June 2016

Kings Beach State Recreation Area

Resources Inventory and Existing Conditions Report

Prepared for:

California Department of Parks and Recreation

California Tahoe Conservancy

Kings Beach State Recreation Area

Resources Inventory and Existing Conditions Report

PREPARED FOR

California Department of Parks and Recreation

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June 2016

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Exhibits

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
AB 32	California Global Warming Solutions Act of 2006
ac-ft	acre feet
AIRFA	American Indian Religious Freedom Act
ARB	California Air Resources Board
ARPA	Archaeological Resources and Protection Act
ASRACK	ASRA Canyon Keepers
AMWG	Adaptive Management Working Group
BACT	best available control technology
Basin Plan	water quality control plan
BLM	U.S. Bureau of Land Management
BMP	best management practice
CAA	federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CAP	criteria air pollutant
CBC	California Building Code
CCAA	California Clean Air Act
CCC	Civilian Conservation Corps
CDFA	California Food and Agricultural
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Parks
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CH_4	methane
CHSC	California Health and Safety Code
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2-equivalent
Compact	Tahoe Regional Planning Compact
CRHR	California Register of Historical Resources
CSD	community disposal system
CWA	Clean Water Act
dB	decibel
dBA	A-Weighted Decibel
dbh	diameter at breast height
DBW	California Department of Boating and Waterways

diesel PM	diesel-powered engines
DOC	California Department of Conservation
DOF	California Department of Finance
DWR	California Department of Water Resources
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
Forest Practice Act	Z'Berg-Nejedly Forest Practice Act
Foundation	Sierra State Parks Foundation
FTA	Federal Transit Administration
GDP	General Development Plan
GHG	greenhouse gas emissions
GP/RMP	General Plan and Resource Management Plan
HAP	hazardous air pollutant
Hz	Hertz
I-80	Interstate 80
IBC	International Building Code
IPCC	Intergovernmental Panel on Climate Change
IVGID	Incline Village General Improvement District
KBSRA	Kings Beach State Recreation Area
kv	kilovolt
Lahontan	Lahontan RWQCB
LOS	level of service
LTBMU	Lake Tahoe Basin Management Unit
MAU	Mounted Assistant Unit
MCL	maximum contaminant level
MCV	Manual of California Vegetation
MG	million gallons
mg/L	milligrams per liter
mgd	million gallons per day
MMT	million metric tons
MOU	memorandum of understanding
mph	miles per hour
mPa	Micro-Pascal
MPN/100ml	Most Probable Number per 100 milliliters
MPO	metropolitan planning organization
MRF	materials recovery facility
MRZ	Mineral Resource Zone
msl	mean sea level
MWh	megawatt hours
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NFIP	National Flood Insurance Program

NFS	National Forest System
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	nitrogen dioxide
NOA	naturally occurring asbestos
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTFPD	North Tahoe Fire Protection District
NTPUD	North Tahoe Public Utility District
NTU	Nephelometric Turbidity Unit
NVCRIS	Nevada Cultural Resource Information System
NWP	nationwide permit
OEHHA	California Office of Environmental Health Hazard Assessment
OHV	off-highway vehicle
ozone	photochemical smog
PAS	Plan Area Statement
PCAPCD	Placer County Air Pollution Control District
PCSD	Placer County Sheriff's Department
PCWA	Placer County Water Agency
PG&E	Pacific Gas & Electric Company
PM_{10}	respirable particulate matter with an aerodynamic diameter of 10 micrometers or less
$PM_{2.5}$	fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less
Porter-Cologne Act	Porter-Cologne Water Quality Control Act of 1970
ppm	parts per million
PPV	Peak Partial Velocity
PRC	Public Resources Code
PRPA	Paleontological Resources Preservation Act
Reclamation	U.S. Bureau of Reclamation
Regional Plan	Regional Plan for the Lake Tahoe Basin
RMS	Root Mean Squared
ROG	reactive organic gases
RPA	Registered Professional Archaeologist
RPM	Revolutions Per Minute
RTP	Mobility 2035: Lake Tahoe Regional Transportation Plan
RWQCB	regional water quality control boards
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SEZ	Stream Environment Zone
SF_6	sulfur hexafluoride
SGC	California Strategic Growth Council
SHPO	State Historic Preservation Officer
SIP	state implementation plan
SMARA	State Mining and Reclamation Act of 1975
SMGB	California State Mining and Geology Board
SO_2	sulfur dioxide
SP	State Park
SPL	Sound Pressure Level
SR	State Route

SWMP	Stormwater Management Plan
SWPPP	stormwater pollution prevention plan
SWRCB	California State Water Resources Control Board
TAC	toxic air contaminant
TART	Tahoe Area Regional Transit
THP	Timber Harvest Plans
TMDL	total maximum daily load
TMPO	Tahoe Metropolitan Planning Organization
TNF	Tahoe National Forest
TRI	Truckee River Interceptor
TROA	Truckee River Operating Agreement
TRPA	Tahoe Regional Planning Agency
TTSA	Tahoe-Truckee Sanitation Agency
TWRP	Truckee Water Reclamation Plant
TYC	Tahoe yellow cress
UCMP	University of California Museum of Paleontology
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USFS	U.S. Forest Service
UWMP	Urban Water Management Plan
VdB	vibration decibels
VMT	vehicle mile traveled
WERS	Western El Dorado Recovery Systems
WPWMA	Western Placer Waste Management Authority
WQO	water quality objective
WRCC	Western Regional Climate Center
WSTF	Western States Trail Foundation

1 INTRODUCTION

1.1 BACKGROUND

The Kings Beach State Recreation Area (KBSRA) is located on the north shore of Lake Tahoe in the heart of the Sierra Nevada (Exhibit 1-1). It includes approximately 1,000 feet of Lake Tahoe's shoreline and approximately 13.9 acres of beach and upland area in the center of the unincorporated community of Kings Beach, Placer County, California. The park provides access to Lake Tahoe, and it includes a beach and gathering places that are popular with local residents as well as visitors from throughout California and beyond.

The KBSRA General Plan will include 12.55 acres owned by the California State Parks (CSP), and a 1.36-acre area owned by the California Tahoe Conservancy (Conservancy) (Exhibit 1-2). CSP initially acquired 6.82 acres of park and beach lands in 1974 and turned over operations and maintenance of the park to the North Tahoe Public Utility District (NTPUD) shortly thereafter. CSP designated this area as the Kings Beach State Recreation Area in 1977. The existing KBSRA General Development Plan (GDP) was approved in 1980 and addressed the original 6.82 acres of park and beach lands. In the 1990s, the Conservancy acquired the commercial and residential properties adjacent to the original 6.82-acre KBSRA. After removal of the dilapidated commercial structures, the Conservancy constructed the existing drainage features and plaza area as a recreation and public access project. The area to the east of the original 6.82 acres, which includes a boat ramp and related amenities, was owned by the California Department of Boating and Waterways (DBW) when the General Plan was approved in 1980. In 2012 DBW became a division of CSP, adding the boat ramp parcel to the land owned by CSP and the operating boundary of KBSRA.

In May 2014, operation and maintenance of KBSRA and the boat launch facility was officially transferred from NTPUD to CSP. In October 2014, CSP and the Conservancy entered into an Operating Agreement (CSP and Conservancy 2014) that allows KBSRA and the adjoining Conservancy-owned lands to be managed and operated as a single unit.

In 2001, the Conservancy conducted an initial feasibility study that evaluated a reconstructed pier in KBSRA that would extend into deeper water. Subsequent design study concluding in 2003 defined the primary features of the pier in a preferred location. In 2015, the Conservancy initiated an updated pier feasibility study that confirmed basic design features and analyzed the reconstruction and expansion of the pier at a new location in KBSRA. The pier alternatives evaluated in this most recent feasibility study will be incorporated into the General Plan alternatives.

1.2 PURPOSE OF THE RESOURCES INVENTORY AND EXISTING CONDITIONS REPORT

This Resource Inventory and Existing Conditions Report provide a summary description of the current conditions within KBSRA. It identifies significant resource values and considerations necessary to inform the preparation of the General Plan (GP). It also describes the baseline conditions against which the effects of the GP alternatives will be evaluated in an Environmental Impact Report (EIR) prepared pursuant to the California Environmental Quality Act (CEQA). This report, in combination with the pier feasibility study and other information, will also provide baseline information to support the evaluation of the pier reconstruction project in an Environmental Impact Statement (EIS) prepared consistent with the Tahoe Regional Planning Agency (TRPA) Regional Plan, Code of Ordinances, and Rules of Procedure. The environmental document will be a joint EIR/EIS evaluating the respective actions of CSP in considering adoption of the GP, and of TRPA in considering approval of a project-specific permit for the pier.

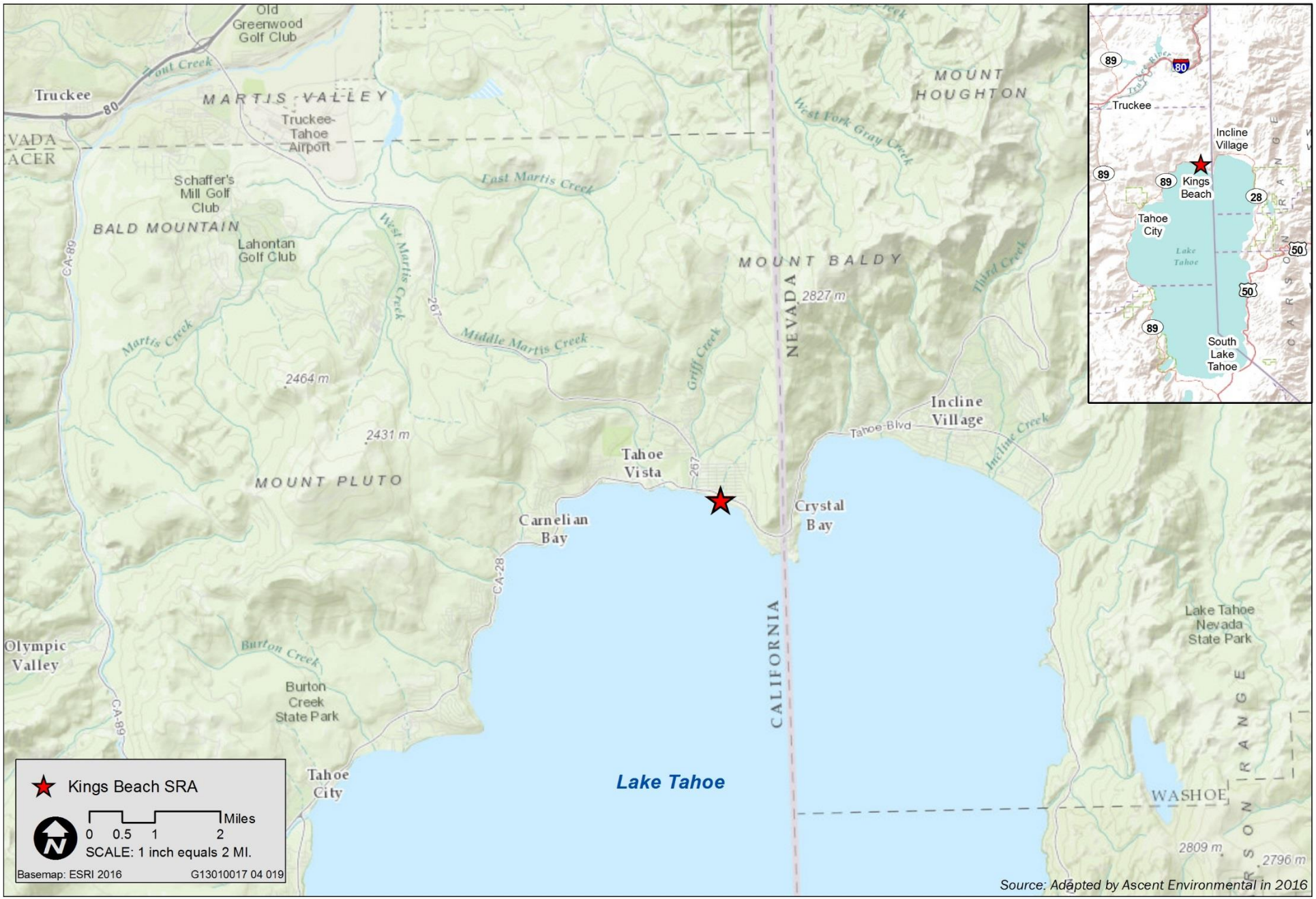

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Exhibit 1-1 KBSRA Location

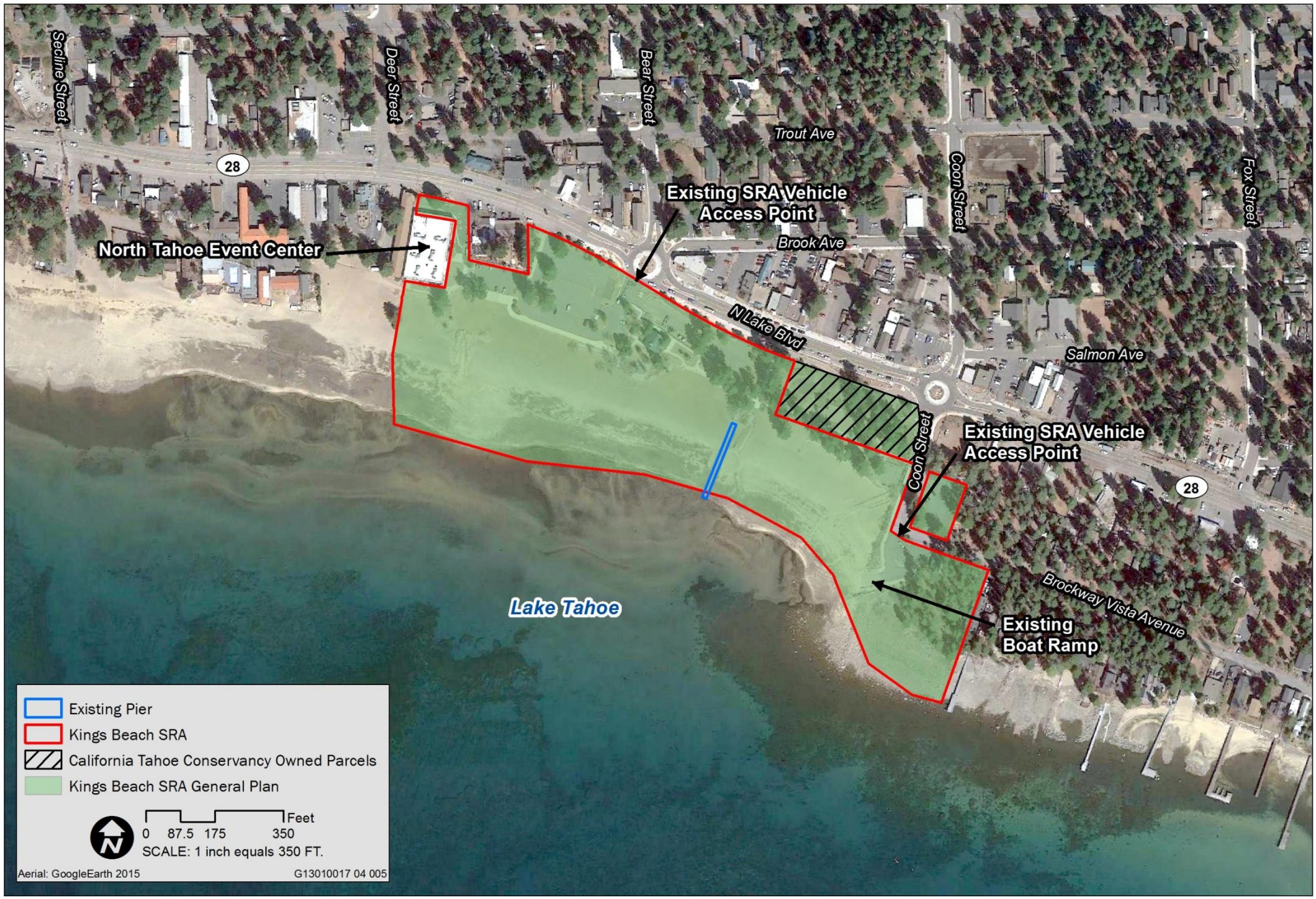

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Exhibit 1-2 KBSRA Boundaries

This Resource Inventory and Existing Conditions Report is consistent with the requirements of the CSP Planning Handbook (CSP 2010). It summarizes the Unit Data File, and describes the planning influences and natural, cultural, and social considerations that will inform the identification of planning issues, opportunities, and constraints. This report will also inform the development of General Plan alternatives, and the selection of a preferred alternative. A summary of the information in this report will be incorporated into the Existing Conditions chapter of the GP. Information from this report will also be integrated into the affected environment section of the GP and pier reconstruction project EIR/EIS.

2 REGIONAL LAND USE, FACILITIES, AND DEMOGRAPHICS

This chapter provides an overview of regional influences on the Kings Beach State Recreation Area (KBSRA) related to land use, recreational facilities, and demographics. It is divided into the following sections:

- Regional Land Use – Provides a summary of surrounding land uses, and regional and local land use planning.
- Regional Recreation Facilities – Provides an overview of surrounding federal, state, and regional or local recreational facilities.
- Regional Demographics – Describes the population, age, ethnicity, income, and education levels of Placer County and surrounding areas.

2.1 REGIONAL LAND USE

Located on the north shore of Lake Tahoe, KBSRA is in the town center of Kings Beach, an unincorporated community of Placer County. KBSRA is surrounded by a mix of urban uses to the west, north, and east, and by Lake Tahoe to the south. It is uniquely situated to serve the lake-based recreation needs of residents and visitors to Kings Beach and the north shore of Lake Tahoe.

The region served by KBSRA includes Lake Tahoe and the surrounding watershed – the Lake Tahoe Basin – which straddles the state line between California and Nevada. The region also includes parts of Placer County, California and Washoe County, Nevada outside the Tahoe Basin to the north, extending to Truckee, a gateway community in Nevada County, California. For purposes of this analysis, the boundary of the region outside the Tahoe Basin is roughly defined by the State Route (SR) 89 corridor north from Tahoe City to the Truckee area, and Placer County east to the Nevada state line. The region also includes parts of Washoe County along the SR 431 corridor over Mount Rose Summit to the Galena Creek Visitor Center. Truckee is located on Interstate 80, the primary artery over the Sierra Nevada between Reno and Sacramento, and a major access point for recreational use of Lake Tahoe. Primary roadways connecting the region to the recreational opportunities at Kings Beach include SR 267 from Truckee, SR 28 from Tahoe City to the west and Incline Village, Nevada, to the east, and Nevada SR 431 from Reno.

Lake Tahoe, the dominant feature of the region, measures 12 miles wide and 22 miles long with a maximum depth of 1,645 feet. The maximum elevation of the lake surface is 6,229 feet above sea level and there are approximately 75 miles of shoreline. Visitors to the area are attracted to the region's recreation opportunities, as well as its scenic and natural beauty, including the famous clarity of Lake Tahoe.

Open space and recreation lands comprise the majority of land in the region, including undeveloped forest lands managed by the U.S. Forest Service (USFS). Approximately 70,000 permanent residents live in the region defined above. Of these, approximately 50,000 permanent residents live within the Tahoe Basin in communities concentrated around the edge of the lake in six jurisdictions: Placer and El Dorado counties and the City of South Lake Tahoe in California; and Washoe and Douglas counties and Carson City Rural Area in Nevada (Table 2-1). Commercial development and tourist accommodations are generally located along key travel routes around the lake, and serve some 3 million visitors to the Tahoe Basin annually (Placer County 2013a).

Table 2-1 Population in the Vicinity of KBSRA

Municipality (Zip Code)	Population[1]		
	2000	2010	2014
Carnelian Bay (96140)	1,928	1,170	1,126
Tahoe Vista (96148)	669	788	781
Kings Beach (96143)	4,802	4,414	3,855
Tahoe City (96145)	3,997	3,161	3,215
Homewood (96141)	840	744	669
Tahoma (96142)	1,282	1,037	731
Placer County Portion of the Tahoe Basin[2, 3]	**13,518**	**11,314**	**9,708**
Crystal Bay, NV (Census Designated Place) (89402)	Not Available	71	0
Incline Village, NV (Census Designated Place) (89450, 89451, 89452)	9,601	9,016	8,582
Lakeridge (89413)	365	655	470
Zephyr Cove (89448)	2,498	1,695	1,430
Kingsbury (89449)	3,832	2,994	3,044
South Lake Tahoe (96150)	33,024	29,792	28,618
Echo Lakes (95721)	60	37	13
Tahoe Basin	**62,898**	**55,574**	**52,534**
Olympic Valley (96146)[1]	926	1,366	823
Truckee (96160, 96161, 96162)	15,781	18,451	18,475
Regional Population	**79,605**	**75,391**	**71,832**
Placer County	**248,399**	**350,230[4]**	**361,518**

[1] The population shown for 2014 is from the 2010-2014 American Community Survey 5-Year Estimate, which is based on a sample, whereas the data for 2000 and 2010 reflects Census data. Therefore, totals from the two sources may vary.

[2] The community of Tahoma extends between Placer County and El Dorado County; consequently, the population numbers for Tahoma and the Placer County Portion of the Tahoe Basin include some residents that live in El Dorado County.

[3] This population total is derived from the populations for Carnelian Bay, Tahoe Vista, Kings Beach, Tahoe City, Homewood, and Tahoma.

[4] This population is from the California Department of Finance Total Population (DOF) Projections for California and Counties prepared in December 2014, and not the 2010 Census. DOF data was used for consistency with Table 2-2.

Source: U.S. Census Bureau 2000, 2010, and 2015; DOF 2007, 2015

On the north shore of Lake Tahoe, commercial development is primarily in Tahoe City, Kings Beach, and Tahoe Vista, California, and in Incline Village, Nevada. Small pockets of industrial uses are also located within each of these communities. KBSRA lies in the heart of the Kings Beach town center on the lake side of SR 28, east of SR 267, and west of the community of Brockway and the Nevada state line (see Exhibit 2-1). KBSRA is considered to be the Kings Beach community's greatest public amenity (Placer County 2013a).

Placer County and the Tahoe Regional Planning Agency (TRPA) have regulatory authority over physical development in the Tahoe Basin surrounding KBSRA. The TRPA Code of Ordinances, Placer County Municipal Code, Plan Area Statements (PASs), and community plans establish zoning parameters that affect KBSRA.

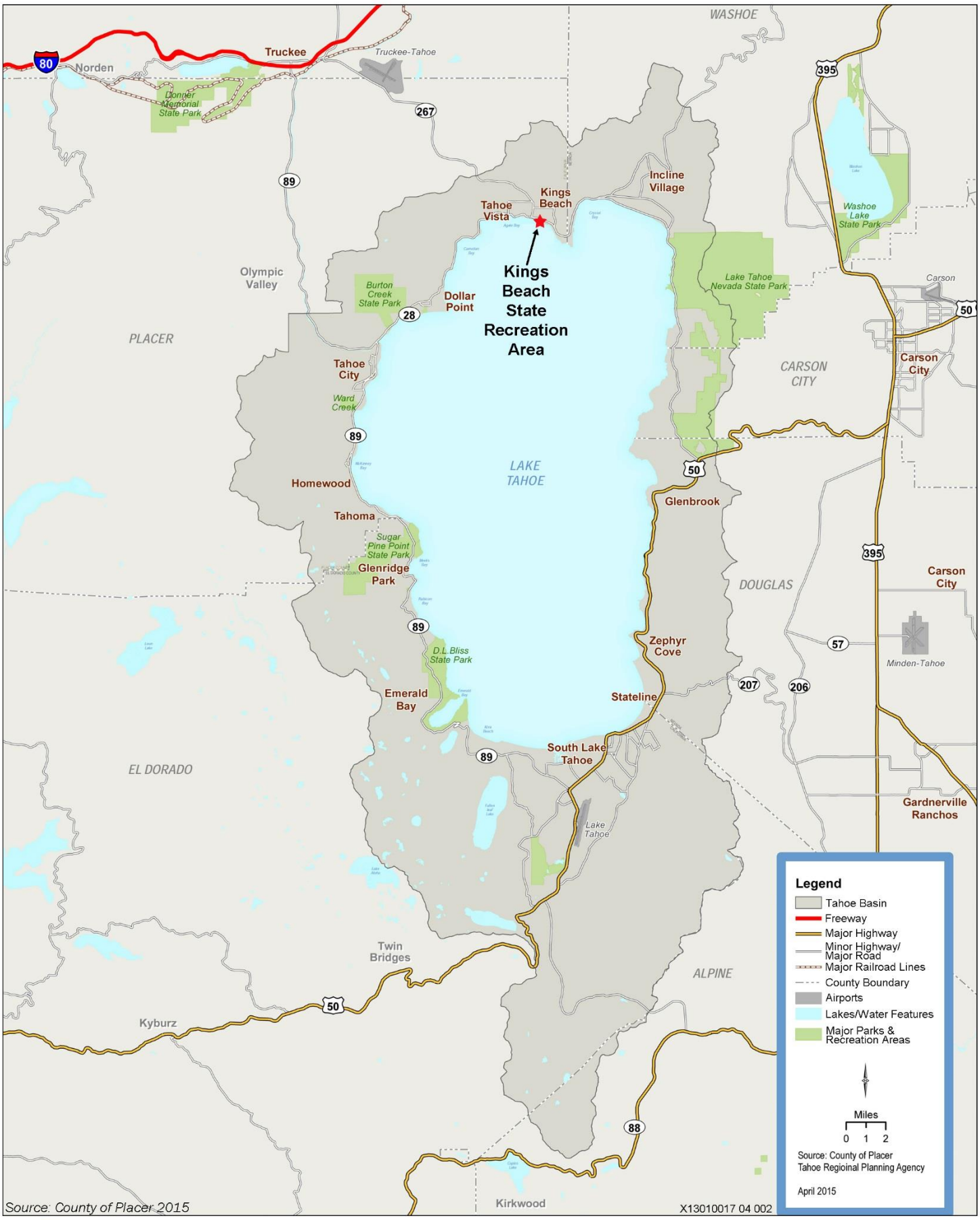
2.1.1 Tahoe Regional Planning Agency

TRPA is the bi-state planning agency with regulatory authority over development in the Lake Tahoe Basin including along the shoreline of Lake Tahoe. TRPA is the agency responsible for regional planning, development and redevelopment oversight, regulatory enforcement, and implementation of environmental protection and restoration of the Lake Tahoe Basin. This unique authority is spelled out in the Tahoe Regional Planning Compact (Compact), a legislative agreement approved by California, Nevada, and the federal government in 1969, and revised in 1980.

