if the relocation resulted in a 2:1 reduction in the number of boat ramps (i.e., two existing boat ramps are removed, and one boat ramp is constructed in a new location). Where feasible, public ramps may extend farther into the lake to allow operation during low lake level conditions. TRPA and ramp operators would encourage nonmotorized boaters to use boat ramps that are not functional for motorized boats during periods of low water, provided there is adequate upland facilities for parking and access to the ramp.

DREDGING

Dredging would be regulated in the same manner as in Alternative 2. Maintenance dredging would be allowed in previously dredged areas where it is necessary to continue an existing use. New dredging could only be allowed if TRPA finds that it is beneficial to shorezone conditions and water quality and clarity. All dredging activity would be required to comply with applicable state permit requirements.

NO-WAKE ZONE

The no-wake zone would be maintained at 600 feet from the water line for all areas of the lake except for D.L. Bliss State Park, Sugar Pine Point State Park, and Sand Harbor, where the no wake zone would be expanded to 1,200 feet. The speed limit for motorized watercraft would continue to be limited to 5 miles per hour (mph) within the no wake zone. Within Emerald Bay, the no-wake zone would be expanded from its current extent so that all areas within the bay would be designated as a no-wake zone. There, the speed would be limited to 5 mph for all motorized watercraft except tour boats, which would be limited to 7 mph.

As with Alternatives 1 and 3, no-wake zone enforcement and education would be expanded, which would be funded through a new launch fee. Priority areas for enforcement of the no-wake zone would be created in areas that receive heavy nonmotorized watercraft use. Navigational signage and/or buoys may also be installed to delineate the no wake zone near marinas or around state parks. The number and location of these demarcation signs and buoys would be determined by the appropriate land management agency and reviewed by TRPA to ensure that they do not reduce scenic ratings or detract from the scenic character.

PROJECTED BOATING ACTIVITY

Because Alternative 4 would not authorize new moorings or boat ramps, it would not increase the existing motorized boating capacity on Lake Tahoe. Implementation of Alternative 4 could reduce boating capacity through transfer ratios that require a 2:1 reduction in shoreline structures. However, as described above, there would be little incentive for property owners to remove existing shoreline structures through the transfer ratios. Therefore, this analysis assumes that the existing boating capacity and levels of boating activity would not be changed by Alternative 4.

FISH HABITAT MITIGATION

Alternative 4 would allow new public piers or transferred structures to be placed within TRPA-designated prime fish habitat. If new structures are proposed in areas designated by TRPA as prime fish habitat, the applicant would be required to mitigate affected fish habitat at a 2:1 ratio (i.e., 2 square feet of prime fish habitat would be created for each square foot lost), to ensure that fisheries are not degraded. Mitigation could occur onsite or elsewhere adjacent to existing prime fish habitat and would involve the creation of

physical habitat by placing gravel, cobble, or boulder substrate. Mitigation would replace the same type of substrate affected by the project.

In addition, Alternative 4 would encourage a monitoring program to confirm that placement of new piers and buoys has limited impact (direct or via an interaction with nonnative species) on native fish populations and that impacts are mitigated through design requirements.

2.9 MINOR VARIATIONS IN IMPLEMENTATION

The TRPA Governing Board could adopt minor refinements to the implementation of the alternatives described in this EIS without resulting in environmental impacts that are different from those analyzed in this EIS. Specific variations that could be consistent with the analysis in this EIS include minor changes to the rate of buildout, minor changes to pier and buoy prioritization systems, and minor changes to the allocation of structures between private littoral parcel owners and HOAs.

This EIS analyzes environmental impacts at full buildout of each alternative (i.e., after the development of all structures potentially authorized by an alternative). As a result, variations in the rate of shoreline structure allocation and development would not alter the analysis in this EIS. In addition, this EIS does not assume that environmental improvements, other than those improvements required by each alternative, would result from implementation of the alternatives. Therefore, pier or buoy prioritization systems and other provisions that environmental impacts. Some alternatives include detailed buoy and pier allocation provisions that specify the proportion of structures that could be allocated to private littoral parcel owners and HOAs. In these cases, the structures would result in the same physical effects regardless of whether they are allocated to a private littoral parcel owner or HOA. Therefore, the allocation of structures between private littoral parcel owners and HOAs could be modified. Any minor variation in the implementation of provisions outlined in this chapter would be reviewed to confirm that the variation is consistent with the analysis in this EIS.