In December 2012, the TRPA Governing Board adopted the Regional Plan Update. The Regional Plan Update retains many of the policies of the 1987 Regional Plan while revising others to provide more autonomy to local governments through adoption of area plans, which are area-specific statements of land use policy and zoning intended to replace existing PASs and community plans. The 2012 Regional Plan identifies goals and policies to guide decision making as it affects the Tahoe Basin's resources and environmental objectives, expressed through Environmental Threshold Carrying Capacities. These thresholds, as defined in the Compact, set targets to protect and maintain the environmental and recreation quality of the Tahoe Basin, while still providing orderly growth and development consistent with those standards (Public Law 96-551 1980). Goals and policies are addressed in six major elements of the Regional Plan including land use, transportation, conservation, recreation, public services and facilities, and implementation. The Regional Plan Update included KBSRA within the Kings Beach Town Center, an area of mixed use for which zoning will be defined in more detail in the Placer County Tahoe Basin Area Plan, currently under preparation.

The Regional Plan Update initiated a region-wide transition to a planning and permitting system wherein TRPA and local agency requirements are integrated and addressed in coordinated area plans. Area plans replace PASs and community plans as the primary land use and planning tools for communities located in the Tahoe Basin. Prior to becoming effective, area plans must be reviewed and approved by TRPA and found to be in conformance with the Regional Plan.

The Compact recognizes that maintaining recreational values is critical to the social and economic health of the region. For this reason, the Compact requires that the Regional Plan include "a recreation plan for the development, utilization, and management of the recreational resources of the region…" (Public Law 96-551, 1980). The adopted threshold standards for recreation are statements of policy rather than a numerical standard. The threshold standard includes two separate policy statements that are evaluated separately. One policy statement directs TRPA to preserve and enhance high quality recreational experiences, and provide additional access to the shores of Lake Tahoe and other areas for dispersed recreational uses. The second policy statement directs TRPA to "…establish and ensure a fair share of the total Basin capacity for outdoor recreation is available to the general public." (TRPA 1982). The goal of the recreation element of the Regional Plan is to promote and manage recreational improvements to achieve the recreation threshold standard, and "ensure equilibrium between the region's natural endowment and its manmade environment." (Public Law 96-551, 1980).



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 2-1 Regional Location

2.1.2 Placer County

The Placer County General Plan consists of the Countywide General Plan and a set of more detailed community plans for specific areas of the unincorporated county. The Countywide General Plan provides an overall framework for development of the county and protection of its natural and cultural resources. The goals and policies of the Countywide General Plan are applicable throughout the county. Community plans provide a more detailed focus on specific geographic areas within the unincorporated county. The goals and policies contained in the community plans supplement and elaborate upon, but do not supersede, the goals and policies of the Countywide General Plan. Unincorporated territory included in a community plan is subject to the specifications of the land use and circulation plan diagram contained in the applicable community plan (Placer County 2013b).

KBSRA is within the Kings Beach Community Plan area which provides specific land use policies and regulations that were approved by TRPA and Placer County in 1996 and since amended (Placer County and TRPA 1996). The community plan shows KBSRA as included in a strip of recreation lands along the lakeshore, with a mix of private commercial, tourist accommodation, residential, and public services uses in surrounding areas (see Exhibit 2-2). KBSRA is within Special Area 3 of the Kings Beach Community Plan, within which "permissible uses are oriented toward outdoor recreation activities…" and [l]imited commercial activity is permitted to reflect the historical relation between lake-front recreation and tourist-related commercial activities." (Placer County and TRPA 1996:II-3).

Placer County is currently preparing the Placer County Tahoe Basin Area Plan through a community planning process and in the context of TRPA's Regional Plan Update. The area plan recognizes the regional planning framework and applies regional policies at the community scale. It provides the legal structure for TRPA to delegate review of certain land use proposals and applications to Placer County. Once adopted, the area plan will become a part of the Lake Tahoe Regional Plan and the Placer County General Plan. It will replace six community plans, including the Kings Beach Community Plan (Placer County 2015).

The public review draft of the area plan was released in June 2015. In keeping with the Regional Plan Update Mixed-Use designation, KBSRA is zoned as Mixed Use – Waterfront Recreation in the area plan (see Exhibit 2-3).

2.2 REGIONAL RECREATION FACILITIES

The region offers an abundance of recreational opportunities highly valued by visitors and residents. These recreational resources are one of the major drivers of the regional economy, and contribute to the quality of life in the region. The scenic beauty, variety of terrain, and proximity to major population centers have led to one of the highest concentrations of recreational facilities and opportunities in the country. A map of these parks and facilities is included in three parts as Exhibit 2-4.

The myriad agencies, jurisdictions, and recreation providers described in this section together provide a variety of recreation and park facilities to serve a broad public demand. To visitors, ownership and management responsibility at individual sites is less important than the provision of diverse, quality, recreation opportunities that are reflective of the natural beauty and environment of Lake Tahoe.

Even with the high number and variety of recreational facilities described in this section, the seasonal demand exceeds the capacity in many locations. Residents and visitors to each community rely on these facilities to support the economy and recreational demand around Lake Tahoe. Kings Beach is no

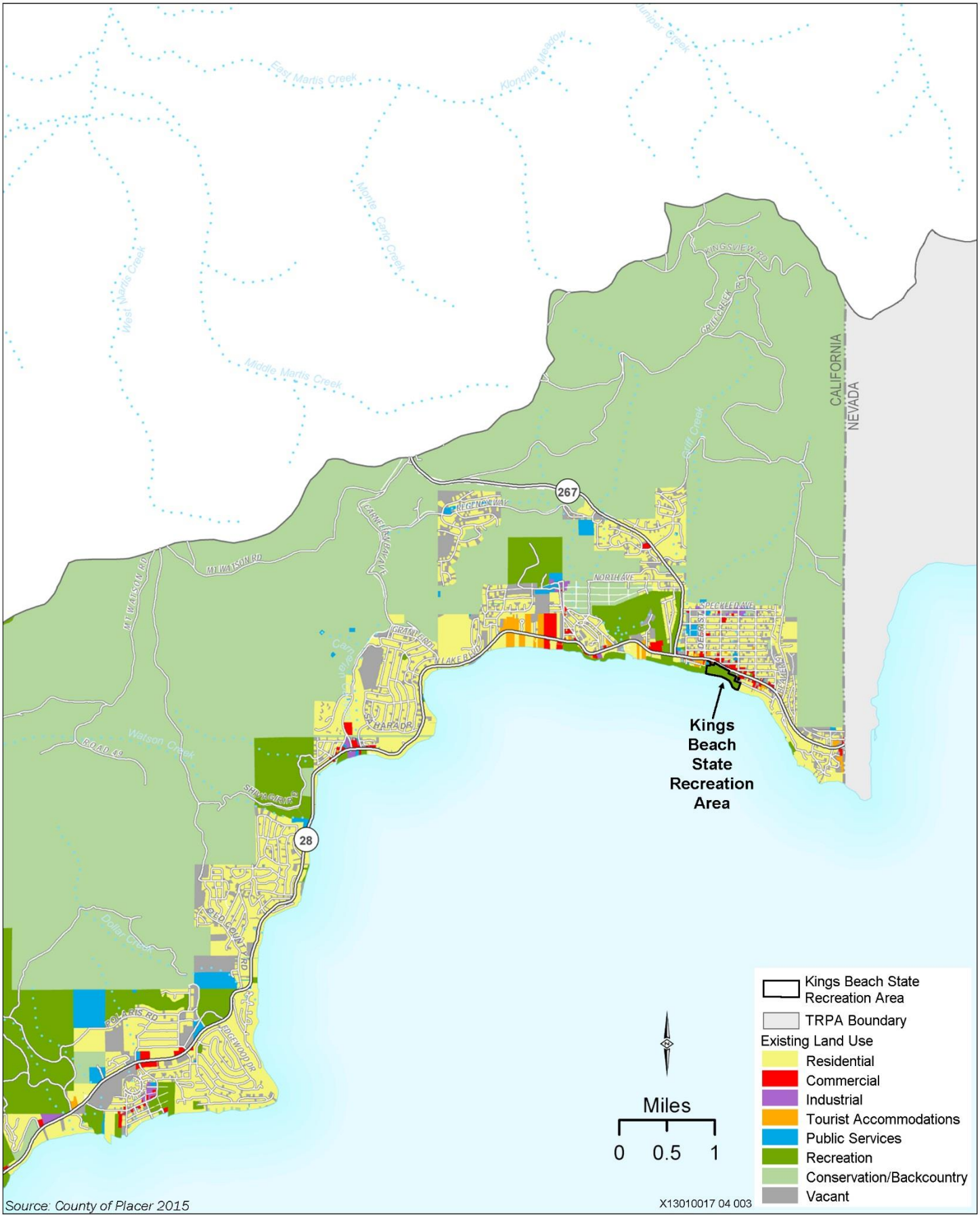


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Exhibit 2-2 Existing Land Use

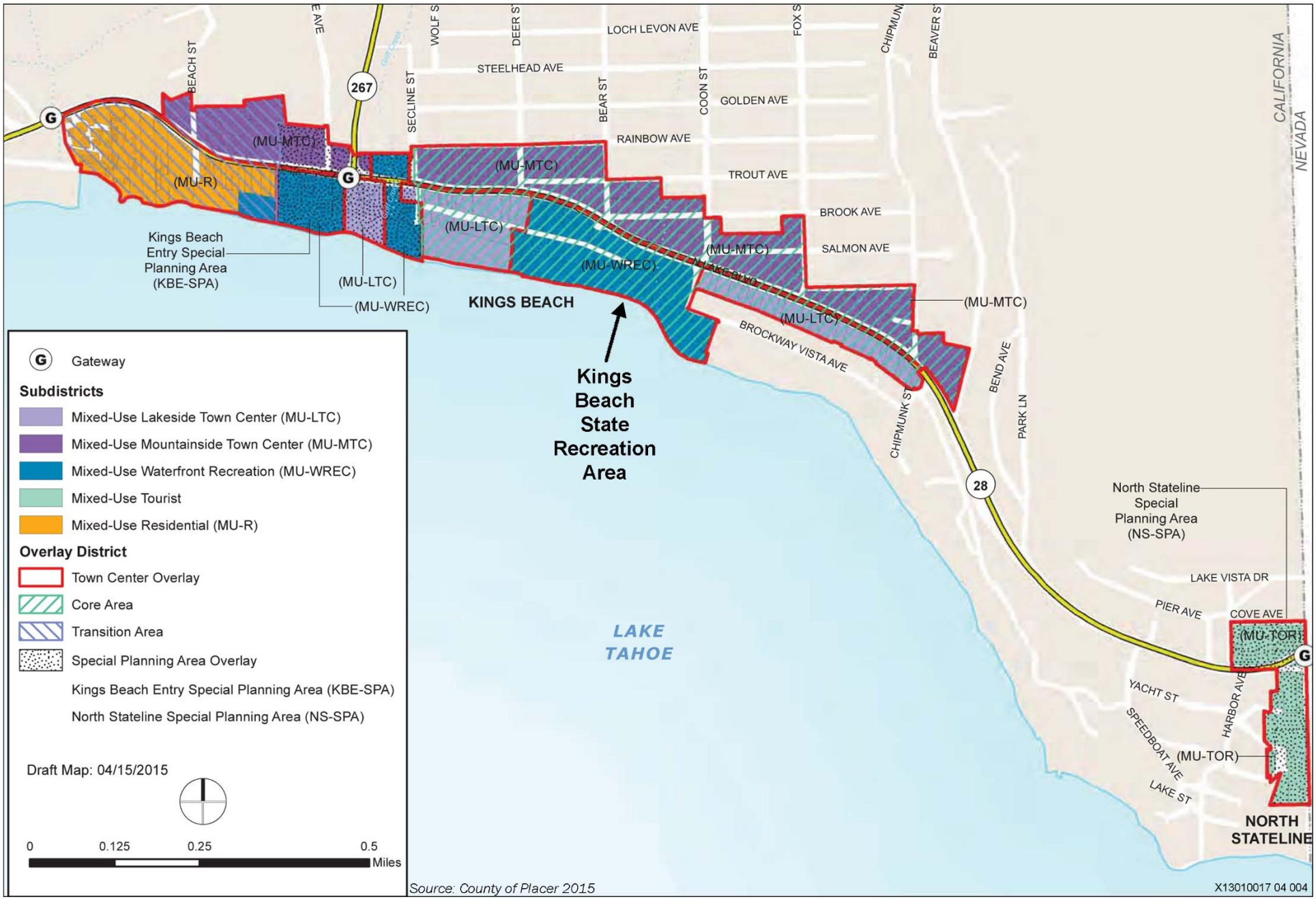

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Exhibit 2-3 Zoning

exception. KBSRA is a vital component of the Kings Beach community, defining the nature and character of this part of Lake Tahoe. It represents the Kings Beach Town Center and serves as the focal point of community activity for tourists and residents alike.

2.2.1 Federal Lands

U. S. FOREST SERVICE

Three National Forests exist within the region. The USFS, Lake Tahoe Basin Management Unit (LTBMU) manages National Forest System (NFS) lands within the Tahoe Basin; the Tahoe National Forest is outside the Tahoe Basin to the north and west of Kings Beach; and the Humboldt-Toiyabe National Forest is mostly in Nevada to the east of Kings Beach.

Over 75 percent of the land within the Lake Tahoe Basin is public land managed by LTBMU. Totaling over 150,000 acres, this land includes beaches, hiking and biking trails, wilderness, historic estates, and developed recreation areas such as campgrounds, ski areas, and resorts with a variety of recreation and tourist activities managed by concessionaires. Some of the larger resorts that are located on NFS lands are managed by concessionaires and offer recreational amenities that include public beaches, marinas, stables, campgrounds, picnic sites, restaurants, and lodging. These resorts include Meeks Bay Resort on the west shore, Camp Richardson Resort on the south shore, and Zephyr Cove Resort on the east shore. Several day-use beaches, campgrounds, and marinas are also maintained by LTBMU around the lake.

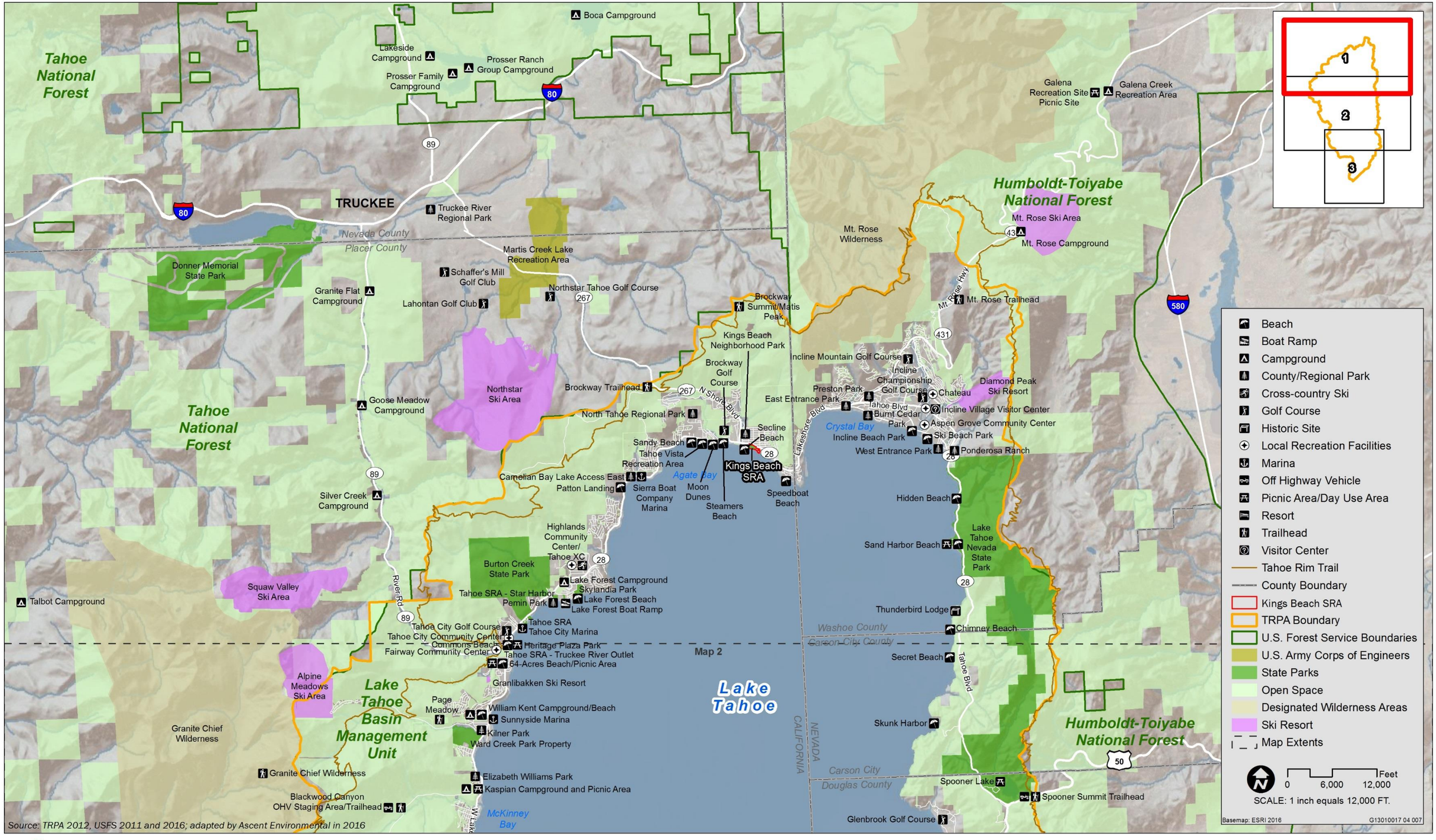
LTBMU lands support extensive year-round recreation use, both developed and dispersed. Two wilderness areas extend into the Tahoe Basin, Desolation Wilderness in the southwest, and Mount Rose Wilderness in the northeast. The USFS maintains approximately 265 miles of roads and 350 miles of trails within the Tahoe Basin to provide access to NFS lands. The Fiberboard Freeway (NFS Route 73) and the Tahoe Rim Trail are important recreation resources in the region on LTBMU lands just north of Kings Beach. In addition to general recreation use by the public at large, LTBMU permits several organized recreation operations and events, during both winter and summer, each year.

The Tahoe National Forest, located to the north and west of the LTBMU, is also a very popular recreation area with winter sports opportunities that include downhill ski areas and extensive snowmobile and cross-country ski trails. In the summer, an extensive array of hiking, off-highway vehicle (OHV), equestrian, and mountain-biking trails provide access to the lakes, rivers, and mountaintops. Developed recreation sites on the Tahoe National Forest include campgrounds, boat ramps, picnic areas, and nature trails along the Truckee River downstream from Tahoe City, and the Squaw Valley and Alpine Meadows ski areas.

The Humboldt-Toiyabe National Forest includes campgrounds, picnic sites, and developed trailheads along SR 431 over Mount Rose Summit. NFS lands also make up part of the Mount Rose Ski Area. The predominant feature of the Humboldt-Toiyabe National Forest in the region is the 28,000-acre Mount Rose Wilderness Area and surrounding NFS lands that contain opportunities for dispersed recreation.

U.S. ARMY CORPS OF ENGINEERS

The US Army Corps of Engineers manages the Martis Creek Lake Recreation Area which is outside the Tahoe Basin, between Kings Beach and Truckee. The recreation area provides camping, trails, ranger programs, boating, fishing, and day use facilities. On the west side of SR 267, the Martis Creek Wildlife Area offers a 4.3-mile hiking and biking trail that loops around the valley. (USFS/TRPA/CPUC 2015)



Kings Beach State Recreation Area
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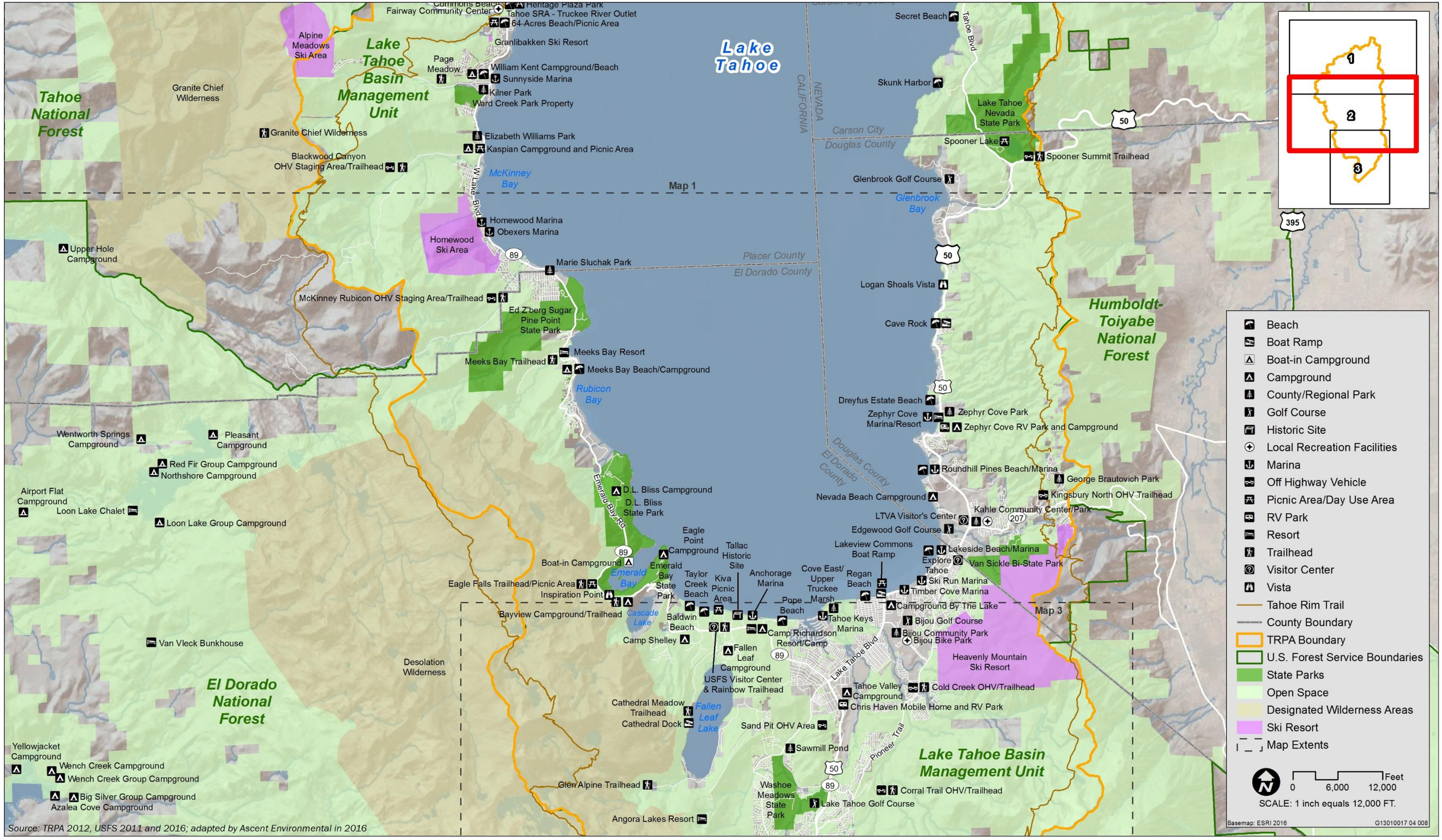
Exhibit 2-4a Recreation 1



Source: TRPA 2012, USFS 2011 and 2016; adapted by Ascent Environmental in 2016

Kings Beach State Recreation Area
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Exhibit 2-4b Recreation 2

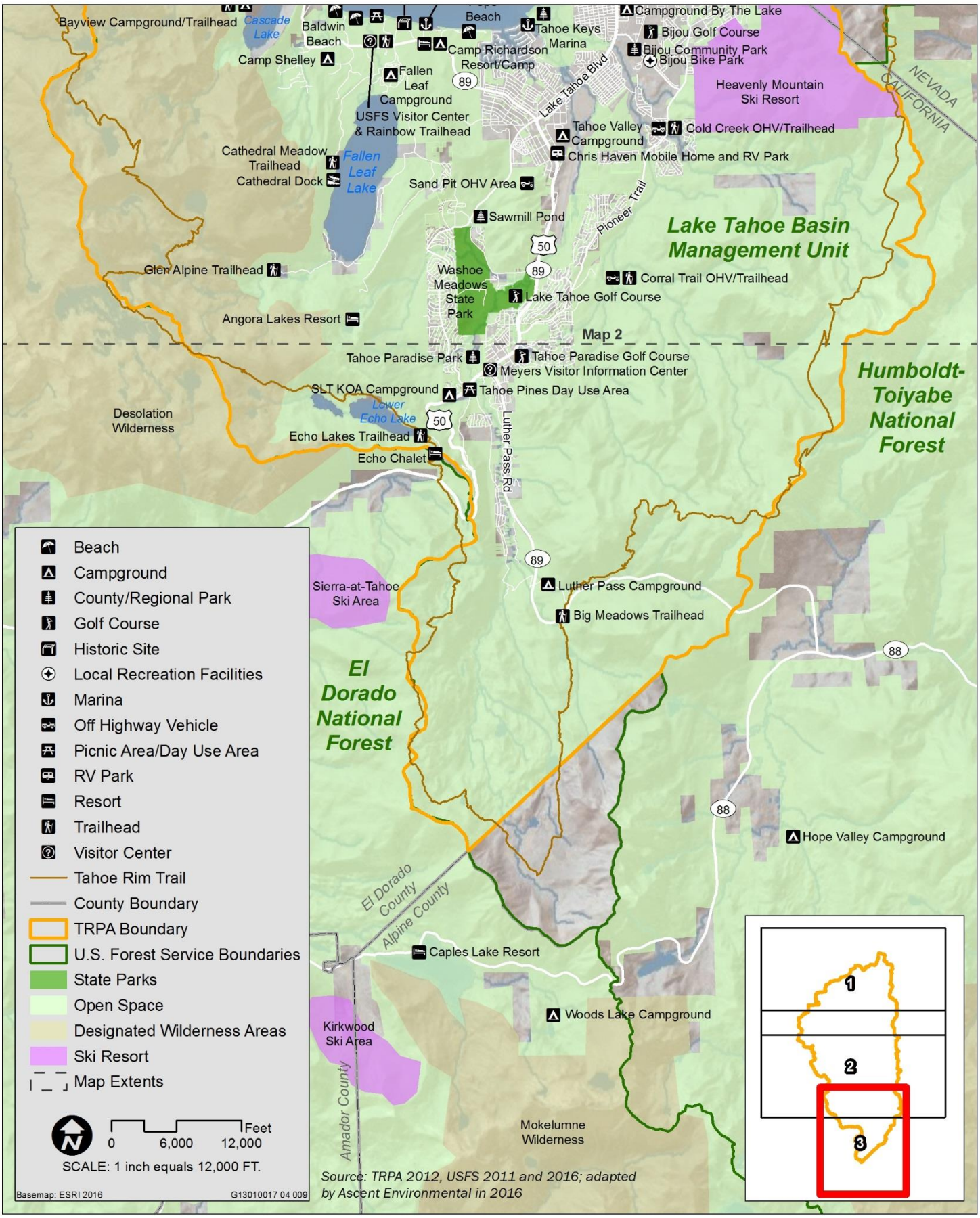

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Exhibit 2-4c Recreation 3

2.2.2 California State Parks and California Tahoe Conservancy Lands

CALIFORNIA STATE PARKS

CSP manages 10 park units within the region. In addition to KBSRA, Burton Creek State Park (SP), D. L. Bliss SP, Ed Z'berg Sugar Pine Point SP, Emerald Bay SP, Lake Valley SRA, Tahoe SRA, Ward Creek Park Property, and Washoe Meadows SP are located within the Tahoe Basin. Donner Memorial SP is located west of Truckee on Donner Lake. These parks offer a range of developed and dispersed recreation opportunities including campgrounds, picnic areas, trails, beaches, boat ramps, historic estates, golf courses, access to boating, and winter sports opportunities.

Burton Creek SP near Tahoe City contains more than 2,000 acres of forest and meadowland used for dispersed recreation. The roads and trails within the park are used by hikers and bikers during the summer, and cross-country skiers and snowshoers in the winter. Two existing State Park Natural Preserves (Burton Creek and Antone Meadows) are located within the park.

The Tahoe SRA in Tahoe City includes a campground, a beach area with swimming, a small park and historic museum at the Truckee River outlet from Lake Tahoe, and access to bike trails. The Ward Creek Park Property is undeveloped forest and meadowland on the west side of the Tahoe Basin south of Tahoe City, providing regional open space opportunities.

Ed Z'berg Sugar Pine Point SP contains 1,975 acres including two miles of Lake Tahoe shoreline, a swimming beach, cross-country ski and snow-shoe trails, campgrounds open year-round, the Hellman-Ehrman historic estate, picnic areas, and hiking trails.

D. L. Bliss SP is on the west shore of Lake Tahoe and includes a beach area with swimming, campgrounds, picnic areas, hiking trails, interpretive exhibits and a visitor center. Nearby Emerald Bay State Park has campgrounds, including a boat-in campground, a historic estate (Vikingsholm), and hiking trails including the iconic Rubicon Trail, which extends from D.L. Bliss SP to Emerald Bay SP. Emerald Bay SP is also designated an underwater state park.

The Lake Valley SRA features an 18-hole golf course in South Lake Tahoe. Adjacent to Lake Valley SRA is Washoe Meadows SP, consisting of meadows and woodlands offering hiking trails in an open space setting.

Donner Memorial SP west of Truckee is located on Donner Lake and has a campground, boat access, hiking trails, a beach area with swimming, a pioneer memorial, and a new visitor center and museum dedicated to the Donner Party and California emigrants. The park is located at one of the sites where the Donner Party camped and was trapped by snow during the winter of 1846-47.

CALIFORNIA TAHOE CONSERVANCY

Within the Lake Tahoe Basin, three public agencies have active acquisition programs that purchase land principally for environmental protection purposes. These lands also can provide and/or protect public access to outdoor recreation resources. The California Tahoe Conservancy, Nevada Division of State Lands, and USFS are charged with acquiring private parcels to help protect sensitive lands from development.

Since its creation in 1984, the Conservancy has acquired nearly 4,700 parcels of land, comprising over 6,500 acres, for the purpose of protecting the natural environment and promoting public recreation and lake access. The Conservancy manages and implements projects directly on these lands, and coordinates management of these lands with a wide range of other public agencies. The Conservancy has also

provided approximately 170 grants to local governments and non-profit organizations for erosion control, public recreation and access, land acquisition, habitat and watershed restoration, and other conservation projects.

Some of the major recreation opportunities on Conservancy land, or funded by the Conservancy, include the Kings Beach SRA, Commons Beach, Carnelian Bay Lake Access, Upper Truckee Marsh, Van-Sickle Bi-State Park, Lakeview Commons and Alta Mira, the South Tahoe Greenway, and Explore Tahoe Visitor Center. The Conservancy has also helped identify the Lake Tahoe Water Trail, a mapped route around the 72-mile shoreline of Lake Tahoe. The water trail is a network of launch sites, picnic areas, restaurants, campgrounds, and overnight lodging facilities for recreational paddlers to enjoy year-round (Conservancy 2016).

NEVADA STATE PARKS

On the Nevada side of the Tahoe Basin, Nevada State Parks manages two parks. The sprawling Lake Tahoe Nevada State Park is comprised of several different sections, each with a different recreational focus. Sand Harbor includes a popular beach, boat ramp, picnic areas, amphitheater, and visitor center. Spooner Lake has picnicking; fishing; cross-country skiing; numerous hiking, equestrian, and mountain-biking trails; and a park concession. The Marlette-Hobart Backcountry is a state-designated primitive area with more than 13,000 acres of forested open space with miles of hiking, equestrian, and mountain-biking trails. Cave Rock is located on the lakeshore north of Zephyr Cove and is a popular site for boat launching, swimming, picnicking, and fishing. The Cave Rock boat launch is the only publicly owned boat launch at Lake Tahoe that reaches the water at extremely low water levels.

Van Sickle Bi-State Park is located at the south state line near the hotels and casinos, providing easy access to a high volume of visitors into forested lands with scenic views of Lake Tahoe, and to trails connecting to the Tahoe Rim Trail. The California side of the park is currently owned and managed by the Conservancy, but is expected to become a California State Park unit in the near future.

2.2.3 Local and Regional Parks and Other Amenities

Each of the jurisdictions in the region own and operate a variety of parks and recreation facilities. In addition, many private recreation facilities are open to the public, some operating on public lands and others on private land. This section describes the more significant facilities that are shown on the attached maps (Exhibit 2-4).

PLACER COUNTY

Public parks and recreation areas and facilities are owned or managed by Placer County, North Lake Tahoe Public Utility District (NTPUD), and Tahoe City Public Utility District (TCPUD). NTPUD and TCPUD operate the majority of parks located in the Placer County portion of the Tahoe Basin. TCPUD has seven day-use beaches on Lake Tahoe, and three other day-use areas in the Tahoe Basin. This includes the 64-acre Park south of Tahoe City, which is on NFS land but managed by TCPUD. The 64-acre Park includes picnic grounds, parking facilities, a paved bicycle/pedestrian trail that parallels the river and connects to the Truckee River Trail via a bicycle/pedestrian bridge over the river, and a rafting ramp for access to the Truckee River. TCPUD also manages three community sports and recreation facilities, two community centers, the Lake Forest Campground, and the Tahoe City Golf Course.

NTPUD operates nine day-use beaches on Lake Tahoe, and the 124-acre North Tahoe Regional Park which includes a children's playground; five tennis courts; several athletic fields, basketball, handball, and sand volleyball courts; a disc golf course; hiking trails; fitness stations; and a bike trail. It also manages

the Kings Beach Neighborhood Park. There are three privately operated campgrounds in the Placer County portion of the Tahoe Basin, one on private land and two on NFS land. Homewood ski area is privately operated on both private and NFS lands.

Bicycle and pedestrian paths are found throughout Placer County. The popularity of these trails has increased in recent years, and they are now among the most popular recreation facilities in the Tahoe Basin. TCPUD reports annual usage in excess of 500,000 people on their multi-use bike trail along the west shore, through Tahoe City, and along the Truckee River. The multi-use bike trial consists of the Lakeside Trail from Dollar Point to Tahoe City, the West Shore Trail from Tahoe City to Meeks Bay, and the Truckee River Trail from Tahoe City to Squaw Valley (USFS/TRPA/CPUC 2015). Currently, the multi-use trail ends near the intersection of Dollar Drive and SR 28. Construction of the Dollar Creek Trail, which will extend the trail to the end of Fulton Crescent Drive, will begin in 2016.

Six marinas (Carnelian Bay, Homewood, North Tahoe, Obexer's, Sunnyside, and Tahoe City) are open to the public and serve the boating community in this part of Lake Tahoe, providing commercial recreation opportunities for visitors and residents. There are also three public boat ramps open to the public, including the boat ramps at KBSRA, the Tahoe Vista Recreation Area, and Lake Forest.

Outside the Tahoe Basin in Placer County are the Squaw Valley, Alpine Meadows, and Northstar ski areas. Squaw Valley was the site of the 1960 Olympics, which was the impetus that brought much of the attention to the recreational opportunities of the Lake Tahoe region. It is now operated together with nearby Alpine Meadows as a sprawling, world-class winter resort with numerous summer activities and amenities on private lands and leased NFS lands. Northstar is located on private lands off of SR 267 between Truckee and Kings Beach and is also a popular world class resort. Northstar also has an 18-hole golf course. All three ski areas have trails and other summer recreational amenities for visitors.

TRUCKEE

In the portion of the region outside of the Tahoe Basin, most parks and recreation facilities are located near Truckee in Nevada County, and are managed by the Truckee-Donner Recreation and Parks District. These include urban recreation facilities such as the Community Swimming Pool and Recreation Center, an ice rink, Riverview Sports Park, and several neighborhood parks, as well as developed recreation sites open to the public. These include the Ponderosa Golf Course, the West End Beach and Donner Lake Boat Launch on Donner Lake, and the Truckee River Regional Park. The regional park includes 62 acres with ball fields, picnic areas, an amphitheater and rodeo arena, a skate park, and nature and river trails.

The Northstar Community Services District and Town of Truckee are actively planning bike trails, which will link the Martis Valley area with Lake Tahoe. The final network of bike trails will be administered and maintained by multiple jurisdictions.

EL DORADO COUNTY

The City of South Lake Tahoe Parks and Recreation Department is the primary manager of recreation and parks facilities in the portion of El Dorado County that lies within the Tahoe Basin. The City manages three day-use beach areas on Lake Tahoe, a recreation and swimming pool complex, a nine-hole golf course, a campground across US 50 from Lakeview Commons, a bike park, and an ice arena. Lakeview Commons at El Dorado Beach is the largest beach area in South Lake Tahoe. It includes a boat launch and floating dock, a kayak and watersport concession, a picnic area, bike trail and swim area.

Two private campgrounds operate in the El Dorado County portion of the Tahoe Basin, and the Heavenly ski area has two base areas in South Lake Tahoe. The Heavenly gondola operates out of the Heavenly Village Center near the state line, serving the numerous hotels and casinos clustered in this area, and

eliminating the need for skiers and summer visitors to find parking for day use. Five private marinas serve this portion of Lake Tahoe, providing commercial fishing charters, parasailing, and hot air balloon rides over the lake. The private Ski Run Marina hosts numerous recreation opportunities including a tour boat that plies the waters of Lake Tahoe.

DOUGLAS COUNTY

The Douglas County Recreation Division manages a community center in Stateline that offers many recreation programs. Neighborhood parks, trailheads, and multi-use trails are other amenities offered within the county in the Lake Tahoe Basin. Edgewood Golf Course is a well-known, privately owned and operated public golf course located on Lake Tahoe near the state line. Heavenly ski area has two base facilities on its Nevada side near Kingsbury Grade, providing access to this world class resort. Snowmobiling and cross-country skiing are popular at Spooner Summit, as is hiking, mountain biking, and horseback riding in the summer months.

WASHOE COUNTY

Nevada State Parks manages and maintains the Lake Tahoe Nevada State Park on the eastern shore of Lake Tahoe that includes an area from the south edge of Incline Village to Spooner Lake. The park is largely located within Washoe County, but extends into Carson City Rural Area to the south. The park contains Sand Harbor, which features a boat launch, restrooms, picnicking, group use areas, visitor center, park store, and food concessionaire. Memorial Point and Hidden Beach are located within Lake Tahoe Nevada State Park between Incline Village and Sand Harbor, and are popular destinations for visitors to the lake during the summer.

LTBMU also manages several popular east shore beaches within Washoe County.

Many of the recreation facilities in the Washoe County portion of the Tahoe Basin are located in Incline Village and provided by the Incline Village General Improvement District (IVGID). This includes the Diamond Peak Ski Area, two championship golf courses, a large recreation center with a swimming pool, a community center, tennis courts, neighborhood parks, and numerous trails and other recreation facilities throughout the community. IVGID also manages three beaches and a boat ramp on Lake Tahoe that serve the residents and visitors staying in Incline Village.

Washoe County Regional Parks and Open Space (part of the Community Services Department) manages park facilities outside the Tahoe Basin. Galena Creek Regional Park is located on the Mount Rose Highway and includes trails, picnic sites, an outdoor educational camp, and an inter-agency visitor center that serves as an information gateway for Lake Tahoe visitors coming from the Reno area. The Mount Rose ski area is also accessed from this corridor.

2.3 REGIONAL DEMOGRAPHICS

Existing and projected regional demographics play an important part in planning for the future of KBSRA. The heaviest users of KBSRA tend to be from the local community, by virtue of proximity to the park. However, the Lake Tahoe area tends to draw visitors from a broad area, including from neighboring counties, the Sacramento region, the San Francisco Bay area, and the Reno/Sparks area of Nevada. Regional demographic information is provided for Placer County (the county in which KBSRA is located), El Dorado County, Nevada County, and Washoe County in Nevada. Population projections also include the Sacramento region and the San Francisco Bay Area because visitors to KBSRA draw from these regions of northern California as well. County data apply to the entire geographic area, including all cities and unincorporated communities within each county.

This section relies on California Department of Finance (DOF) demographic reports, socio-demographic analyses commissioned by Placer and El Dorado counties (Center for Strategic Economic Research 2013; CED 2011), the U.S. Decennial Census, American Community Survey data, and the Nevada State Demographer's Office. The following describes population, age, ethnicity, household, income, and educational information for the regional area surrounding KBSRA.

POPULATION

The regional population includes the population in the Tahoe Basin, and the population in the corridors along SR 267 and SR 89 to Truckee, and SR 431 to the Galena Creek Visitor Center.

As shown in Table 2-1, from 2000 to 2014, the regional population has declined from 79,605 in 2000, to 71,832 in 2014. During the same period, Placer County's population grew from 248,399 to 361,518, an average annual growth rate (AAGR) of 9.8 percent. Table 2-1 depicts recent population trends of all communities in the region serving Kings Beach.

DOF produces the official population projections by county for California, while official population projections for Nevada are prepared by the Nevada State Demographer's Office. The most recent projections for California for 2010 to 2060 were produced in December 2014, while the most recent projections for Nevada for 2014 to 2033 were compiled in October 2014. Table 2-2 shows the estimated population for Placer County in 2010 along with the DOF population projections for 2020, 2030, and 2040. Population projections for Washoe County from the State Demographer's Office are given for 2020 and 2030 because projections for Nevada only go as far as 2033. According to DOF projections, from 2010 to 2040, the population of Placer County is projected to increase by 136,433 persons, or at an AAGR of 3.7%. The surrounding counties of Nevada and El Dorado are also projected to experience growth, but at a slower rate than Placer County. Washoe County is expected to grow by 116,098 persons by 2030, which, or by an AAGR of 1.7%. The population of the Bay Area between 2015 and 2020 is expected to almost double, from roughly 7.5 million people to over 14.3 million people. Overall, areas that feed visitation to north Lake Tahoe and KBSRA are expected to experience very rapid growth.

Table 2-2 Population Projections for Placer and Neighboring Counties

County	Population[1]				
	2010[2]	2015	2020	2030	2040
Placer County	350,230	373,503	396,203	447,625	509,936
Nevada County	98,938	98,633	101,767	108,111	111,885
El Dorado County	181,567	184,833	190,850	201,509	208,092
Washoe County, Nevada	421,407[2]	443,745[3]	484,304[3]	559,843[3]	Not Available
Sacramento Region	2,316,019	2,404,700	2,743,453	2,961,349	3,065,592
Bay Area	7,150,739	7,510,942	14,320,284	15,282,791	15,717,676

[1] Population projections for California counties are from the Department of Finance Total Population Projections for California and Counties prepared in December 2014.

[2] This population total is from the 2010 Census.

[3] Projections for Washoe County in Nevada are from the Nevada County Population Projections prepared by the Nevada State Demographer's Office.

Sources: DOF 2015; U.S. Census Bureau 2010; Nevada State Demographer's Office 2014

AGE

In 2010, the median age for the Kings Beach area was 32.6 years old, younger than the median age in Placer County generally (34.5), El Dorado County (43.6), Nevada County (47.6), and Washoe County (37).

ETHNICITY

The Kings Beach area is very heavily Hispanic, encompassing 49 percent of the population, compared with Placer County on the whole, where only 13 percent of the population is Hispanic. Placer, Nevada, and El Dorado Counties in California tend to be less Hispanic overall (13, 9, and 12 percent, respectively), while Washoe County is more so, with 22 percent of the population identifying as such. The regional populations in the surrounding California counties that feed traffic to Kings Beach are predominantly Caucasian (Placer, Nevada, and El Dorado Counties are 76, 87, and 80 percent Caucasian, respectively). A majority of the Washoe County population is also Caucasian (66 percent) (Table 2-3).

Table 2-3 Population by Race/Ethnicity (2010)

Location	Total (all race groups)		Caucasian, not Hispanic or Latino		Black, not Hispanic or Latino		American Indian, not Hispanic or Latino		Asian, not Hispanic or Latino		Native Hawaiian and other Pacific Islander, not Hispanic or Latino		Hispanic or Latino		Multi-Race, not Hispanic or Latino	
	Persons	%	Persons	%	Persons	%	Persons	%	Persons	%	Persons	%	Persons	%	Persons	%
Kings Beach (96143)	4,414	100	2,150	49	6	<1	15	<1	21	<1	2	<1	2,175	49	45	1
Placer County	350,230	100	266,940	76	4,511	1	2,130	1	20,127	6	722	<1	45,452	13	10,348	3
Nevada County	98,764	100	85,477	87	341	<1	793	1	1,124	1	96	<1	8,439	9	2494	3
El Dorado County	181,567	100	145,329	80	1,319	1	1,594	1	6,233	3	278	<1	21,985	12	4,829	3
Washoe County, NV	421,407	100	278,213	66	9,088	2	5,782	1	21,288	5	2,358	1	93,724	22	10,954	3

Source: U.S. Census Bureau 2010

INCOME

The median household income in Washoe County in 2010 was $52,910, in Placer County $73,747, in Nevada County $56,949, and in El Dorado County $68,507. The poverty rates in Placer, Nevada, and El Dorado Counties are low relative to the California statewide average. The poverty rate in Washoe County is generally consistent with the poverty rate in Nevada (Table 2-4).

Table 2-4 Income and Poverty, 2010-2014

Income and Poverty Metric	Placer County, California	El Dorado County, California	Nevada County, California	Washoe County, Nevada	California	Nevada
Median household income (in 2014 dollars), 2010-2014	$73,747	$68,507	$56,949	$52,910	$61,489	$52,205
Per capita income in past 12 months (in 2014 dollars), 2010-2014	$35,711	$35,128	$32,117	$28,621	$29,906	$26,515
Persons in poverty, percent	8.3%	11.4%	11.4%	15.4%	16.4%	15.2%

Source: U.S. Census Bureau QuickFacts

EDUCATION

Educational attainment in Placer, Nevada, and El Dorado Counties tend to be relatively high. Almost a third of individuals in all three counties have a bachelor's degree or higher (35.7, 32.1, and 32.8 percent, respectively), and over 92 percent of individuals in all three counties are high school graduates (Table 2-5). In Washoe County, 86.5 percent of individuals have a high school diploma, and 27.9 percent have a bachelor's degree or higher (Table 2-5).

Table 2-5 Education, 2010-2014

Educational Attainment	Placer County, California	El Dorado County, California	Nevada County, California	Washoe County, Nevada
High school graduate or higher, percent of persons age 25 years+, 2010-2014	94.0%	92.6%	94.3%	86.8%
Bachelor's degree or higher, percent of persons age 25 years+, 2010-2014	35.7%	32.1%	32.8%	27.9%

Source: U.S. Census Bureau QuickFacts

3 KBSRA LAND USE AND FACILITIES

This chapter provides an overview of the environmental setting for Kings Beach State Recreation Area (KBSRA) with regard to land use, visitation, and facilities. It is divided into the following sections:

- KBSRA Land Use – Provides an introduction to the current uses of KBSRA
- Visitor Profile – Includes a summary of visitors and activities in KBSRA
- Recreation Uses and Facilities – Provides an overview of recreational uses, developed facilities, pier and buoys, and regulations applicable to pier reconstruction in KBSRA
- Utilities and Service Systems – Includes a description of utility services and public service providers at KBSRA
- Transportation and Circulation – Describes transportation patterns in and around KBSRA, including roads and circulation, traffic volumes, access to KBSRA, and parking

3.1 KBSRA LAND USE

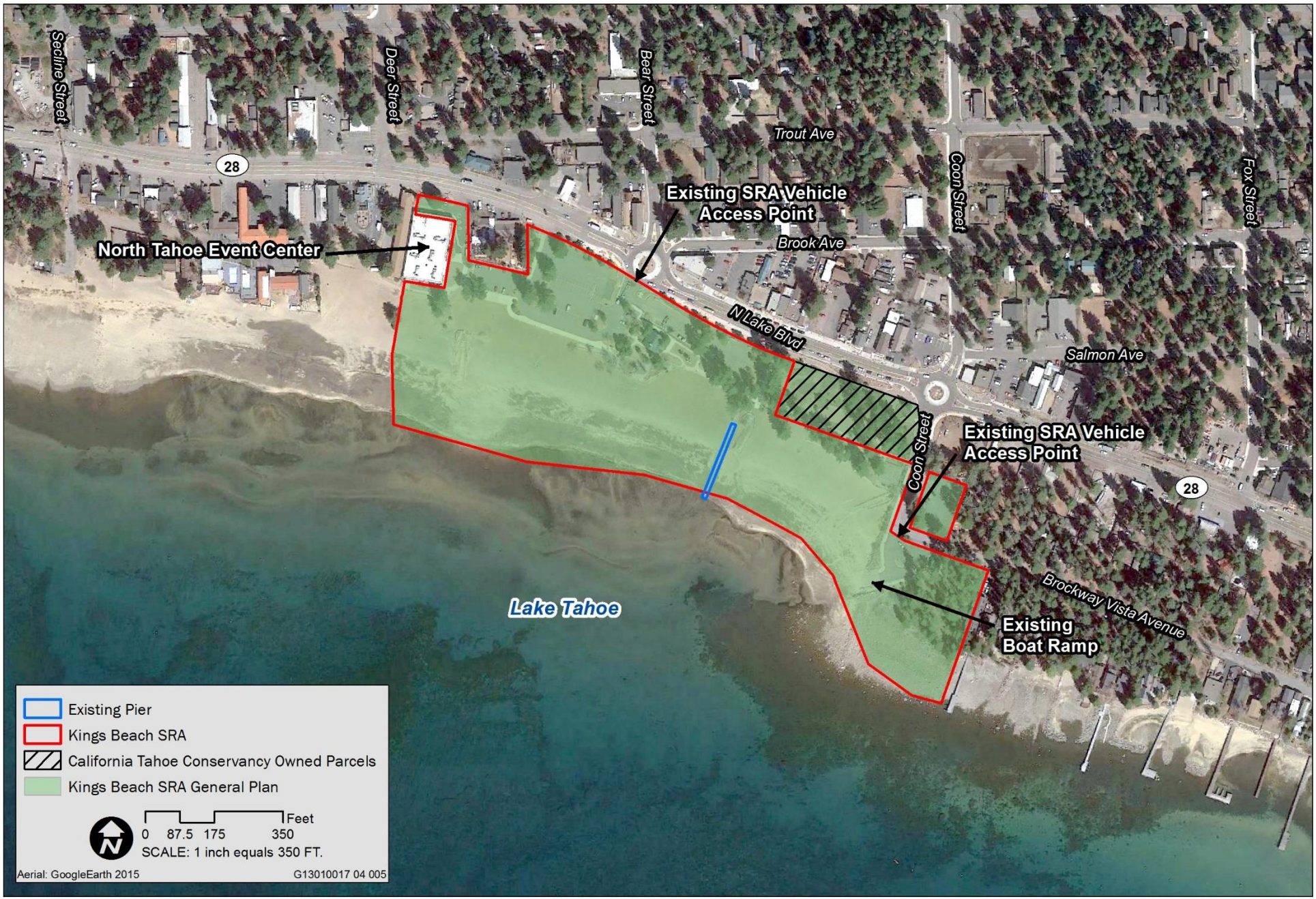
KBSRA is located between SR 28 and Lake Tahoe, in the center of Kings Beach, California. On the landward side, KBSRA is surrounded by shops, restaurants, and the North Tahoe Event Center.