2.10 ALTERNATIVES AND FEATURES CONSIDERED BUT DISMISSED FROM FURTHER EVALUATION

During development of the proposed Shoreline Plan, several alternatives or alternative components were considered but eliminated from further study because of the potential for environmental impacts, the infeasibility of the proposals, or other concerns identified by TRPA and the public. These alternatives or alternative elements include the following:

Access Development Alternative: At the September 27, 2017, TRPA RPIC meeting, TRPA staff presented a range of proposed alternatives for consideration in this EIS. Alternatives presented included the four described in this chapter and an additional alternative that would prioritize access development (Access Development Alternative). The Access Development Alternative was intended to increase opportunities for private access and motorized boater access to the lake by increasing the number of allowable shoreline structures. This alternative would have allowed for 7,542 total buoys, 150 new public slips, 318 new private piers, 10 new public piers, and six new public boat ramps. While the RPIC voted to endorse the range of alternatives presented by staff (including the Access Development Alternative), members of the RPIC and public expressed concerns about this alternative. Comments from RPIC members and the public noted that this alternative would not reduce possible environmental effects of the proposed Shoreline Plan, and therefore would not contribute to the reasonable range of alternatives that are required to be analyzed in a TRPA EIS. TRPA staff, the Steering Committee, and technical specialists performed a preliminary evaluation of the Access Development Alternative. This evaluation found that the number of shoreline structures (and associated boating activity) allowed under the Access Development Alternative would likely result in significant environmental impacts related to scenic quality, air quality, noise, and greenhouse gas emissions. To mitigate these significant impacts, the number of allowable shoreline structures would need to be reduced. Because mitigation measures would reduce the number of shoreline structures in this alternative, the alternative would not meet its intended goal of increasing private and boater access through additional shoreline structures. The Shoreline Steering Committee recommended that the Access Development Alternative be dismissed from detailed analysis in the EIS because it would not reduce significant environmental impacts of the proposed Shoreline Plan, and because anticipated mitigation requirements would make it similar to Alternative 1. On December 13, 2017, the RPIC unanimously voted to remove the alternative for the reasons described above.

- 2008 Shorezone Ordinances: In 2008 TRPA adopted a shorezone ordinance that incorporated 4 contemporary science and addressed stakeholder concerns. However, the EIS supporting adoption of this ordinance was challenged, and in 2010 the U.S. Ninth Circuit Court of Appeals vacated the adoption of the ordinance and certification of the EIS and remanded the matter back to TRPA. The stakeholder Steering Committee considered the contents of the 2008 Shorezone Ordinances in the development of the proposed Shoreline Plan. Many elements of the 2008 ordinances were incorporated into the proposed Shoreline Plan, including the caps on the total number of buoys and piers. The proposed Shoreline Plan improved upon the 2008 ordinances by incorporating additional environmentally protective provisions, adding measures to allow for low lake level adaptation, and refining elements of the 2008 ordinances based on practical experience in implementing the 2008 ordinance from 2008 through 2010. Other key elements of the 2008 ordinances that were not included in the proposed Shoreline Plan, including pier design standards and density criteria, were incorporated into Alternatives 3 and 4 in this EIS. Because many of the key elements of the 2008 Shorezone Ordinances are already incorporated in to the alternatives in this EIS, and because the proposed Shoreline Plan includes additional environmentally protective measures that were not in the 2008 ordinances, those ordinances were not included as an alternative in this EIS.
- Nonmotorized Mondays: Representatives of the Tahoe Area Sierra Club and some members of the public requested an alternative that would prohibit motorized watercraft on Lake Tahoe and helicopter tours on Mondays. The stakeholder Steering Committee considered this proposal, and it was brought before RPIC and endorsed. TRPA staff later met with representatives from the Tahoe Area Sierra Club to discuss specific elements of this proposal. During these discussions, TRPA staff, Steering Committee members, and representatives of the Tahoe Area Sierra Club determined that the proposal would not be enforceable because of the numerous private moorings and access points along the shoreline. The Tahoe Area Sierra Club removed their support for the proposal, and it was removed from consideration in this EIS.
- Varied Design Standards Based on Zones. One option that was considered for piers was to develop zones with clear design standards. Under this model, the Shoreline Plan might define three to five types of shoreline areas or zones that address design rather than a single set of design standards that apply everywhere along the shoreline. The zones could consider substrate, bathymetry, and fish habitat. The Steering Committee decided against the zone concept to keep the process simpler and more understandable.
- Identification of specific nonmotorized access points. The Steering Committee discussed the formal designation of public nonmotorized recreation access points to the Lake, including public viewing piers. The committee decided this was not necessary given that the Lake Tahoe Water Trail tracks and maps 27 current access points around the Lake, 14 day-use sites, and provides signage and education. The Steering Committee instead recommended focusing on navigation and safety for all users as they relate to shoreline structures to be permitted under the Shoreline Plan.