On the southeast side of KBSRA are six parcels that make up the Coon Street boat ramp and boat parking lot that were owned by the former California Department of Boating and Waterways (DBW). When DPW became a division of DPR in 2012, those parcels became part of the lands operated as KBSRA (Exhibit 3-1). A portion of these lands are designated as a beach where dogs are permitted.

Lands owned by the Conservancy are located in the northeast part of the site, which include nine parcels making up 1.36 acres referred to as the Kings Beach Plaza. In the 1990s, the Conservancy acquired the commercial property (which had been cleared of structures) and constructed a recreation access project. In 2014 the Conservancy and DPR entered into a Memorandum of Agreement that gave DPR management responsibility for the Conservancy parcels (Conservancy and DPR 2014).

At the time of the 1980 GDP, the boat ramp, boat parking lot, and plaza area (privately owned, dilapidated commercial buildings) were outside of the GDP boundaries (DPR 1980). On May 14, 2014, DPR officially took over operations and maintenance of KBSRA and the boat ramp facility from NTPUD. With DPR management of the former DBW and Conservancy parcels, the potential size of KBSRA has approximately doubled since the 1980 GDP. One reason for initiating this General Plan revision is to consider including all of the property currently managed as KBSRA and to create concept plans for future development that meet current design expectations and regulatory standards.

Precise KBSRA visitation data are not available (DPR 2014b); however, KBSRA is at the center of activity in Kings Beach and attracts residents and visitors throughout the year. With implementation of community and infrastructure improvements, such as the Kings Beach Commercial Core Improvement Project, KBSRA becomes an even more attractive destination. The style and scale of Kings Beach is such that it is not considered a major resort community, but is rather an attractive alternative destination with interesting shopping, restaurants, events, and entertainment that draws tourists and local residents to the town center. KBSRA is an integral part of that attraction.



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 3-1 KBSRA Boundaries

Improved access to and around the Kings Beach Town Center for pedestrians, cyclists, and transit has increased the numbers of visitors to the area surrounding KBSRA. The beaches and facilities at KBSRA serve as a magnet and staging area for tourists and residents, particularly in summer. As the weather improves, recreational use at KBSRA increases, both in numbers and in length of stay. During summer weekends, the beaches are crowded, parking lots and lodging are full, and the atmosphere around the town center and KBSRA becomes festive.

3.2 VISITOR PROFILE

Visitors to KBSRA tend to be a blend of local residents who use KBSRA as a community park, and visitors from elsewhere in California, Nevada and beyond. While precise numbers of visitors are not available, observations by DPR staff and Kings Beach residents indicate a high level of use throughout the summer months, with lower numbers in the winter. Enthusiastic reviews by visitors reported on TripAdvisor rave about the amenities the park provides, tout the suitability of the park for children and families, and describe the crowds while still noting plenty of room to walk and enjoy the beach. The most common recommendation is to arrive early (before 10:00 a.m.) for a parking space (TripAdvisor 2016).

The unincorporated community of Kings Beach contains approximately 1,910 residences, approximately 50 percent of which are occupied by full-time residents (Tahoe Regional Planning Agency [TRPA] 2016). The population of Kings Beach includes 2,161 full-time residents, approximately 70 percent of whom live in rental housing, with the remainder living in owner-occupied housing. Approximately 66 percent (1,418 individuals) of all residents are Hispanic, and approximately 55 percent of residents are male. The majority of Kings Beach residents are between 18 and 64 years old, with 26 percent of the population below 18 years of age, and four percent over 64 years of age (U.S. Census 2016). Recent market analyses indicate that the population of Kings Beach has declined over the last decade, which is consistent with overall trends in the Tahoe Basin. This is largely due to the conversion of residences to second homes, which reduces year-round population but maintains higher vacationing population during the summer and vacation periods (Placer County 2013a). Many full-time residents choose to live in the Lake Tahoe area because of the recreation opportunities the region provides, and as such are important users of the local, state, regional, and federal parks and lands in the region.

A visitor survey conducted in summer 2014 on behalf of the North Lake Tahoe Resort Association provides a glimpse into the characteristics of summer visitors who come to the north shore of Lake Tahoe (Table 3-1). Two thirds of the surveys were conducted by intercepting individuals at various locations around north Lake Tahoe, while the remainder were collected at the North Lake Tahoe Visitor's Center. Survey results focused on visitor profiles, and do not include responses for local residents, if any were collected.

Seventy-eight percent of respondents were overnight visitors, with seven percent of those staying in Kings, either in hotel/motels or vacation rental homes. Beach. One third of all survey respondents indicated visiting KBSRA during their stay, which points to KBSRA as an important component of recreation in the region. Respondents' desire for additional amenities in the north Lake Tahoe area was low, but about a quarter of individuals listed a desire for greater variety of dining, shopping, and more kids' activities.

Sixty percent of all visitors were from California; most of these were from northern California. Almost half (47 percent) of visitors were visiting family or friends during their trip. The average age was 47 years, with most visitors aged 25 and older. The family status was dominated by households with children, followed by travelers (couple or single) without children and empty nesters (grown children no longer at home). Household incomes were varied as well. Overall, the results show a variety of visitor groups, activities, attractions, motivations, and other characteristics of the visitor mix (North Lake Tahoe Resort Association 2014).

Table 3-1 North Lake Tahoe Visitor Survey Data

Survey Topic		Percentage
Visitation Period	Overnight	78
	Day visitor	13
	Passing through	9
Overnight Visitor Accommodations	Paid lodging	57
	Family or friends	20
	Second home or vacation unit	18
Primary Reason for Visit	Visiting family or friends	47
	Recreation/general vacation	36
	Combined business/pleasure	6
	Special event or festival	5
Secondary Activities	Dining	69
	General sightseeing	66
	Hiking/climbing	59
	Watching/hanging out	38
	Paddle boarding/kayaking	37
	Cycling/mountain biking	31
Residence of Visitors	California	60
	Nevada	8
	International	4
	Other states	28
Demographic Information	Female	55
	Male	45
Family Status	Families with children at home	47
	Empty nesters	23
	Couples without children	16
	Singles without children	14
Household Income	Less than $50,000	12
	$50,000-$199,999	71
	$200,000 or more	16

Source: North Lake Tahoe Resort Association 2014.

DPR regularly conducts surveys of patterns of park use by residents of seven different regions in California, including the Sierra region, which includes Placer, Nevada, and El Dorado counties and seven other Sierra counties. Survey results from the residents of this region demonstrate a pattern of park use that can be broadly applied to State Park visitors (DPR 2014a), including KBSRA.

Respondents from the Sierra and Northern California regions showed the highest number of retired residents and higher incomes than other regions. The types of facilities most visited by adult Sierra residents were, in order, 1) unpaved trails, 2) community facilities, 3) picnic areas, 4) scenic observation or wildlife viewing areas, and 5) beach or water recreation areas. These were followed by paved trails and open space. The most popular activities were hiking on unpaved trails, walking, eating/ picnicking, and swimming. These activities are commensurate with the recreational opportunities available at KBSRA and other

regional parks. Sierra residents listed walking and jogging as the activities at which they spent the greatest number of days engaged, which was similar in all regions. Sierra residents spent more time playing golf and more days viewing wildlife than did residents of other regions, both of which activities are reflective of the demographics and geography of the region. Sierra residents also participate at high levels compared to other regions in outdoor photography, driving for pleasure/sightseeing, visiting outdoor nature museums, paddle sports, sail boating, horseback riding, snowmobiling, and skiing (DPR 2014a).

3.3 RECREATION USES AND FACILITIES

KBSRA is a popular destination for walking, sunbathing, recreating in watercraft, watching the sunrise and sunset, or simply touching the lake. The south-facing expanse of sandy beach is the main attraction of this year-round destination. In the summer, it is popular with families with small children, sunbathers, and leisurely beachcombers. The largest publicly accessible sandy beach on the north shore, KBSRA is also one of the warmest spots to swim because of its gradually sloping lake floor. Fishing is allowed at KBSRA, but because of the shallow shelf, deep water is difficult to reach. The boat ramp, pier, and beach allow for kayaking, canoeing, inflatable boating, stand-up paddle boarding, and launching of larger boats when the Lake water level permits.

During the winter, many visitors come for the scenic vistas or for snow play on the beach. Others enjoy active recreation pursuits such as metal detecting in the shallow waters along the beach. In the winter months, KBSRA's south-facing lakefront makes it relatively warmer than other Tahoe beaches and popular for long walks and enjoying panoramic views of Lake Tahoe.

In addition to the beach, a playground offers activities for children and families and is popular with nearby residents and visitors alike. The playground is situated just above the beach, adjacent to the picnic areas, and is set back from the road, making it easy for parents to supervise children. Picnic areas are equipped with barbeque grills and picnic tables; one of these areas is available for group rentals, and the others are available on a first-come, first-served basis. Several tables are at the top of the beach, but most are under the tall pines on the grassy area above the beach (Exhibit 3-2) (LakeTahoe.com 2016).

Exhibit 3-2 Recreational Facilities

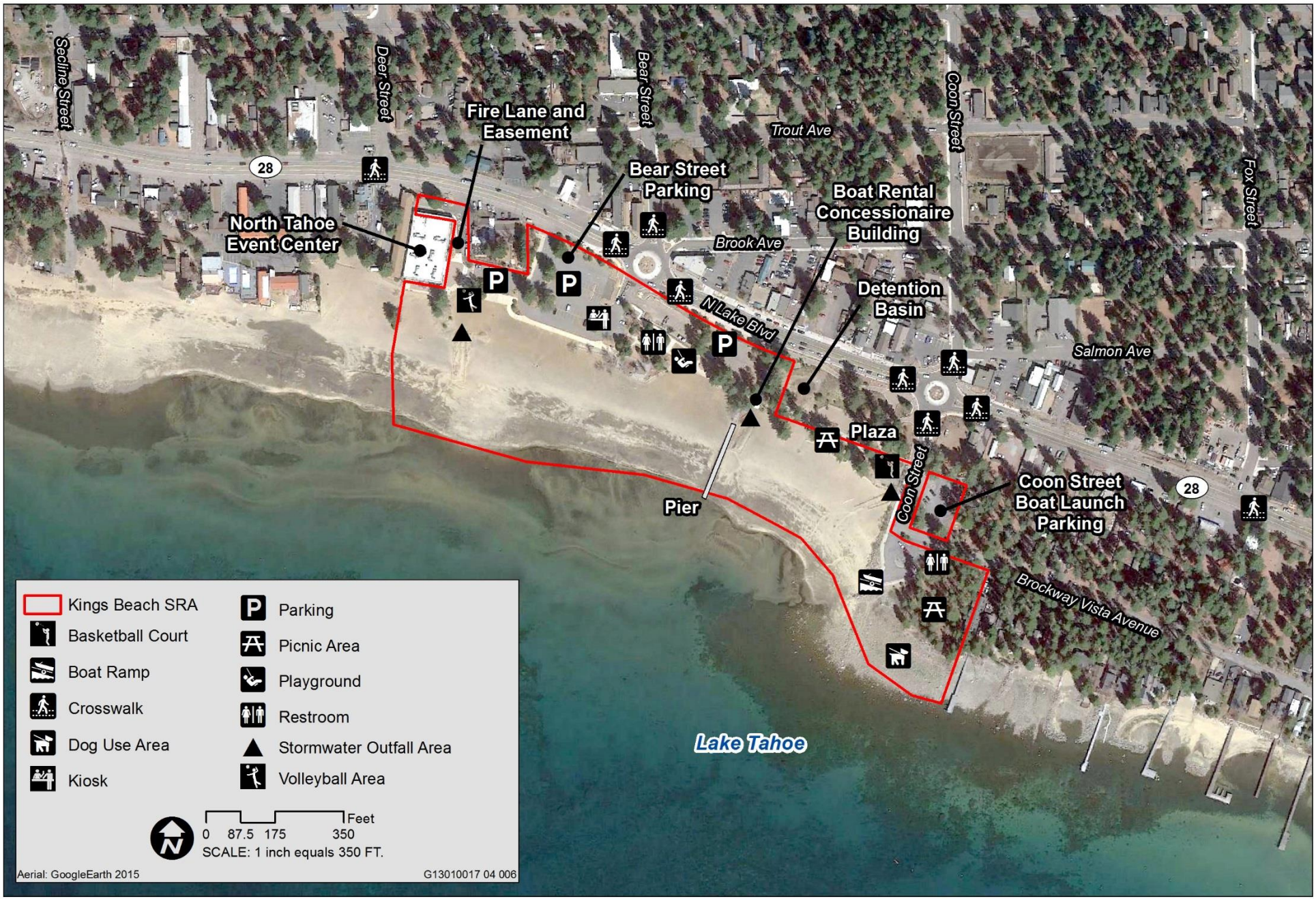
3.3.1 Developed Facilities

KBSRA is a day-use area with a variety of developed facilities (Table 3-2 and Exhibit 3-3). These include a plaza for public gathering and special events, including a small stage for music events; a half basketball court (Exhibit 3-4), picnic sites with barbeque pits, a playground (Exhibit 3-5), boat ramp (Exhibit 3-6), and a 207-foot-long pier that extends to the approximate natural lake water level of 6,223 feet above sea level. Neither the pier nor the boat ramp reach Lake Tahoe during periods of low lake levels. A concession is housed in a small building at the base of the pier and offers watercraft rental during the summer months.

Table 3-2 Amenities at KBSRA

Amenity	Number/dimensions
Beach	979 feet
Parking lots	166 vehicles
Restrooms	2
Playground	approx. 2,100 square feet
Plaza with small stage	1
Half basketball court	1
Volleyball Court	1
Picnic sites with barbeque pits	26 picnic tables
Boat launch with boat trailer parking	single land boat ramp, 22 trailer parking spaces
Pier	207 feet (to 6,223 feet above sea level)
Concession – watercraft rental	1
Entry kiosk	1

The boat launch area at the end of Coon Street is one of three public boat launches in the north lake area. It includes the boat launch ramp for launching watercraft, restrooms, and parking for vehicles and trailers. Restrooms are closed during the low season from mid-October through mid-April. During periods of low water levels (i.e., lake levels below 6,227 feet msl), the boat launch ramp is not accessible for public use; however, commercial users can still access the ramp with specialized equipment. The last time the boat ramp was open for public use was Labor Day weekend, 2012. Since 2008, the ramp has been closed for 75 percent of the boating seasons, and was only open for two seasons, in 2011 and 2012 (USGS 2016). Based on revenue reporting by NTPUD, the boat ramp accommodated between 100 and 300 non-commercial boat launches per season, during the each of the last two seasons it operated (NTPUD 2013). The boat ramp as currently situated enters the water in an area of prime fish habitat (see Section 4.2 Natural Resources for a full discussion of mapped fish habitat in KBSRA). During periods when the boat ramp is operational, the 22 trailer parking spaces are typically filled during summer weekends. Overflow trailer parking occurs along SR 28 and along residential streets throughout Kings Beach. Since the boat ramp was last open, the Kings Beach Commercial Core project has been constructed, which eliminated much of the roadside parking along SR 28.



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 3-3 Existing Facilities

Exhibit 3-4 Basketball Court

Exhibit 3-5 Playground

Exhibit 3-6 Boat Ramp

Trash and recycling containers are provided throughout the park but reach capacity quickly in the busy summer season. Park users often stack trash near the receptacles when they are full, creating visual, health, and animal attraction issues that are challenging to park operations and may lead to more widespread litter control issues on the beach. Visitor surveys often cite as areas of suggested improvement the capacity and overflow of these facilities during periods of high use (Sierra State Parks Foundation 2015). Restrooms are available all year, although the structure near the boat ramp is closed in winter. Some of the individual restrooms at the larger structure near the plaza are also closed in winter, but the structure is heated to prevent freezing pipes and allow cold-weather use of most restrooms.

The location of KBSRA in the town center of Kings Beach allows it to serve as a gathering point for local residents and tourists alike. In addition to the wide beach, the property has several large Jeffrey pines that provide shade for the picnic tables and plaza. The terrain is generally flat, sloping gradually into Lake Tahoe, and a shallow shelf extends into the Lake for some distance. This topography makes it challenging to use the pier and boat ramp during low water conditions, reducing the effective use of those facilities.

3.3.2 Pier and Buoys

The pier at KBSRA is a public community facility that is used both as a recreation amenity for beach users and as an access point to KBSRA for boaters from elsewhere around Lake Tahoe. It is currently under consideration for reconstruction and possible relocation. A substantial pier in approximately the same location and of approximately the same size as that found today was constructed before 1939. The

current pier was in place in 1974 when DPR acquired the property. The pier was repaired in 1980 and 1998 and was modified to include a safety railing.

The existing pier structure is 10 feet wide and 207 feet long, with a fixed wooden deck at elevation 6,231.5 feet, supported by 26 paired, outer-edge steel pilings (Exhibit 3-7). The pier is functional for boat access only when the water surface elevation is between 6,227 feet and the high water elevation of 6,229.1 feet. At lake levels of 6,223 feet and lower, the pier is completely out of the water. No catwalks or low freeboard access docks are attached; the total deck surface area covers 3,151 square feet (Conservancy 2015).

Exhibit 3-7 Pier

Boating access parallel to the shore under the existing fixed pier is not an option at most lake levels, but avoiding the pier requires only a short detour away from the shoreline (approximately 200 feet at high lake levels). The existing pier is approximately 400 feet inside the no wake zone; therefore, swimmers and paddlers navigating around the end of the existing pier experience limited hazards from potential interactions with motorized vessels and wakes.

An area suitable for fish spawning exists near and east of the boat ramp facility. A detailed discussion of the fish habitat can be found in Section 4.2 of this report. The remainder of the surrounding area is predominantly sand and silt substrate (<2mm diameter) that is unsuitable for spawning. The existing pier is located entirely over sandy substrate and does not extend over any prime fish habitat, as defined by the TRPA Code of Ordinances.

Some areas near the boat ramp and along the east shoreline within KBSRA are modelled to experience minor (10-20 percent) wave height reduction under existing conditions due to the effects of the existing pier. The area of disturbance for the existing pier is calculated as 71.06 square feet.

The California State Lands Commission authorized a lease with North Tahoe Watersports, Inc. for five mooring buoys for a 20-year term beginning June 29, 2015, and ending June 28, 2035. The buoys are arranged in a rectangular pattern with the closest to land located 260 feet from the end of the pier. As required by California State Lands Commission each buoy is 20 feet from any adjacent buoy.

3.4 UTILITIES AND SERVICE SYSTEMS

KBSRA is served by the following local utilities and service providers. Descriptions of existing stormwater infrastructure is provided in chapter 4, Hydrology and Water Quality, of this report.

WATER

NTPUD is the public utility district that provides water and sewer services to the KBSRA area. The district's boundaries extend from the Nevada State line in Crystal Bay to Dollar Hill, and include the communities of Kings Beach, Tahoe Vista, Brockway, Carnelian Bay, Cedar Flat, and Agate Bay.

About 90 percent of NTPUD water supplies come from surface water diversions from Lake Tahoe, with the remaining supply coming from groundwater wells. Water pumped from Lake Tahoe is treated at the National Avenue Water Treatment Plant. The district operates three separate and independent water systems: Dollar Cove, Carnelian Bay, and the Tahoe Main system. The Tahoe Main system draws water from Lake Tahoe, as well as from a groundwater well located in the North Tahoe Regional Park. It serves the community of Kings Beach, including KBSRA.

NTPUD services KBSRA through two connections; one at the restroom/shower, and one serving irrigation. The water main serving KBSRA is a 12-inch pipe outfitted with a two-inch composite flow meter, which allows accurate measurements both during periods of low and high flow (both conditions are applicable to this site; see Exhibit 3-8). Water consumption rates are highest in the summer months of July and August, with higher-than-normal usage during June and September as well. Usage at the restroom/shower connection over the course of the last four years is displayed in Exhibit 3-8. Additional water supply to the to the site can be accommodated through NTPUD, based on site needs.

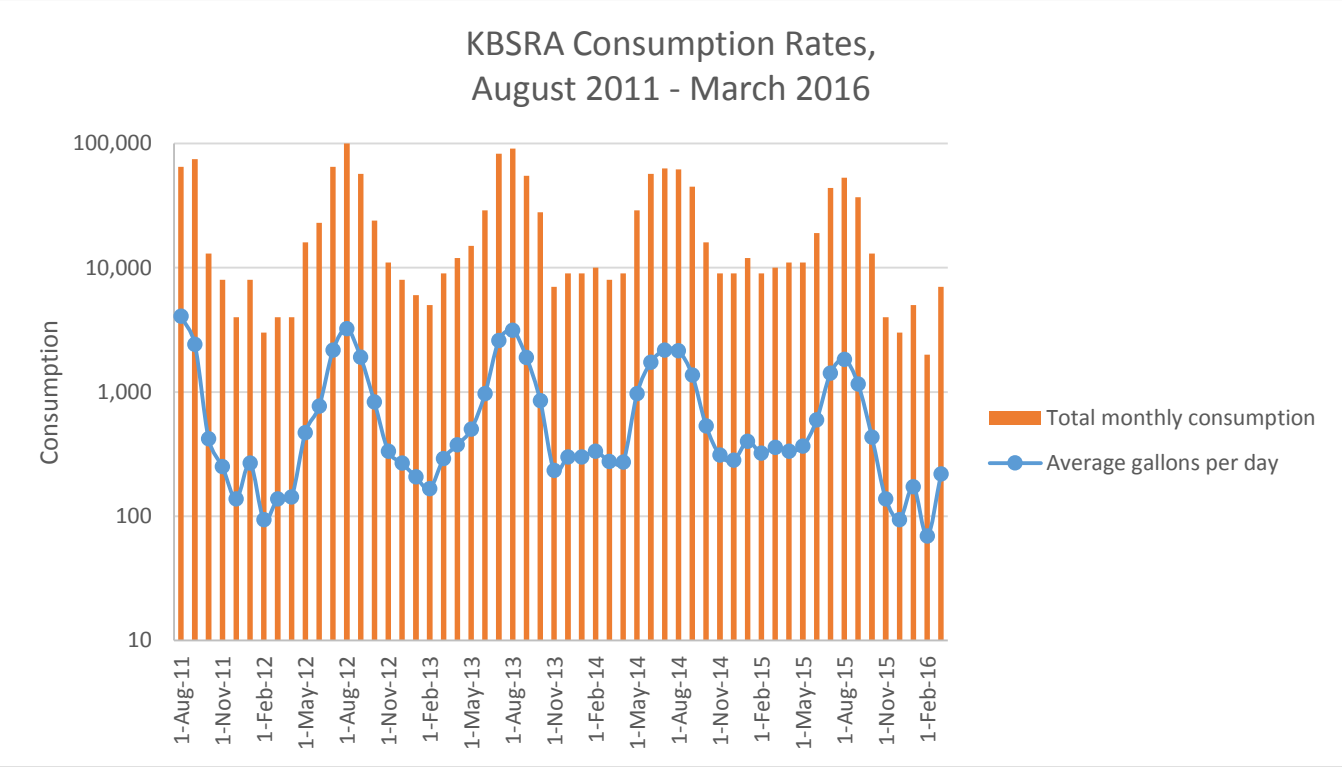


Exhibit 3-8 KBSRA Water Consumption Rates, August 2011 – March 2016

WASTEWATER COLLECTION

NTPUD provides wastewater collection in the KBSRA area. All collected raw sewage is conveyed out of the Tahoe Basin through a large diameter gravity pipeline known as the Truckee River Interceptor (TRI), which is owned and operated by the Tahoe-Truckee Sanitation Agency. The TRI conveys all raw sewage 17 miles to Truckee where it is treated at the Truckee Water Reclamation Plant (TWRP).

NTPUD owns, operates, and maintains a sanitary sewer collection main in the KBSRA area. Wastewater from the restrooms and shower is plumbed to the sewer collection facilities, with some loss at the shower. Irrigation to landscaping is not collected and plumbed to wastewater; therefore, the net amount of wastewater collected from KBSRA is less than the amount consumed. There is currently ample capacity for all wastewater generated at KBSRA. The district has recorded easements for some portions of the sewer main and is seeking to perfect easements for the remaining portions. A portion of the sewer main is within the former Brockway Vista Drive right-of-way in KBSRA, which was abandoned by Placer County without reserving easements for NTPUD. NTPUD is also seeking to perfect easements for maintenance access to the sewer main; this access was formerly on Coon Street through the now-abandoned Brockway Vista Drive right-of-way, but has been cut off as a result of various improvements that have been made over the past few years.

Under the NTPUD Capital Improvement Program, the district recently replaced the existing sewer mains and service laterals in Brook Avenue and Coon Street and installed a new sewer main, manholes, and service laterals on SR 28 between Coon Street and Bear Street to abandon a mid-block sewer main in which the district does not have adequate access.

WASTEWATER TREATMENT AND DISPOSAL

The Tahoe-Truckee Sanitation Agency (TTSA) plans, administers, and coordinates wastewater treatment and disposal services throughout the north and west Tahoe area, as well as the town of Truckee. TTSA treats and disposes of the wastewater delivered to the facility by the five regional sewage collection agencies, including NTPUD, which collects wastewater from KBSRA. NTPUD has indicated there is generally adequate capacity in their sewer collection system considering the limited anticipated growth expected to occur in the KBSRA vicinity (Stelter, pers. comm., 2016).

TTSA is located in Martis Valley, east of Truckee in Nevada County. The 9.6-mgd advanced water reclamation plant provides primary and secondary treatment, phosphorus removal, biological nitrogen removal, disinfection, and effluent filtration. The remaining available wastewater treatment capacity at the treatment plant is estimated to be 3.2 mgd (Parker, pers. comm., 2015). This would provide ample available capacity to serve increased wastewater production at KBSRA as well as other future development in the vicinity. Because of its location in the pristine Lake Tahoe–Truckee River watershed, the plant is required to meet some of the most stringent effluent requirements in the country.

ELECTRICITY

Liberty Utilities provides electricity in the KBSRA area. Electrical connections are readily available at KBSRA with multiple points of connection possible, including at the North Tahoe Event Center and at the eastern edge of the Bear Street parking lot. Liberty Utilities generates approximately 80 percent of the power it supplies. The remaining supplies are purchased on an as-needed basis. Provided that electricity is available for purchase, no shortfall in electrical energy supply is anticipated in the future. (Placer County and TRPA 2011). The California Pacific Electric Company, LLC, an element of Liberty Utilities, has received approval to upgrade infrastructure between the North Shore, Truckee, and Martis Valley to improve reliability of electricity supply. Another project would involve rebuilding the 625 line between Kings Beach and Tahoe City and modifications to the Squaw Valley and Tahoe City substations, which is

not yet approved. Approval and permitting of this phase would be sought at such time as warranted by demand (Liberty Utilities 2015). The existing capacity and planned future improvements would provide adequate capacity for increases in electrical demand at KBSRA.

NATURAL GAS

Natural gas service is provided to the KBSRA vicinity by Southwest Gas Corporation, which purchases, transports, and distributes natural gas to residential, commercial, and industrial customers in Arizona, Nevada, and portions of California (Placer County and TRPA 2011). High pressure distribution pipelines are located along State Route (SR) 267 and down SR 28 along the northern edge of KBSRA (Dagerman, pers. comm., 2016). Additional natural gas distribution pipelines access the North Tahoe Event Center, and the residential areas to the east of Coon Street. Southwest Gas has experienced around 1 percent growth per year in the Lake Tahoe area. Although it has a number of projects underway to replace old polyvinyl chloride (PVC) main lines, it has no plans for substantial expansion of the existing system, which it believes can accommodate build out of the Lake Tahoe region (Anderson, pers. comm. 2012). Because sufficient natural gas capacity is available for build-out of the entire region, there would be sufficient capacity to meet increases in natural gas demand at KBSRA.

LAW ENFORCEMENT

In addition to DPR law enforcement officers, the Placer County Sheriff's Department (PCSD) provides law enforcement in the KBSRA area. PCSD has a service area of approximately 125 square miles, stretching from Tahoma on the southern boundary, around the northern and western shores of Lake Tahoe to the California/ Nevada State line, north to Truckee, and west to the crest of the Sierra Nevada.

The Placer County Sheriff's Kings Beach Service Center is located at 8645 North Lake Boulevard, 0.1 mile from KBSRA. The Kings Beach Service Center is managed by one full-time employee and staffed primarily with community volunteers. PCSD also maintains the Tahoe Station in Tahoe City, approximately 12 miles from KBSRA. The Tahoe Station is slotted for 48 staff positions and commanded by a Sheriff's captain.

Fire Protection and Emergency Services

The North Tahoe Fire Protection District (NTFPD) provides fire, rescue, hazardous materials, lake rescue, technical rope rescue, vehicle extrication, advanced life support ambulance service, pre-fire planning, and public education services within the KBSRA area. NTFPD is staffed by 49 uniformed and support personnel who serve 20,000 residents within the service area of approximately 31 square miles. NTFPD also provides additional services beyond district boundaries to the communities of Alpine Meadows (full services) and within El Dorado County from the county boundary to Emerald Bay (ambulance service only).

Solid Waste Collection

Solid waste collection and disposal in KBSRA is provided by Tahoe Truckee Sanitation District. Recyclable materials are diverted at the Eastern Regional Landfill, and remaining solid waste is transferred to the Lockwood Landfill near Reno, Nevada. The most recent permit for the Lockwood Regional Landfill was issued by the Nevada Department of Environmental Protection (NDEP) in December 2013. The permitted design summary indicates a total of 865.5 acres of Class I disposal area and 40 acres of Class III disposal area with a combined disposal capacity of 265 million cubic yards (NDEP 2013). As permitted, the remaining life of the landfill is 150 years and adequate capacity is available to accept increases in solid waste generation that could occur at KBSRA.

Telecommunications

KBSRA is located in the AT&T service area. AT&T provides telecommunication services, including local, long distance, wireless, data networks, and directory service to the Lake Tahoe area. AT&T communication infrastructure has sufficient capacity to meet expected future demands for service.

3.5 TRANSPORTATION AND CIRCULATION

3.5.1 Roads and Circulation

Regional roadways serving Kings Beach are SR 28 and SR 267, two state highways operated and maintained by California Department of Transportation (Caltrans). SR 28 traverses the northern and eastern edges of Lake Tahoe, linking Tahoe City, Dollar Bay, Kings Beach, and Incline Village, among other communities. SR 28 begins at SR 89 in Tahoe City and terminates at US 50 in Nevada. The jurisdiction of SR 28 transfers from Caltrans to the Nevada Department of Transportation at the California-Nevada state line, approximately 1 mile east of KBSRA.

Within Kings Beach, SR 28 is also referred to as North Lake Boulevard, serving as the primary corridor into and through Kings Beach. Skirting the Lake Tahoe shoreline, SR 28 provides direct access to downtown shops and restaurants within Kings Beach. SR 28 forms the northern edge of KBSRA, providing vehicular access at several locations. Most visitors traveling to KBSRA must use SR 28 during at least some portion of their trip.

The ongoing Kings Beach Commercial Core Improvement Project includes a variety of roadway, landscaping, and drainage improvements to enhance multimodal safety and facilitate economic development along the SR 28 corridor. The project features bicycle and pedestrian amenities, streetscape improvements, bus bays, Americans with Disabilities Act accommodations, and a reduction from four to two travel lanes in the vicinity of KBSRA. Two new roundabouts are also included in the project at the SR 28 intersections with Bear Street and Coon Street, both of which provide access to parking lots at KBSRA.

The second regional route into Kings Beach, SR 267, links Kings Beach to Interstate 80 in Truckee, providing access for motorists traveling from Sacramento, Reno, and other destinations along the I-80 corridor.

In the KBSRA area, the Kings Beach local roadway network is generally characterized by low-volume minor roadways. A gridded network of residential streets extends one-half mile north of SR 28, connecting residents to activities along the shoreline. During peak travel periods, some cut-through traffic occurs on local roadways as drivers attempt to avoid congestion on SR 28.

3.5.2 Traffic Volumes and Vehicle Count Data

Visitors travel to KBSRA throughout the year, with peak visitor days occurring during the summer season. Given this trend, intersection counts were collected over Labor Day weekend to reflect peak travel conditions on roadways surrounding KBSRA. Intersection counts were collected during the afternoon on Friday, September 4, 2015, and midday on Saturday, September 5, 2015 at the SR 28 intersections with SR 267, Deer Street, Coon Street, Fox Street, and Chipmunk Street. During both count days, weather conditions in Kings Beach were cool and clear.

Intersection turning movements at the SR 28/Bear Street intersection were recorded separately by LSC Transportation Consultants on Saturday, July 11, 2015. These counts were examined and adjusted to reflect peak-hour traffic volumes observed during the September counts. During the intersection counts,

the southbound leg of the SR 28/Bear Street intersection was closed due to ongoing construction activity. Therefore, vehicle entry/exit data is not available for the KBSRA parking lot at the Bear Street roundabout. During the count day, weather conditions in Kings Beach were cool and clear.

Based on the collected vehicle count data, peak traffic volumes near KBSRA occur during the 4:00 p.m. hour on Friday and the 12:00 p.m. hour on Saturday. Across the six observed intersections, peak hour traffic volumes were approximately 5% greater on Friday than Saturday.

The primary route to and from KBSRA, SR 28, experienced a steady decrease in traffic volume throughout the observation window. Exhibit 3-7 illustrates the rolling traffic volume on SR 28 between Deer Street and Bear Street near the entrance to KBSRA. During all observed periods, vehicular volumes were greater in the eastbound direction than the westbound direction.

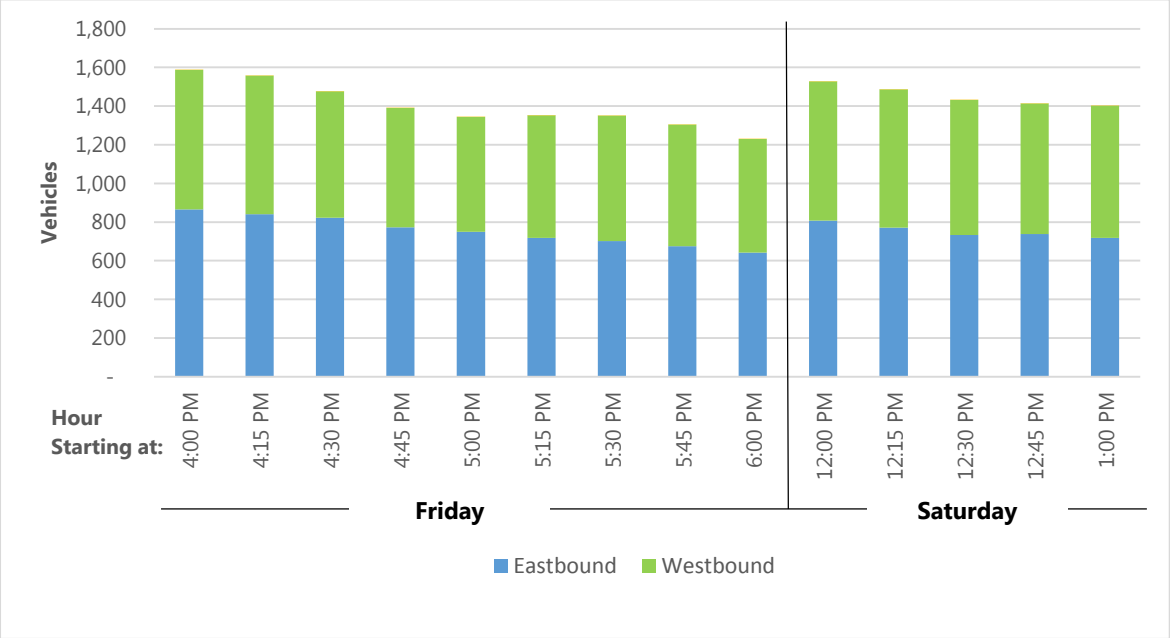


Exhibit 3-7 Hourly Vehicle Volume on SR 28

Along SR 28, side street volumes are low, with fewer than 150 vehicles per hour traveling on most local roadways during the peak-hour period. Coon Street displayed the highest peak-hour traffic volumes of all the local side streets, with well over 200 vehicles per hour during peak periods.

Volume data at the SR 28/Coon Street intersection provide some indication of vehicle entry/exit activity at the KBSRA Coon Street parking lot. (Note this data was collected during a year when the boat ramp was closed by low water conditions.) Exhibit 3-8 shows northbound and southbound traffic volumes on the south leg of the intersection between SR 28 and the Coon Street parking lot. The peak Friday southbound volume was observed at 4:00 p.m. (35), and the peak Friday northbound volume was observed at 4:30 p.m. (28). The peak Saturday southbound volume was observed at 12:45 p.m. (66), and the peak Saturday northbound volume was observed at 1:00 p.m. (61). Observed vehicle activity on this roadway segment is substantially greater on Saturday, potentially because of weekend visitors at KBSRA.

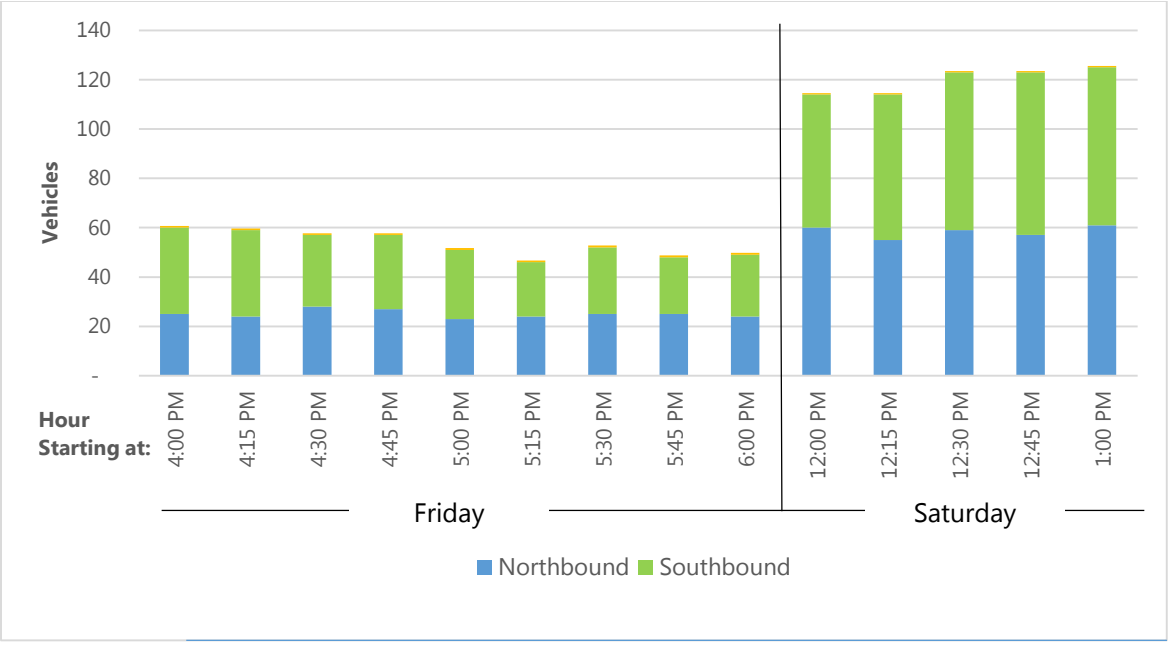


Exhibit 3-8 Hourly Vehicle Volume at SR 28/Coon Street Intersection

Caltrans provides estimates for average daily traffic volumes for regional routes into Kings Beach. In 2014, the average daily traffic volumes on SR 28 in the vicinity of KBSRA, between SR 267 and Coon Street, was 19,800 vehicles. Immediately north of SR 28, the average daily traffic volume on SR 267 was 9,700 vehicles.

A separate analysis of intersection Level of Service (LOS) was conducted by LSC Transportation consultants to describe existing conditions in support of the Placer County Tahoe Basin Area Plan EIR/EIS. Table 3-3 displays the results for this study for peak periods for three intersections in Kings Beach. During peak periods (e.g., a weekend afternoon in August), the intersections in Kings Beach currently operate at acceptable levels.

Table 3-3 Kings Beach - Existing Intersection Level of Service Summary

Intersection	Type of Control 1	Measure	Existing Conditions	
			Delay (sec)	LOS
SR 28 / SR 267	Traffic Signal	Total Delay	31.8	C
SR 28 / Bear Street	Roundabout	Worst Approach	10.5	B
SR 28 / Coon Street	Roundabout	Worst Approach	15.8	C

Source: LSC Transportation Consultants, Inc. 2016

3.5.2 ACCESS TO KINGS BEACH STATE RECREATION AREA

KBSRA attracts a mix of local and regional visitors who access the recreation area through a variety of transportation modes. Regional visitors most likely drive to KBSRA, while local visitors may walk or ride bicycles from the surrounding community.

VEHICLE ACCESS

Vehicle access to KBSRA is available from several locations along SR 28, providing motorists with access to the two on-site parking lots. From SR 28, vehicles may access the KBSRA Bear Street parking lot at the Bear Street roundabout and at the driveway located immediately west of the roundabout. At the driveway, a center turn lane on SR 28 facilitates left turns into and out of the parking lot. Access to the KBSRA Coon Street parking lot is available from SR 28 at the Coon Street roundabout and at the western terminus of Brockway Vista Avenue.

Outside of KBSRA, free on-street parking is available to motorists on most local roadways in Kings Beach, providing an alternative to visitors who are unable to find available spaces at the KBSRA parking lots during peak visiting hours, or for visitors who opt for free parking over the KBSRA paid parking. This dynamic often results in the available on-street parking reaching capacity earlier in the day compared to the KBSRA paid parking. After parking on local roadways, visitors can use the local pedestrian network to access KBSRA.

A vehicle occupancy survey was conducted at the Bear Street parking lot from 12 p.m. to 2:30 p.m. on Saturday, September 5, 2015, to determine the average number of visitors that arrive and depart in each vehicle. As displayed in Table 3-3, most visitors carpooled to KBSRA, with 81 percent of vehicles arriving and departing at the parking lot containing two or more occupants and 29 percent of vehicles carrying at least four occupants. On average, vehicles arriving and departing at the Bear Street parking lot contained between two and three occupants.

The survey data suggests that vehicle occupancy varies depending on time of day, with carpools representing a greater share of arrivals during the survey period compared to arrivals occurring earlier in the day (outbound vehicles, in the case of this survey).

Table 3-4 Bear Street Parking Lot - Occupants Per Inbound Vehicle

Inbound Vehicles	2%	32%	25%	41%
Outbound Vehicles	34%	34%	15%	17%
Total Vehicles	19%	33%	20%	29%

Source: Fehr & Peers 2015

PUBLIC TRANSPORTATION ACCESS

Tahoe Area Regional Transit (TART) provides fixed-route bus service and ADA-compliant, complimentary taxi service in communities throughout the north Tahoe area, including Truckee, Tahoe City, Homewood, and Kings Beach. TART is administered, operated, and maintained by Placer County.

Two TART bus routes serve Kings Beach—the Mainline Route and the Hwy. 267 Route. The Mainline Route operates year-round along SR 28 between Incline Village and the Placer County–El Dorado County line, providing transfer opportunities with connecting bus service into Truckee at the Tahoe City Transit Center. The Hwy. 267 Route currently operates during the summer and winter months only, providing service between Crystal Bay, Northstar Village, and Truckee on SR 267. Schedule information for these two Kings Beach bus routes is presented in Table 3-4.

Visitors may utilize TART to access KBSRA, with multiple bus stops located near KBSRA entrances along SR 28 at Bear Street and Coon Street.

Table 3-5 TART Bus Route Schedule Summary

Route	Weekday		Saturday		Sunday	
	Frequency (min)	Span	Frequency (min)	Span	Frequency (min)	Span
Mainline Route	30	6 AM – 7 PM	30	6 AM – 7 PM	30	6 AM – 7 PM
Hwy. 267 Route	60	7 AM – 6 PM	60	7 AM – 6 PM	60	7 AM – 6 PM

Source: Tahoe Area Regional Transit

BICYCLE ACCESS

Bicycle facilities are currently present on two corridors in Kings Beach. A result of the Kings Beach Commercial Core Improvement Project, a Class II bike lane[1] is present on SR 28 through Kings Beach, bringing cyclists directly to the entrance of KBSRA. Additionally, a Class III bike route[2] is located along SR 267. Bike parking is available throughout downtown Kings Beach on SR 28.

PEDESTRIAN ACCESS

Paved walkways are available for pedestrian use throughout KBSRA, connecting visitors to the on-site parking lots, beach, and other KBSRA recreational amenities. Six pedestrian access points are available from SR 28 and Coon Street into KBSRA, facilitating pedestrian travel between the recreation area and surrounding destinations.

Beyond KBSRA, pedestrian facilities are limited to select roadways within Kings Beach. SR 28 has widened sidewalks, marked crosswalks, and ADA amenities near KBSRA as a result of the Kings Beach Commercial Core Improvement Plan. Sidewalks are present on Coon Street and Fox Street, extending pedestrian access north into the Kings Beach community. Brook Avenue, Bear Street, and Deer Street also have sidewalks for small stretches. Together, these facilities accommodate pedestrian travel for visitors who walk into KBSRA after parking on local Kings Beach roadways.

KBSRA visitors who park and walk in from the surrounding Kings Beach roadway network must cross SR 28 at some point during their trip. Recent observations by LSC Transportation Consultants suggest a substantial number of visitors exhibit this behavior, with an estimated 385 pedestrians crossing SR 28 at the Bear Street and Coon Street intersections during the Saturday peak hour. Recent streetscape improvements have introduced enhanced pedestrian crossings to further support safe pedestrian movement across SR 28.

3.5.3 PARKING

DPR offers paid parking to the general public at the two KBSRA surface lots at Bear Street and Coon Street. Daily parking fees at KBSRA lots are $10 during the peak season and $5 between mid-October and mid-April; holders of the Tahoe Regional Annual Pass may park for free. Visitors must pay parking fees using envelopes provided at kiosks at both parking lots.

[1] Class II bicycle facilities, commonly referred to as Bike Lanes, are dedicated facilities for bicyclists immediately adjacent to automobile traffic. Class II facilities are identified with striping, pavement markings and signage.

[2] Class III bicycle facilities, commonly referred to as Bike Routes, are on-street routes where bicyclists and automobiles share the road. They are identified with pavement markings and signage, and are typically assigned to low-volume and/or low-speed streets.

BEAR STREET PARKING LOT OCCUPANCY

A parking occupancy survey was conducted at the Bear Street parking lot on Saturday, September 5, 2015, to determine its typical utilization during the peak travel period. A total of 95 parking spaces were available during the survey, including four ADA-compatible spaces and two spaces reserved for authorized vehicles only. Due to construction, the eastern portion of the parking lot was closed at the time the survey was conducted.

As displayed in Table 3-5, the Bear Street parking lot experienced its peak occupancy rate during the 1:00 p.m. hour, with 96 percent of the available parking spaces filled. During this period, all regular parking spaces were occupied. Observed occupancy rates measured below 90 percent before the 1:00 p.m. hour and after the 3:00 p.m. hour.

The colors displayed in each cell of the parking utilization section of Table 3-5 correspond with the following parking utilization levels:

- Green – below capacity
- Orange – at capacity

Table 3-6 Bear Street Parking Lot Occupancy

Space Type	Total Spaces	Occupied Spaces						
		10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM
Regular	89	33	46	82	89	87	87	78
Handicap	4	0	0	0	1	0	1	2
Authorized Vehicles Only	2	2	1	2	1	1	1	1
Total	95	35	47	84	91	88	89	81
Parking Utilization		37%	49%	88%	96%	93%	94%	85%

Source: Fehr & Peers 2015

NORTH TAHOE PARKING STUDY

LSC Transportation Consultants conducted the *North Tahoe Parking Study*, an examination of current public and private parking utilization and future parking demand in Kings Beach and Tahoe City. For the purposes of the study, Kings Beach was divided into multiple parking count areas with boundaries defined by SR 28 and major local roadways. Peak parking utilization for count areas near KBSRA is presented in Table 3-6. As with Table 3-5, the colors displayed in each cell of Table 3-6 correspond with the following parking utilization levels:

- Green – below capacity
- Yellow – near capacity
- Orange – at capacity
- Red – above capacity

Table 3-7 Kings Beach Parking Utilization

District	Total Spaces	Parking Utilization								
		10 AM	11 AM	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM
South of SR 28										
Secline St to Deer St	166	63%	59%	69%	74%	73%	83%	82%	80%	75%
Deer St to Bear St	118	86%	89%	95%	92%	92%	95%	81%	85%	81%
Bear St to Coon St	32	31%	72%	119%	119%	125%	122%	78%	63%	59%
Coon St to Fox St	90	59%	98%	110%	109%	118%	97%	96%	70%	27%
North of SR 28										
Secline St to Deer St	187	35%	36%	50%	55%	58%	60%	45%	36%	32%
Deer St to Bear St	156	23%	37%	49%	69%	82%	62%	54%	44%	39%
Bear St to Coon St	183	37%	51%	63%	68%	67%	58%	50%	44%	35%
Coon St to Fox St	166	21%	49%	67%	69%	75%	60%	44%	26%	25%

Source: *North Tahoe Parking Study*, LSC Transportation Consultants, Saturday July 19, 2014

The study indicates that parking areas south of SR 28 display the highest utilization rates, particularly at locations adjacent to KBSRA, where parking occupancy frequently surpasses available parking capacity. Conversely, the study indicates that parking utilization rates in areas north of SR 28 rarely approach available capacity, and the peak parking period is generally between the 11:00 a.m. and 4:00 p.m. hours.

4.1 WATER QUALITY AND HYDROLOGY

This section provides an overview of the current hydrologic and water quality setting for Kings Beach State Recreation Area (KBSRA). It is divided into the following subsections:

- **Regulatory Setting** describes federal, state, and regional/local regulations that pertain to hydrology and water quality;
- **Hydrology** provides a summary of existing hydrologic conditions; and
- **Water Quality** provides a summary of existing water quality conditions in Lake Tahoe and KBSRA.

4.1.1 Regulatory Setting

FEDERAL

Clean Water Act (Public Law 92-500)

Section 404

The Clean Water Act (CWA) consists of the Federal Water Pollution Control Act of 1972 and subsequent amendments. The CWA provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. Section 404 of the act prohibits the discharge of fill material into waters of the United States, including wetlands, except as permitted under separate regulations by the U.S. Army Corps of Engineers (USACE) and U.S. Environmental Protection Agency (EPA). Waters of the United States are generally defined as "waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; territorial seas and tributaries to such waters." To discharge dredged or fill material into waters of the United States, including wetlands, Section 404 requires projects to receive authorization from the Secretary of the Army, acting through the USACE.

Section 401

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification for the discharge. The certification must be obtained from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over the affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401. Water quality certification requires evaluation of potential impacts in light of water quality standards and CWA Section 404 criteria governing discharge of dredged and fill materials into waters of the United States. The federal government delegates water pollution control authority under CWA Section 401 to the states (and in California, ultimately to the regional water quality control boards [RWQCBs]).

Section 402

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate discharges of pollutants into waters of the United States. An NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. Two types of nonpoint source discharges are controlled by the NPDES program: discharges caused by general construction

activities and the general quality of stormwater in municipal stormwater systems. The goal of the NPDES nonpoint source regulations is to improve the quality of stormwater discharged to receiving waters to the maximum extent practicable. The RWQCBs in California are responsible for implementing the NPDES permit system (see the discussion of state regulations below).

Section 303

Section 303(d) of the CWA requires states to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still be in compliance with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. EPA must either approve a TMDL prepared by the state or disapprove the state's TMDL and issue its own. NPDES permit limits for listed pollutants must be consistent with the waste load allocation prescribed in the TMDL. After implementation of the TMDL, it is anticipated that the problems that led to placement of a given pollutant on the Section 303(d) list would be remediated.

The Lake Tahoe TMDL is focused on reducing the amount of total nitrogen, total phosphorus, and fine sediment particles (less than 16 microns) that are discharged to the lake. The Lake Tahoe TMDL contains a target for lake clarity of almost 100 feet and an interim target of 80 feet annual average Secchi depth. The initial implementation of the TMDL includes required reductions for total nitrogen, total phosphorus, and fine sediment particles, with efforts are focused on particle reduction. The majority of the efforts focus on reductions in load from urban stormwater runoff. However, TMDL implementation also includes efforts to reduce pollutants from forests, stream channels and atmospheric deposition.

Safe Drinking Water Act

The Safe Drinking Water Act of 1974 provides for the safety of drinking water supplies throughout the United States by establishing national standards that the states are responsible for enforcing. The act provides for the establishment of primary regulations for the protection of the public health and secondary regulations relating to the taste, odor, and appearance of drinking water. Primary drinking water regulations, by definition, include either a maximum contaminant level (MCL) or, when an MCL is not economically or technologically feasible, a prescribed treatment technique that would prevent adverse health effects to humans. An MCL is the permissible level of a contaminant in water that is delivered to any user of a public water system. Primary and secondary drinking water regulations are stated in 40 CFR 141 and 143, respectively.

Federal Anti-Degradation Policy

Lake Tahoe's designation as an Outstanding National Resource Water affords it the highest level of protection under the anti-degradation policy of EPA. The federal anti-degradation policy, established in 1968, is designed to protect existing uses and water quality and national water resources. The federal policy directs states to adopt a statewide policy that includes the following primary provisions:

- existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected;

- where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and

- where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

National Flood Insurance Act

Floodplain Management Executive Order 11988, adopted in May 1977, directs all federal agencies to evaluate potential effects of any actions it may take in the floodplain and to avoid all adverse impacts associated with modifications to floodplains. It also directs federal agencies to avoid encroachment into the 100-year floodplain whenever there is a practicable alternative, and to restore and preserve the natural and beneficial values served by the floodplains (EPA 1977).

The Federal Emergency Management Agency (FEMA) oversees floodplain management and runs the National Flood Insurance Program (NFIP) adopted under the National Flood Insurance Act of 1968. FEMA prepares Flood Insurance Rate Maps that delineate the regulatory floodplain to assist local governments with land use and floodplain management decisions to meet the requirements of the NFIP. In general, the NFIP mandates that development is not to proceed within the 100-year regulatory floodplain if the development is expected to increase flood elevation by one foot or more. Also, development is not allowed in designated 100-year floodways (i.e., flood flow channels and areas with sufficient directional flow velocity of 100-year floodwaters).

STATE

Porter-Cologne Water Quality Control Act

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resources Control Board (SWRCB) and each of the nine RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the CWA. The applicable RWQCB for the proposed project is the Lahontan RWQCB (Lahontan). The SWRCB and Lahontan have the authority and responsibility to adopt plans and policies, regulate discharges to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substances, sewage, or oil or petroleum products.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region. The Basin Plans must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its state water policy. The Porter-Cologne Act also provides that an RWQCB may include within its Basin Plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Each of the nine RWQCBs maintains a Basin Plan that includes a comprehensive list of water bodies in each area, as well as detailed language about the components of applicable water quality objectives (WQOs). The Basin Plan for the Lahontan Region recognizes natural water quality, existing and potential beneficial uses, and water quality problems associated with human activities in Placer County (Lahontan 1995). Lahontan also has regulatory authority to enforce the requirements of the CWA and the California Water Code. This includes the regulatory authority to enforce the implementation of TMDLs, the adoption of waste discharge requirements to ensure compliance with WQOs for surface water, and groundwater management.

The Basin Plan was first adopted in 1975 and most recently updated in 1995. The Basin Plan contains separate water quality standards and control measures for the Lake Tahoe Basin. Both narrative and numeric water quality objectives are identified, as well as waste discharge prohibitions, land capability and coverage limits, remediation and offset programs for restoration of the Tahoe Basin, stormwater control measures, and special provisions for stream zones floodplains, shorezones and ground water. Land uses and activities that could degrade water quality, as well as best management practices (BMPs) that could be used to address various nonpoint sources of pollution are also identified in the Basin Plan.

Beneficial Uses

The Lahontan Basin Plan (Lahontan 1995) defines and designates the existing beneficial uses for surface and groundwater in the project area. Existing beneficial uses of Lake Tahoe (surface water) include:

- **Municipal and Domestic Supply** – waters used for community, military, or individual water supply systems including, but not limited to, drinking water supply
- **Agriculture Supply** – waters used for farming, horticulture, or ranching, including, but not limited to, irrigation, stock watering, and support of vegetation for range grazing
- **Groundwater Recharge** – waters used for natural or artificial recharge of ground water for purposes of future extraction, maintenance or water quality, or halting saltwater intrusion into freshwater aquifers
- **Navigation** – uses of waters used for shipping, travel, or other transportation by private, military, or commercial vessels
- **Water Contact Recreation** – water used for recreational activities involving body contact with water where ingestion of water is reasonably possible, including, but not limited to, swimming, water-skiing, fishing, and others
- **Noncontact Water Recreation** – used of waters used for recreational activities involving proximity to water, but not normally involving body contact with water; including, but not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, and others
- **Cold Freshwater Habitat** – uses of water that support cold water ecosystems including, but not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife, including invertebrates
- **Commercial and Sportfishing** – waters used for commercial or recreational collection of fish or other organisms, including, but not limited to, uses involving organisms intended for human consumption
- **Wildlife Habitat** – uses of waters that support wildlife habitats including, but not limited to, the preservation and enhancement of vegetation and prey species, such as waterfowl
- **Preservation of Biological Habitats of Special Significance** – uses of waters that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, and Areas of Special Biological Significance (ASBS), where the preservation and enhancement of natural resources requires special protection
- **Migration of Aquatic Organisms** – uses of waters that support habitats necessary for migration, acclimatization between fresh and salt water, or temporary activities by aquatic organisms, such as anadromous fish.
- **Spawning, Reproduction, and Development** – uses of water s that support high quality aquatic habitat necessary for reproduction and early development of fish and wildlife.

The beneficial uses of groundwater in the project vicinity include the following (definitions provided above):

- Municipal and Domestic Supply
- Agriculture Supply
- Freshwater Replenishment

National Pollutant Discharge Elimination System Permits

As described above, compliance with the federal NPDES program is delegated to the state. The SWRCB and Lahontan RWQCB require specific NPDES permits for a variety of activities that have potential to discharge pollutants to waters of the state and adversely affect water quality. To receive an NPDES permit, a Notice of Intent to discharge must be submitted to the Lahontan RWQCB and design and operational BMPs must be implemented to reduce the level of contaminated runoff. BMPs can include the development and implementation of regulatory measures (e.g., local approval of drainage facility design), educational measures (e.g., public information campaigns about effects of discharge to storm drains), public policy measures (e.g., label storm drain inlets as to impacts of dumping on receiving waters), and structural measures (e.g., filter strips, grass swales, and retention basins). All NPDES permits also have inspection, monitoring, and reporting requirements.

The SWRCB adopted the statewide NPDES General Construction Permit in August 1999. The state requires that projects disturbing more than 1 acre of land during construction file a Notice of Intent with the RWQCB to be covered under this permit. Construction activities subject to the General Construction Permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-stormwater discharges to storm drainage systems and other waters. A stormwater pollution prevention plan (SWPPP) must be developed and implemented for each site covered by the permit. The SWPPP must include BMPs designed to prevent construction pollutants from contacting stormwater and to keep products of erosion from moving offsite into receiving waters throughout construction and life of the project; the BMPs must address source control and, if necessary, pollutant control.

State Antidegradation Policy

In 1968, as required under federal antidegradation policy, the SWRCB adopted Antidegradation Policy aimed at maintaining high quality for waters in California. The Antidegradation Policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

a) Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.

b) Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements.

REGIONAL AND LOCAL

Tahoe Regional Planning Agency

Regional Plan

The Lake Tahoe Regional Plan (Regional Plan) provides the regulatory framework for environmental protection and development in the Tahoe Basin, and aims to achieve a balance between these two spheres. The Regional Plan includes several initiatives aimed at achieving this goal.

Regional Plan priorities and policies include accelerating water quality restoration by targeting environmental redevelopment and environmentally beneficial projects, retaining the current regional growth system that prevents unchecked overdevelopment and encourages preservation of open space, and integrating with the Regional Transportation Plan to address congestion and support pedestrian and bike improvement projects that reduce vehicle dependency.

Four components of the Regional Plan specifically address policies and regulations relating to hydrology and water quality. These include the Environmental Threshold Carrying Capacities, Goals and Policies, Code of Ordinances, and Water Quality Management Plan (208 Plan), as described below.

Environmental Threshold Carrying Capacities

TRPA adopted environmental threshold carrying capacities (thresholds) to improve and maintain the various resources of the Lake Tahoe Basin. Thresholds are standards or environmental quality targets to be achieved in the Tahoe Basin. TRPA conducts a comprehensive evaluation of all thresholds every four years. The most recent evaluation was completed in 2012 (TRPA 2012b).

Water Quality Thresholds

Water quality thresholds developed by TRPA are intended to return the lake to the transparency observed in the late 1960s. Seven water quality thresholds and standards are currently used by TRPA to assess the water quality of the lake and its tributaries. Table 4.1-1 lists each threshold, associated standard(s), and status towards attainment.

Table 4.1-1 TRPA Water Quality Thresholds

Threshold	Description	Parameter	Standard	Status
WQ-1	Nearshore (littoral zone) of Lake Tahoe	Turbidity, shallow waters of Lake Tahoe	Decrease sediment load as required to attain turbidity values not to exceed 3 NTU in littoral Lake Tahoe. In addition, turbidity shall not exceed 1 NTU in shallow waters of Lake Tahoe not directly influenced by stream discharges.	Attainment
WQ-2	Deep water (pelagic zone) of Lake Tahoe	Clarity, winter, pelagic Lake Tahoe	Average winter Secchi depth, December-March, shall not be less than 33.4 meters.	Nonattainment
WQ-3	Deep water (pelagic zone) of Lake Tahoe	Phytoplankton primary productivity	Annual mean phytoplankton primary productivity shall not exceed 52 $gC/M^2/yr$.	Nonattainment
WQ-4	Tributary water quality	Annual average concentrations of appropriate constituents	Concentrations of appropriate constituents in any tributary stream for which states have established standards (as mg/l); 90th percentile value suspended sediment of 60 mg/L.	Nonattainment
WQ-5	Stormwater runoff quality	Surface discharge to surface water	Pollutant concentrations in surface runoff discharged to surface water shall not exceed the following concentrations at the 90th percentile: 0.5 mg/L dissolved inorganic nitrogen as N 0.1 mg/L dissolved phosphorus as P 2.0 mg/L grease and oil 0.5 mg/L dissolved iron 250 mg/L suspended sediment	Nonattainment
WQ-6	Stormwater runoff quality	Surface discharge to groundwater	Surface runoff infiltrated into soils shall not exceed the following concentrations at the 90th percentile: 5.0 mg/L total nitrogen as N 0.1 mg/L total phosphorus as P 4.0 mg/L total iron 40 mg/L grease and oil 200 NTU turbidity Where there is a direct hydrologic connection between ground and surface waters, discharges shall meet the guidelines for surface discharges (WQ-5).	Nonattainment
WQ-7	Other lakes	Concentrations of appropriate constituents	Water quality parameters and standards established by California and Nevada.	Nonattainment

mg/l = milligrams per liter
NTU = Nephelometric Turbidity Units
$gC/M^2/yr$ = grams of carbon per square meter per year
Source: TRPA 2007a: pp.

The water quality thresholds relevant to the KBSRA and their current attainment status are discussed below in the section "Status of Water Quality Standards and Thresholds".

Stream Environment Zones

Stream Environment Zones (SEZs) are perennial, intermittent, and ephemeral streams, meadows, wetlands, and other areas of surface water and near-surface groundwater within the Lake Tahoe Basin. The TRPA threshold for SEZs was designed to preserve existing naturally functioning riparian communities and to restore disturbed riparian communities to a naturally functioning hydrologic condition. The threshold standard requires that 25 percent of disturbed, developed, or subdivided SEZ lands be restored to attain a 5 percent increase in the overall area of naturally functioning SEZs in the Tahoe Region from the 1982 baseline.

Goals and Policies

TRPA has established a number of goals and policies related to water quality. Goals include the reduction of sediment and nutrients to Lake Tahoe and the elimination or reduction of other pollutants. Policies address a range of issues including snow removal, wastewater spill prevention, underground storage tanks, dredging, and reduction of impacts from motorized watercraft.

Code of Ordinances

The TRPA Code of Ordinances contains the requirements and standards intended to achieve water quality thresholds, goals, and policies. Sections 60.1 and 60.2 of the TRPA Code are directed specifically at water quality, but a number of other chapters and sections contain provisions related to design and installation of BMPs and standards for grading and excavation (Table 4.1-2).

Table 4.1-2 Water Quality Code Requirements Related to the Kings Beach State Recreation Area

Ordinance	Requirement
Section 33.4	Requirements for special investigations, reports, and plans, determined to be necessary by TRPA to protect the environment against significant adverse effects from grading projects.
Section 33.5	Requirements for grading and construction schedules when grading or construction is to occur pursuant to a TRPA permit.
Section 33.3	Standards for grading and excavation, including provisions for the protection of groundwater. Grading is permitted only between May 1 and October 15.
Chapter 35	Regulations pertaining to recognition of natural hazards, including floodplains, prevention of damage to property, and protection of public health relating to such natural hazards. The TRPA Code prohibits development, grading or filling of lands within 100-year floodplains with certain exceptions, including specific public outdoor recreation facilities, public health or safety facilities, access to buildable sites across a floodplain, and erosion control projects or water quality control facilities when it can be proven there are no viable alternatives and all potential impacts can be minimized (TRPA 2012a).
Section 60.1	Discharge standards for runoff and discharge to surface and groundwater.
Section 60.2	For projects that result in increased impervious coverage, implementation of off-site water quality control or stream environment zone mitigation projects is required; or payments into the Water Quality Mitigation Fund.
Section 60.4	Runoff shall be controlled with implementation of BMPs.
Section 84.12.2	Design and construction standards for jetties and breakwaters require sufficient openings to avoid interference with littoral drift.

Source: TRPA 2012a

Numerical discharge standard limitations are specified in the TRPA Code for nitrogen, phosphorus, iron, turbidity, suspended sediments, and grease and oil. Pollutant concentrations in surface runoff may not exceed the concentrations listed in Table 4.1-3 at the 90th percentile for discharge to surface waters. Surface runoff infiltrated into soils may not exceed the concentrations listed in Table 4.1-3 for discharge to groundwater. In addition to numerical discharge limits, TRPA Code also restricts the discharge of

wastewater and toxic substances, sets requirements for snow removal, sets requirements for salt and abrasive use, and sets criteria for pesticide use and fertilizer control.

Table 4.1-3 TRPA Discharge Limits for Surface Runoff and Discharge to Groundwater

Constituent	Maximum Concentration
Surface Runoff	
Dissolved Inorganic Nitrogen as N	0.5 mg/l
Dissolved Phosphorus as P	0.1 mg/l
Dissolved Iron as Fe	0.5 mg/l
Grease and Oil	2.0 mg/l
Suspended Sediment	250 mg/l
Discharge to Groundwater	
Total Nitrogen as N	5 mg/l
Total Phosphate as P	1 mg/l
Iron as FE	4 mg/l
Turbidity	200 NTU
Grease and Oil	40 mg/l

Source: TRPA 2012d

Water Quality Management Plan (208 Plan) for the Lake Tahoe Region

TRPA was designated as an area-wide regional planning agency under Section 208 of the CWA in 1974. Section 208 of the CWA (33 U.S. Code [USC] 466 et seq.) and the Code of Federal Regulations (CFR) (40 CFR Part 130 and Part 35) require the preparation of an area-wide management plan. TRPA developed a Water Quality Management Plan for the Lake Tahoe Region (208 Plan), which was most recently revised in 2012 (TRPA 2012e). The 208 Plan identifies water quality problems that have contributed to the degradation of Lake Tahoe and sets forth a series of control measures, including land use restrictions, wetland protection and restoration, a BMP Handbook, and a Capital Improvements Program of water quality improvements projects.

Placer County

Placer County Tahoe Basin Stormwater Management Plan

The Placer County Tahoe Basin Stormwater Management Plan (SWMP) (Placer County 2013d) describes the water quality improvements planned by the County to be implemented in compliance with the NPDES Phase I Municipal Permit No. CAG616001 Lahontan Regional Water Quality Control Board Order No. R6T-2011-0101A1, for the Lake Tahoe Basin. The SWMP contains a Pollutant Load Reduction Plan that is designed to meet the requirements of the Lake Tahoe TMDL. The SWMP also contains monitoring requirements and procedures for BMP and program modifications to insure that water quality standards for receiving waters are not exceeded.

Placer County General Plan

The Public Facilities and Services and Natural Resources Elements of the Placer County General Plan (Placer County 2005) include goals and policies intended to minimize impacts to property and hydrologic resources from stormwater runoff. Specific policies require new storm drainage systems to conform to the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the

County Land Development Manual (Policy 4.E.4), require implementation of stormwater BMPs on construction sites (Policy 6.A.5), and discourage grading during the rainy season (Policy 6.A.7).

4.1.2 Hydrology

This section describes the existing conditions and general hydrology of the KBSRA, including Lake Tahoe, watersheds, and floodplains. The KBSRA sits on the shoreline of Lake Tahoe, and encompasses upland and beach recreation amenities including parking, a playground, picnic facilities, beach access, a pier and a boat ramp.

LAKE TAHOE

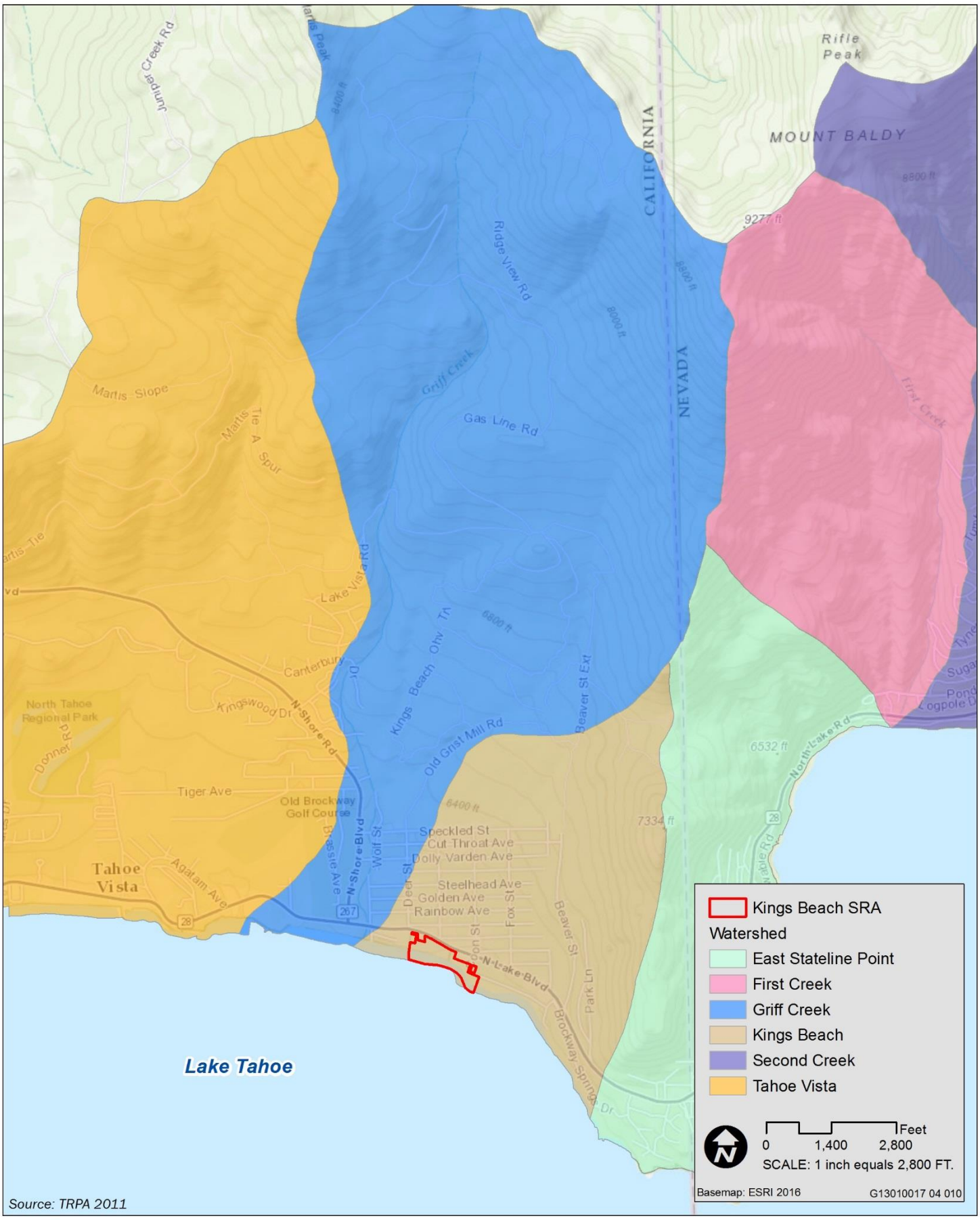
Lake Tahoe is a natural alpine lake that is approximately 12 miles wide and 22 miles long, with a surface area of 192 square miles, 75 miles of shoreline, and a maximum depth of 1,645 feet. The maximum high water elevation is 6,229 feet above sea level. The lake discharges through the dam at Tahoe City into the Truckee River, and lake level between the natural rim at 6,223 feet above sea level and the high water mark is controlled by these discharges. Kings Beach is located in Agate Bay, on the north shore of Lake Tahoe, and faces almost due south. The lakebed sediments in the KBSRA area of the lake are primarily medium sand (California Tahoe Conservancy 2015).

Littoral drift, otherwise known as longshore transport, refers to the transportation of sediments, such as sand, along the shoreline. Wave and current actions near the lake shoreline can affect sediment transport and, in turn, accumulation of beach sand along the shore and sediment deposition in the nearshore area. Disruption of these actions can alter natural deposition processes. This can in turn alter nearshore and shoreline erosion. Wind waves range from 0.8 to 8.2 feet with a period of 4 to 6 seconds, although the sediment loss in the area is relatively low compared to that at other Lake Tahoe beaches (California Tahoe Conservancy 2015).

Kings Beach is exposed to the longest fetch (i.e., the distance of lake surface over which waves are generated by the wind) across Lake Tahoe (22 miles from the southwest), and wind fields are diverse. It has a large, roughly triangular-shaped shallow shelf that is relatively flat. This beach configuration prevents immediate loss of beach sediment by preventing deep water waves from reaching the shoreline during low lake stands. Additionally, the offshore bathymetry (i.e., depth and topography) tends to bend the waves so that their approach is nearly normal to shore (i.e., straight on, rather than at an angle) over a substantial percentage of time, which may contribute to the low volume of sediment transported laterally along the beach. Because of the configuration and bathymetry of the beach, the maximum potential for erosion at this location is at the onset of a storm, when combined with a high lake level. Historic data (1939 to 2001) indicate that Kings Beach had an annual average sediment loss of just 39 cubic yards of sediment, which is low compared to other beaches around the lake. However, additional sediment loss occurs through wind erosion and deposition onto the adjacent parking lot, which has been observed regularly by CSP staff.

WATERSHEDS

KBSRA is located at the bottom of the Kings Beach watershed (Exhibit 4.1-1). The upper Kings Beach watershed is comprised of U.S. Forest Service and Conservancy lands and contains multiple non-motorized and off-highway vehicle trails. The lower portion of the Kings Beach watershed is dominated by the community of Kings Beach and contains residential, industrial, and commercial development; surface streets; and SR 28. Most of the Griff Creek watershed is forested upland, but the lower watershed in the vicinity of KBSRA includes a portion of the community of Kings Beach and similar land



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.1-1 Watersheds

uses, along with a golf course. The peak storm runoff in cubic feet per second (cfs) (Table 4.1-4) and pollutant loading (Table 4.1-5) for ephemeral drainages in the Kings Beach and Griff Creek watersheds were modeled for the Kings Beach Watershed Improvement Project area, a stormwater management project currently under construction by Placer County that includes KBSRA (Placer County 2006).

Table 4.1-4 Peak Discharge for Simulated Storms

Sub Basin[1]	2 year/1 hour		2 year/72 hour		25 year /1 hour		25 year/72 hour	
	Peak Flow (cfs)	Time to Peak (min)	Peak Flow (cfs)	Time to Peak (min)	Peak Flow (cfs)	Time to Peak (min)	Peak Flow (cfs)	Time to Peak (min)
Griff Watershed Outlet	18.4	68	329.1	810	53.8	50	1,199.6	805
Kings Beach Watershed – Deer Outlet	18.8	48	18.3	720	50.4	44	41.0	720
Kings Beach Watershed – Bear Outlet	13.2	78	30.0	720	48.0	54	76.8	720
Kings Beach Watershed – Coon Outlet	27.4	92	69.5	750	125.4	68	169.5	745

[1] Outlet refers to the total watershed contributing to Lake Tahoe. For example, Griff Outlet is the contribution of the entire Griff Creek watershed to the lake.

Source: Adapted from Placer County 2006

Table 4.1-5 Pollutant Loading

	Griff	Deer	Bear	Coon
Watershed Area (acres)	2,815.29	61.09	133.15	355.79
Pollutant load produced by each sub-watershed (tons/year):				
Nitrate (NO_3)	0.006	0.002	0.002	0.006
Total organic nitrogen	0.155	0.017	0.018	0.051
Soluble reactive phosphorus (SRP)	0.020	0.002	0.002	0.007
Total phosphorus (TP)	0.052	0.011	0.009	0.027
Total suspended solids (TSS)	6.889	3.804	2.733	7.666
Total:	**7.122**	**3.836**	**2.764**	**7.757**
Pollutant Load per acre (lbs/year):				
Total:	**5.06**	**125.59**	**41.52**	**43.60**

Source: Adapted from: Placer County 2006

FLOODPLAINS

The western portion of the KBSRA is located within a FEMA floodplain (Exhibit 4.1-2). The FEMA Flood Insurance Rate Map for Placer County, dated June 18, 1998 (Map Number 06061C0100 F), shows the area delineated as a Zone X floodplain. A Zone X floodplain is defined as an area of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. A Zone X floodplain typically defines the boundary of an area with moderate flood hazard.

GROUNDWATER

Groundwater monitoring well data were presented as part of the environmental analysis for the Kings Beach Watershed Improvement Project (Placer County 2008). Within Kings Beach, the groundwater table

is generally parallel to the ground surface and flows through KBSRA to Lake Tahoe. Within the larger Kings Beach Watershed Improvement Project area, which includes KBSRA, groundwater elevations range from 2.5 feet to 9 feet below ground surface depending on season.

4.1.3 Water Quality

The following section describes the existing water quality conditions within the KBSRA area, including the status of water quality standards and existing stormwater treatment facilities.

STATUS OF WATER QUALITY STANDARDS AND THRESHOLDS

Lake Tahoe TMDL Clarity Target

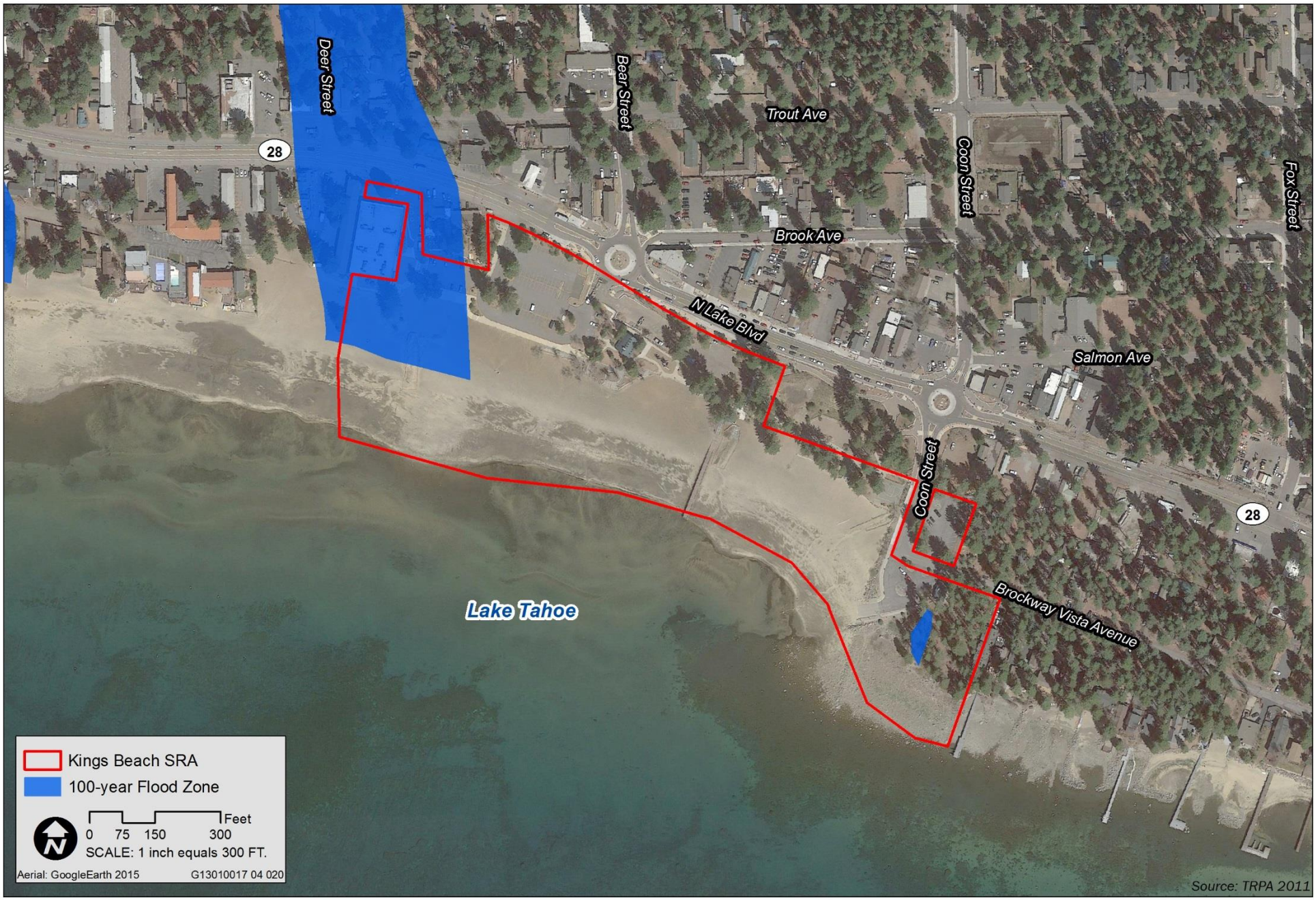
The 2015 Lake Tahoe TMDL Performance Report (Lahontan RWQCB and NDEP 2015) included information from UC Davis on the 2014 annual average Secchi depth, which was reported at 77.8 feet or just short of the 78-foot interim target for Lake Tahoe clarity identified in the TMDL. The performance report also acknowledged that, while encouraging, this clarity figure should be viewed in the context of multiple drought years.

Tahoe Regional Planning Agency Water Quality Thresholds

The TRPA 2012 Threshold Evaluation Report (TRPA 2012a) listed the status and trend of water quality thresholds for pelagic Lake Tahoe and tributaries. The status and trend for threshold indicators for water quality of surface runoff, discharge to groundwater, and other lakes were unknown. Overall, the status and trend of threshold indicators for pelagic Lake Tahoe showed a downward trend and a status of somewhat worse than target, although it showed improvement in the winter average Secchi depth indicator. The status of the tributary water quality indicators in 2012 was somewhat worse than target, with moderate improvement in trend.

Stormwater Management

Stormwater management in the vicinity of KBSRA is managed by Placer County under the SWMP and PRLP to meet the targets set forth by the Lake Tahoe TMDL. As of the 2013 Lake Tahoe Pollutant Load Reduction Progress Report (Placer County 2013d), projects implemented in the vicinity of KBSRA (Upper Cutthroat and Beaver Street Retrofit) have resulted in a reduction of an estimated 1,326 pounds per year of fine sediment discharged to Lake Tahoe. Currently, implementation of the Kings Beach Watershed Improvement Project includes stormwater treatment for the Kings Beach community and SR 28 corridor. Some of the stormwater treatment infrastructure for the Kings Beach Watershed Improvement Project is located within KBSRA, including four filtration vaults and associated outflows to Lake Tahoe (Exhibit 4.1-3). These features will be linked with existing infrastructure at KBSRA to convey and filter stormwater originating within KBSRA (Placer County 2008) (Exhibits 4.1-4a and 4.1-4b).

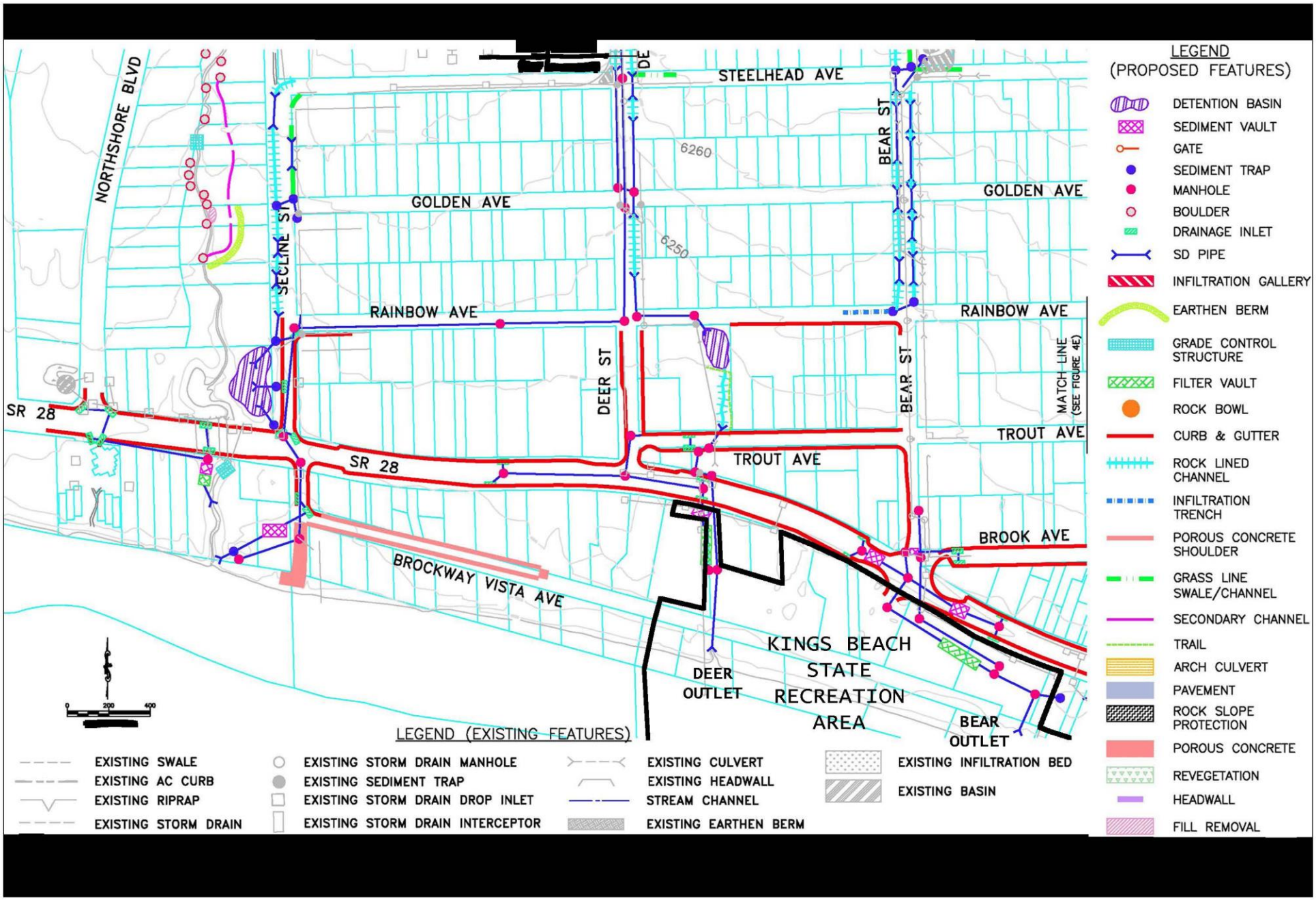


Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.1-2 FEMA Floodplain in Study Area

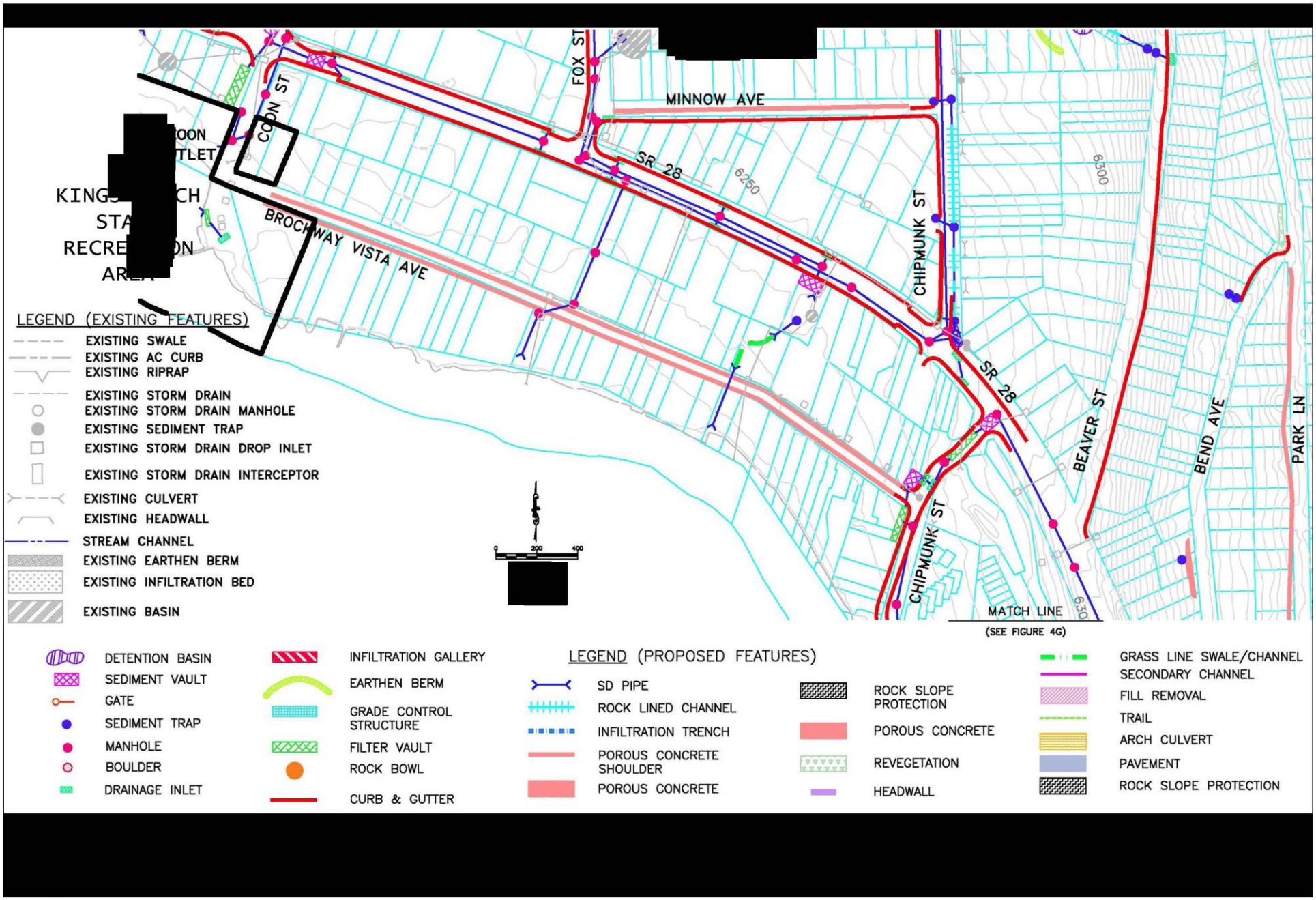
Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.1-3 On-Site Stormwater Treatment



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.1-4a Stormwater 1



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.1-4b Stormwater 2

4.2 NATURAL RESOURCES

This section describes the terrestrial and aquatic biological resources that are known or have the potential to occur in the Kings Beach State Recreation Area (KBSRA). Biological resources include common vegetation, wildlife, and fisheries; sensitive plant communities; and special-status plant and animal species. This section is organized into the following sub-sections:

- **Regulatory Setting** provides a summary of laws, regulations, and policies that apply to biological resources in and near KBSRA.
- **Land Cover and Habitat Types** describes the vegetation communities and other habitats within KBSRA.
- **Fisheries and Aquatic Resources** describes the fish habitat types in Lake Tahoe within KBSRA, and nonnative fish and aquatic invasive species with potential to occur there.
- **Sensitive Biological Resources** summarizes the sensitive natural communities and special-status plant and animal species known or with potential to occur within KBSRA.

4.2.1 Regulatory Setting

Federal, state, and local laws, regulations, and policies apply to biological resources within KBSRA and surrounding areas. Key regulations and conservation planning issues applicable to the project are discussed below.

FEDERAL

Federal Endangered Species Act

Pursuant to the federal Endangered Species Act (ESA) (16 U.S.C. Section 1531 et seq.), the U.S. Fish and Wildlife Service (USFWS) regulates the taking of terrestrial and freshwater species listed in the ESA as threatened or endangered. In general, persons subject to ESA (including private parties) are prohibited from "taking" endangered or threatened fish and wildlife species on private property, and from "taking" endangered or threatened plants in areas under federal jurisdiction or in violation of cooperative agreements established under Section 6 of the ESA. Under Section 9 of the ESA, the definition of "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." USFWS has also interpreted the definition of "harm" to include significant habitat modification that could result in take.

Two sections of the ESA address take. Section 10 regulates take if a non-federal agency is the lead agency for an action that results in take and no other federal agencies are involved in permitting the action. However, if a project would result in take of a federally listed species and federal discretionary action (even if a non-federal agency is the overall lead agency) is involved (i.e., a federal agency must issue a permit), the involved federal agency consults with USFWS or NMFS under Section 7 of the ESA. For example, if a project within KBSRA would require a federal discretionary action, such as an approval or action taken by the U.S. Bureau of Reclamation or the issuance of a Clean Water Act Section 404 permit by the U.S. Army Corps of Engineers (USACE), and that action could affect a federally listed species, the federal agency must consult with USFWS or NMFS under Section 7 of the ESA. Section 7 of the ESA outlines procedures for federal interagency cooperation to protect and conserve federally listed

species and designated critical habitat. Section 7(a)(2) requires federal agencies to consult with USFWS and NMFS to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act, enacted in 1918, domestically implements a series of international treaties that provide protection for migratory birds. It authorizes the Secretary of the Interior to regulate the taking of migratory birds and provides that it shall be unlawful, except as permitted by regulations, to pursue, take, or kill any migratory bird, or any part, nest, or egg of any such bird (16 USC 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the Migratory Bird Treaty Act includes several hundred species, which is essentially all the native birds, in the United States.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act, enacted in 1940 and amended multiple times since, prohibits the taking of bald and golden eagles without a permit from the Secretary of the Interior. Similar to the ESA, the Bald and Golden Eagle Protection Act defines "take" to include "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 USC 668-668c). For the purpose of the act, disturbance that would injure an eagle, decrease productivity, or cause nest abandonment, including habitat alterations that could have these results, are considered take and can result in civil or criminal penalties.

Executive Order 11990, Protection of Wetlands

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

Executive Order 13112, National Invasive Species Management Plan

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

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) establishes a requirement for a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters of the United States, interstate waters, all other waters where the use or degradation or destruction of the waters could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Under Section 404 of the CWA, USACE regulates and issues permits for activities that involve the discharge of dredged or fill materials into waters of the United States. Fill of less than 0.5 acre of nontidal waters of the United States for residential, commercial, or institutional development projects can generally be authorized under USACE's nationwide permit (NWP) program, provided that the project satisfies the terms and conditions of the particular NWP. Fill that does not qualify for a NWP requires a letter of permission or an individual permit.

Section 401 Water Quality Certification

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the State's water quality standards and criteria. In California, the authority to grant water quality certification is delegated by the State Water Resources Control Board to the nine regional water quality control boards (RWQCBs). The plan area is within the jurisdiction of the Lahontan RWQCB.

STATE

California Endangered Species Act

The California Endangered Species Act (CESA) prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing. Applicants may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated and the take would not jeopardize the continued existence of the species. "Take," under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include "harm" or "harass" as is included in the federal ESA. Actions that would disturb suitable unoccupied habitat for state-listed species, but would not directly or indirectly kill an individual of a listed species are not prohibited under the CESA.

California Fish and Wildlife Code Section 1602 – Lake and Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by the California Department of Fish and Wildlife (CDFW) (formerly California Department of Fish and Game) under Sections 1600 *et seq*. of the California Fish and Game Code. Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or use any material from the streambeds, without first notifying CDFW of such activity and obtaining a Lake or Streambed Alteration Agreement authorizing such activity. "Stream" is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

California Fish and Wildlife Code Sections 3503-3503.5 Protection of Bird Nests and Raptors

Section 3503 of the California Fish and Game Code states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3503.5 specifically states that it is unlawful to take, possess, or destroy any raptors (i.e., hawks, owls, eagles, and falcons), including their nests and eggs. Violations of these codes include destroying active nests by removing the vegetation in which the nests are located and disturbance of nesting pairs that results in the failure of active raptor nests.

California Native Plant Protection Act

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

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands

through the establishment of water quality objectives. RWQCB jurisdiction includes waters of the United States as well as areas that meet the definition of "waters of the state." Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under Clean Water Act Section 404 provided they meet the definition of waters of the state. Mitigation requiring no net loss of wetland functions and values of waters of the state is typically required by RWQCB.

Z'berg-Nejedly Forest Practice Act

The Z'berg-Nejedly Forest Practice Act (Forest Practice Act) and the associated California Public Resource Code (Division 4, Chapter 8) establish the authority for California Department of Forestry and Fire Protection (CAL FIRE) to act as the lead agency for timber harvest activities on non-federal land in the state. The Forest Practice Act was enacted to ensure that logging is done in a manner that will preserve and protect our fish, wildlife, forests, and streams. The California Forest Practice Rules (Title 14, California Code of Regulations) provide the explicit requirements by which Registered Professional Foresters prepare Timber Harvest Plans (THP) and by which CAL FIRE serves as the lead agency and reviews their completeness, adequacy, and enforceability. CAL FIRE is responsible for administering THP Regulations throughout California on all non-federal timberland. This applies regardless of zoning and includes lands inside of city limits. The removal of commercial timber species from forested areas is included under these regulations and may require a THP, a Timberland Conversion Permit, or another type of timber harvest plan exemption or emergency document, depending on project type.

REGIONAL AND LOCAL

Tahoe Regional Planning Agency

TRPA implements its authority to regulate growth and development in the Lake Tahoe Region through the Regional Plan. The Regional Plan includes the Goals and Policies, Environmental Threshold Carrying Capacities (threshold standards), Code of Ordinances, and other guidance documents.

Environmental Threshold Carrying Capacities

TRPA threshold standards have been established for fish, vegetation, and wildlife, among others. TRPA cannot approve projects that would interfere with attainment or maintenance of threshold standards. TRPA conducts a comprehensive reevaluation every four years to determine whether each threshold standard is being achieved and/or maintained, creates specific recommendations to address problem areas, and directs general planning efforts for the next four-year period.

The adopted TRPA threshold standards for vegetation, wildlife, and fisheries that are applicable to KBSRA are listed below. Table 4.2-1 summarizes the attainment status for vegetation, wildlife, and fisheries threshold standards from the 2011 Threshold Evaluation (TRPA 2012a).

Sensitive Plants

Maintain the following minimum number of population sites for TRPA special-interest plant species: Galena Creek rockcress (*Arabis rigidissima* var. *demota*) (seven sites); long-petaled lewisia (*Lewisia longipetala*) (two sites); Cup Lake draba (*Draba asterophora* var. *macrocarpa*) (two sites); Tahoe draba (*Draba asterophora* var. *asterophora*) (five sites); and Tahoe yellow cress (*Rorippa subumbellata*) (26 sites).

Late Seral/Old-Growth Ecosystems

Attain and maintain a minimum percentage of 55 percent by area of forested lands within the Tahoe Basin in a late seral or old-growth condition, and distributed across elevation zones. Forested lands within TRPA-designated urban areas are excluded in the calculations for threshold standard attainment.

Table 4.2-1 TRPA Vegetation, Wildlife, and Fisheries Resource Threshold Indicators and their Attainment Status

TRPA Threshold Indicator	2011 Attainment Status
Vegetation	
Common Vegetation—*Overall Status for Indicator Reporting Category*	Somewhat Worse than Target
Common Vegetation—Community Species Richness	At or Somewhat Better than Target
Common Vegetation—Proportion of Red Fir Stands in Small Diameter Size Class	Considerably Worse than Target
Common Vegetation—Proportion of Yellow Pine Stands in Small Diameter Size Class	Considerably Worse than Target
Common Vegetation—Relative Abundance of Meadows and Wetland Vegetation Types	Somewhat Worse than Target
Common Vegetation—Relative Abundance of Shrubs Vegetation Type	Considerably Better than Target
Common Vegetation—Relative Abundance of Deciduous Riparian Vegetation Type	Somewhat Worse than Target
Uncommon Plant Communities—*Overall Status for Indicator Reporting Category*	At or Somewhat Better than Target
Uncommon Plant Communities—Upper Truckee Marsh	Somewhat Worse than Target
Uncommon Plant Communities—Taylor Creek Marsh	At or Somewhat Better than Target
Uncommon Plant Communities—Pope Marsh	Somewhat Worse than Target
Uncommon Plant Communities—Osgood Swamp	Somewhat Worse than Target
Uncommon Plant Communities—Hell Hole	At or Somewhat Better than Target
Uncommon Plant Communities—Grass Lake	At or Somewhat Better than Target
Uncommon Plant Communities—Freel Peak	At or Somewhat Better than Target
Uncommon Plant Communities—Deep-Water Plants	Unknown (Insufficient Information)
Sensitive Plants—*Overall Status for Indicator Reporting Category*	Considerably Better than Target
Sensitive Plants—Tahoe Yellow Cress	Considerably Better than Target
Sensitive Plants—Tahoe Draba	Considerably Better than Target
Sensitive Plants—Long-petaled Lewisia	Considerably Better than Target
Sensitive Plants—Cup Lake Draba	Considerably Better than Target
Sensitive Plants—Galena Creek Rockcress	Unknown (Insufficient Information)
Late Seral/Old-Growth Ecosystems Overall and in Montane, Upper Montane, and Subalpine Elevation Zones	Considerably Worse than Target (overall and in all elevation zones)
Wildlife	
Special-Interest Species—*Overall Status for Indicator Reporting Category*	At or Somewhat Better than Target
Special-Interest Species—Northern Goshawk	Somewhat Worse than Target
Special-Interest Species—Osprey	Considerably Better than Target
Special-Interest Species—Bald Eagle–Nesting	At or Somewhat Better than Target
Special-Interest Species—Bald Eagle–Wintering	No target established
Special-Interest Species—Golden Eagle	Unknown (Insufficient Information)
Special-Interest Species—Peregrine Falcon	At or Somewhat Better than Target
Special-Interest Species—Waterfowl	Somewhat Worse than Target
Special-Interest Species—Deer	No target established
Habitats of Special Significance	Implemented/Attainment
Fisheries	
Lake Habitat	Somewhat Worse than Target
Stream Habitat	Unknown
Instream Flow	Implemented/Attainment
Lahontan Cutthroat Trout	Implemented/Attainment

Source: TRPA 2012a

Wildlife Species of Special Interest

Provide a minimum number of population sites for six TRPA special-interest wildlife taxa: northern goshawk (12 sites); osprey (four sites); bald eagle (two winter sites and one nesting site); golden eagle (four sites); peregrine falcon (two sites); and waterfowl (18 sites). Mule deer is also a special-interest species; however, no threshold site number for deer has been specified. Perching and nesting sites of special-interest bird species will not be physically disturbed. TRPA maintains a nondegradation standard within buffer zones ("disturbance zones") around nest sites of these species. In areas outside existing urban areas, projects or land uses within the disturbance zones will not, directly or indirectly, significantly affect the habitat or cause the displacement or extirpation of the population. Habitat within disturbance zones will not be manipulated in any manner, except for habitat enhancement. The disturbance zone for northern goshawk and bald eagle is a 0.5-mile radius around each nest site; the disturbance zone for osprey, peregrine falcon, and golden eagle is a 0.25-mile radius around each nest site. TRPA has also mapped disturbance zones for wintering bald eagles. Disturbance zones for deer are meadows.

The nondegradation standard in wildlife disturbance zones does not apply to situations where these species select areas in proximity to existing developed parcels.

Habitats of Special Significance

Apply a nondegradation standard to habitats consisting of deciduous trees, wetlands, and meadows (i.e., riparian, wetland, and meadow habitats) while providing for opportunities to increase the acreage of such riparian associations. This includes but is not limited to preserving existing natural functioning SEZ lands in their natural hydrologic condition, restoring all disturbed SEZ lands in undeveloped, unsubdivided lands, and restoring 25 percent of the SEZ lands that have been identified as disturbed, developed, or subdivided, to attain a 5 percent total increase in the naturally functioning SEZ land.

Lake Habitat

Apply a nondegradation standard to fish habitat in Lake Tahoe. Achieve the equivalent of 5,948 total acres of excellent (prime) habitat.

Lahontan Cutthroat Trout

Support, in response to justifiable evidence, state and federal efforts to reintroduce Lahontan cutthroat trout.

Regional Plan

Elements of the Regional Plan that pertain to biological resources are described below.

Goals and Policies

The Conservation Element (Chapter IV) of the TRPA Goals and Policies document establishes goals for the preservation, development, utilization, and management of natural resources within the Tahoe Basin. These policies and goals are designed to achieve and maintain adopted Environmental Threshold Carrying Capacities and are implemented through the TRPA Code of Ordinances (Code).

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

Chapter IV of the Goals and Policies identifies the following five goals for vegetation:

- provide for a wide mix and increased diversity of plant communities;

- provide for maintenance and restoration of such unique ecosystems as wetlands, meadows, and other riparian vegetation;
- conserve threatened, endangered, and sensitive plant species and uncommon plant communities;
- provide for and increase the amount of late seral/old-growth stands; and
- retain appropriate stocking level and distribution of snags and coarse woody debris in the region's forests to provide habitat for organisms that depend on such features and to perpetuate natural ecological processes.

The two goals identified for wildlife are as follows:

- maintain suitable habitats for all indigenous species of wildlife without preference to game or nongame species through maintenance of habitat diversity; and
- preserve, enhance, and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the Tahoe Basin.

The goal identified for fisheries is:

- improve aquatic habitat essential for the growth, reproduction, and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin.

The goal identified for SEZs is:

- provide for the long-term preservation and restoration of stream environment zones.

In addition to these broader goals identified within the Conservation Element, special attainment goals have been developed to further focus management efforts and provide a measure of progress. These attainment goals are defined by the TRPA threshold standards. The Conservation Element specifically identifies several attainment goals or threshold standards for certain vegetation and wildlife resources. TRPA threshold standards are discussed in the TRPA Environmental Threshold Carrying Capacities section below.

Code of Ordinances

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

Protection and Management of Vegetation

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

Protection of Sensitive and Uncommon Plants

Chapter 61, Section 61.3.6, Sensitive and Uncommon Plant Protection and Fire Hazard Reduction, of the TRPA Code establishes standards for preserving and managing sensitive plants and uncommon plant communities; these plants and communities are referenced below in the Environmental Threshold Carrying Capacities section. Projects and activities that are likely to harm, destroy, or otherwise jeopardize sensitive plants or their habitat must fully mitigate their significant adverse effects. Measures to protect sensitive plants and their habitat include:

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

Tree Removal

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

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

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

In addition, trees and vegetation not scheduled to be removed must be protected during construction in accordance with Chapter 33, Grading and Construction, Section 33.6, Vegetation Protection during Construction, of the TRPA Code of Ordinances.

If a project would result in substantial tree removal (as defined by TRPA Code Section 61.1.8), a tree removal or harvest plan must be prepared by a qualified forester. The required elements of this plan, and TRPA's review process for tree removal plans, are described in Chapter 61 (Section 61.1.5) of the TRPA Code.

The Code (Chapter 62) also provides quantitative requirements for snag and coarse woody debris retention and protection by forest type, in terms of size, density, and decay class.

Wildlife

TRPA sets standards for preserving and managing wildlife habitats, with special emphasis on protecting or increasing habitats of special significance, such as deciduous trees, wetlands, meadows, and riparian areas (TRPA Code, Chapter 62). Specific habitats that are protected include riparian areas, wetlands, and SEZs; wildlife movement and migration corridors; important habitat for any species of concern;

critical habitat necessary for the survival of any species; nesting habitat for raptors and waterfowl; fawning habitat for deer; and snags and coarse woody debris. In addition, TRPA special-interest species (also referred to as "threshold species"), which are locally important because of rarity or other public interest, and species listed under the ESA or California Endangered Species Act are protected from habitat disturbance by conflicting land uses.

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

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

- SEZs adjoining creeks and major drainages that link islands of habitat will be managed, in part, for use by wildlife as movement corridors. Structures, such as bridges, proposed within these movement corridors will be designed to avoid impairment of wildlife movement.
- Projects and activities in the vicinity of deer migration areas will be required to mitigate or avoid significant adverse impacts.

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

- No project or activity will cause, or threaten to cause, the loss of any habitat component considered critical to the survival of a particular wildlife species.
- No project or activity will threaten, damage, or destroy nesting habitat of raptors and waterfowl or fawning habitat of deer.
- Wetlands will be preserved and managed for their ecological significance, including their value as nursery habitat to fishes, nesting and resting sites for waterfowl, and as a source of stream recharge, except as permitted pursuant to Chapter 30 of the TRPA Code.
- No project or activity will be implemented within the boundaries of an SEZ except as otherwise permitted for habitat improvement, dispersed recreation, vegetation management, or as provided in Chapter 30 of the Code of Ordinances.

Fish Resources

Chapter 63, Fish Resources, of the TRPA Code includes provisions for the protection of fish habitat, enhancement of degraded habitat, and prevention of the introduction and spread of aquatic invasive species. For instream habitats, protection provisions include prohibiting stream channel alterations, facilitating fish movement at stream crossings, removing barriers to fish movement, mitigating impacts on fish habitat from development, maintaining instream flows, preventing sediment entry into the stream system, and encouraging native vegetative cover. For lake habitat, protections include prohibitions on the physical alteration of the substrate, and limits or prohibitions on other activities, in areas of "prime" fish habitat (defined and mapped by TRPA as spawning habitat and feed and cover habitat) unless approved by TRPA; temporary restrictions on certain activities such as construction, swimming, or boating in areas where spawning occurs; and other provisions.

The maintenance of essential habitat serves as the fisheries management emphasis for the Conservation Element of TRPA's Goals and Policies. The first goal of the Conservation Element for fisheries is to "improve aquatic habitat essential for the growth, reproduction and perpetuation of existing and threatened fish resources in the Lake Tahoe Basin." For streams within the Tahoe Basin, management focus is on the quality and quantity of habitat provided for fish species, including spawning and rearing habitat, food supply, and cover. The Conservation Element identifies the following five policies related to instream fish habitat:

- Development proposals affecting streams, lakes, and adjacent lands will evaluate impacts on the fishery.
- Unnatural blockages and other impediments to fish movement will be prohibited and removed wherever appropriate.
- Habitat improvement projects in streams and lakes will be encouraged.
- Instream flows will be maintained or enhanced.
- State and federal efforts to reintroduce Lahontan cutthroat trout will be supported.

Aquatic Invasive Species

Section 63.4 of the TRPA Code, "Aquatic Invasive Species," states that "Aquatic Invasive Species pose a serious threat to the waters of the Lake Tahoe region and can have a disastrous impact to the ecology and economy of the Tahoe region." Section 63.4 includes the following provisions necessary to prevent the introduction and spread of aquatic invasive species:

- Prohibition on the transport or introduction of aquatic invasive species into the Lake Tahoe Region.
- Prohibition on the launching of any watercraft or landing of any seaplane contaminated with aquatic invasive species into the waters of the Tahoe Region.
- Prohibition on the provision of inaccurate or false information to the TRPA or persons designated to conduct inspections pursuant to subsection 63.4.2.
- Prohibition on the alteration or modification of any inspection seal or other device used by TRPA or its designee to indicate that a watercraft or seaplane last entered the waters of the Lake Tahoe Region.
- All motorized watercraft will be inspected by TRPA or its designee prior to launching into the waters of the Lake Tahoe Region to detect the presence, and prevent the introduction of, aquatic invasive species. Non-motorized watercraft and seaplanes may be subject to an inspection prior to entering the waters of the Lake Tahoe Region if determined necessary by TRPA or its designee.
- All watercraft and seaplanes inspected pursuant to subparagraph 63.4.2.A will be subject to decontamination if determined necessary by TRPA or its designee.
- All watercraft and seaplanes subject to decontamination pursuant to subparagraph 63.3.2.B will be permitted to enter the waters of the Lake Tahoe Region only if: (a) the decontamination is performed and completed by an individual trained and certified pursuant to TRPA standards and requirements for aquatic invasive species decontamination, and (b) following decontamination, the launch or landing, as appropriate, is authorized by an inspector trained and certified pursuant to TRPA's standards and requirements for aquatic invasive species inspections.

- Inspections and decontaminations performed pursuant to Section 63.4 will be subject to a fee related to the costs of performing such services and other watercraft inspection program costs. The TRPA Governing Board will review and approve the fee amount and structure annually.
- An owner and/or operator of a boat ramp (excluding Marine Railway Systems) or other boat launch facility will close any ramp or facility if the provisions of subparagraphs 63.4.2.A-C are not met in order to prevent the launching of motorized watercraft.
- Any watercraft or seaplane entering the waters of the Lake Tahoe Region in violation of Chapter 63 will be removed from those waters immediately.
- Any individual who launches watercraft in violation of Section 63.4 may be held responsible for the costs expended by TRPA or its designee for response and mitigation of impacts.

Placer County

Policies and Ordinances

The following regulations from the Placer County Code of Ordinances are applicable to biological resources in portions of KBSRA.

Article 12.16. Tree Preservation Generally (Countywide)

Riparian Zone Requirements. No tree permit or discretionary approval for any development activity within a riparian zone shall be approved until environmental impacts within the riparian zone are identified, an environmental determination is made and the mitigation measures identified (Chapter 18, Placer County Code). Additionally, no development activity shall be permitted until any stream alteration agreement or mitigation agreements required by CDFW have been completed.

Removal of More than Fifty Percent of Trees. Except for developed, single-family residential lots that cannot be subdivided, the removal of more than 50 percent of existing native trees, 6 inches dbh or greater, shall be subject to the issuance of a tree permit.

Article 12.20. Tree Preservation in Area East of Sierra Summit

No person shall cut down, move, remove, kill, or materially damage any live tree 6 inches dbh or over, or attach any appurtenance to a tree, without first having obtained a tree cutting permit from the permit-issuing authority, unless such tree is located on lands devoted to the growing and harvesting of timber for commercial purposes for which permits have been granted permitting timber harvesting. Such permit shall be unnecessary for the removal of trees proposed to be removed as approved in connection with the approval by the agency of a tentative map under the subdivision ordinance, except where such subdivision involves a land use conversion, or for the removal of trees as permitted under a permit issued pursuant to the grading ordinance, provided, however, that the standards contained in this article shall also be applicable to the approval of a tentative and final subdivision map and to the issuance of a grading permit.

4.2.1 Land Cover and Habitat Types

KBSRA is located mostly within a commercial and residential development area. Areas north of and adjacent to KBSRA include commercial and residential development (including buildings, parking lots, and roads), a major highway corridor (Highway 28), and disturbed conifer forest in undeveloped areas. Adjacent areas south, west, and east of KBSRA consist mostly of Lake Tahoe and its shorezone, and residential and commercial development.

KBSRA is characterized by a mix of urban land cover and uses (e.g., parking lots, boat launch) and natural habitats subject to high levels of recreation and other disturbances. Natural habitats within KBSRA include Lake Tahoe and its beach, and disturbed remnants of conifer forest. Vegetation/land cover types within the KBSRA were mapped using USFS Region 5 EVeg data (USFS 2014) and high resolution aerial imagery. Land cover types were classified according to the California Wildlife Habitat Relationships system (CDFW 2012). Additionally, fish habitat types in Lake Tahoe were further classified and mapped based on substrate characteristics using TRPA's fish habitat map and a recent field verification (California Tahoe Conservancy 2015), as described below in Section 4.2.3, "Fisheries Aquatic Resources."

Four upland and aquatic land cover types covering approximately 15.7 acres were classified and mapped in KBSRA. Upland types are Jeffrey pine (1.6 acres), barren (7.1 acres), and urban (4.3 acres). Areas classified as barren consist primarily of beach habitat along Lake Tahoe. Aquatic habitat (lacustrine, 2.7 acres) consists of Lake Tahoe. Exhibit 4.2-1 shows the distribution of these habitat types in KBSRA.

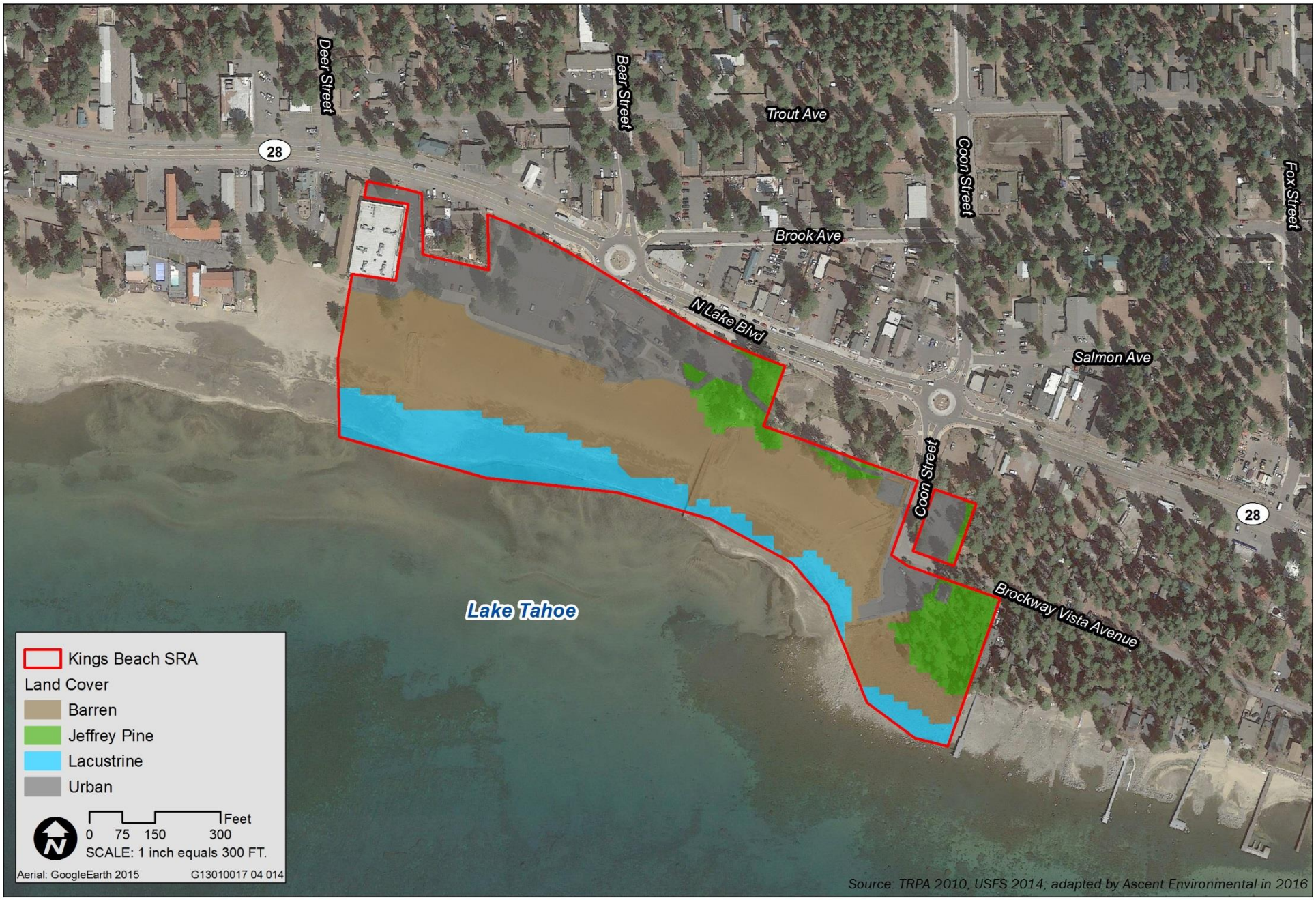
Because of the developed or disturbed conditions and land uses in and near KBSRA and the presence of SR 28, the existing level of disturbance on and adjacent to KBSRA is high. Most wildlife species observed or likely to use KBSRA are common species associated with urban and residential areas in the Tahoe Basin, including: Steller's jay (*Cyanocitta stelleri*), pygmy nuthatch (*Sitta pygmaea*) mountain chickadee (*Poecile gambeli*), western gray squirrel (*Sciurus griseus*), and Douglas' squirrel (*Tamiasciurus douglasii*). Special-status species and other sensitive resources are addressed in Section 4.2.3, "Sensitive Biological Resources."

4.2.2 Fisheries and Aquatic Resources

TRPA-DESIGNATED FISH HABITAT

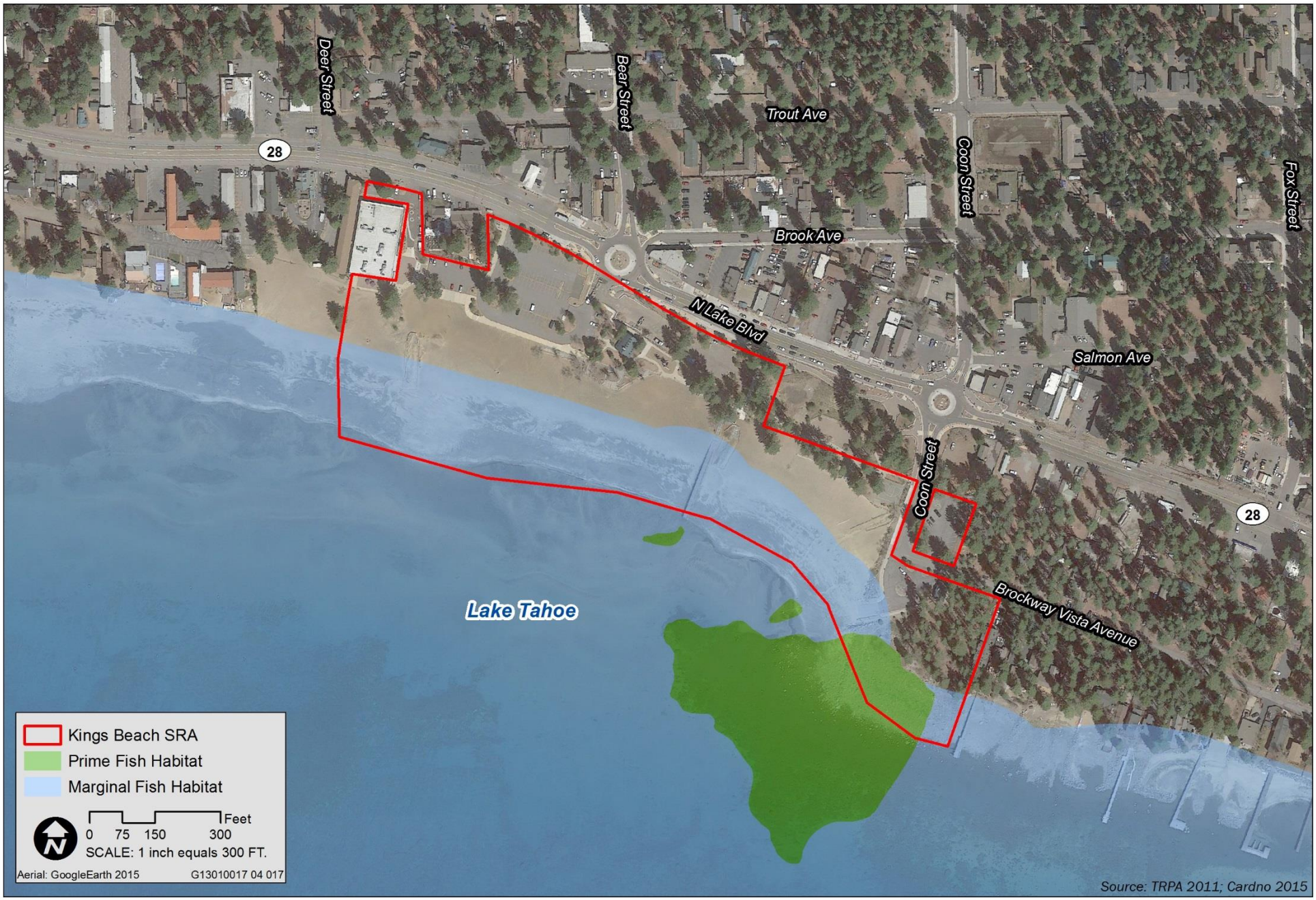
Aquatic habitat within KBSRA consists of Lake Tahoe. TRPA has designated and mapped different types and qualities of fish habitat in Lake Tahoe. "Prime" fish habitat includes spawning habitat and feed and cover habitat, and is one of TRPA's threshold indicators for fisheries. Spawning habitats are composed 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 that are used by a variety of native and non-native species as foraging habitat and to provide refuge from predation.

In 2015, fish habitat in KBSRA was surveyed in detail by a Cardno fisheries biologist, to field-verify TRPA's general fish habitat map and delineate any prime habitat based on field data (California Tahoe Conservancy 2015). The 2015 field study identified and mapped prime fish habitat in KBSRA as a zone of gravel, cobble, and boulder substrate reaching from locations directly offshore of the existing boat ramp and extending to and east of the eastern edge of the KBSRA project area. To the west, this prime habitat zone is bordered by sand substrate encompassing the existing pier and the remainder of KBSRA. Such areas of sand substrate are considered marginal fish habitat. Overall, the 2015 survey identified more marginal habitat than was estimated in TRPA's general fish habitat map. The majority of the prime habitat zone is considered feed and cover habitat, while the north-eastern edge of the prime habitat is considered spawning habitat. TRPA-designated fish habitat in KBSRA, as verified and refined by Cardno in 2015, is shown in Exhibit 4.2-2. TRPA and the Lahontan Regional Water Quality Control Board (Lahontan Water Board) have requested field verification of Cardno's survey results by CDFW to confirm modifications to the designated fish habitat area.



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.2-1 Land Cover



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.2-2 Fish Habitat

NONNATIVE FISH AND AQUATIC INVASIVE SPECIES

Nonnative aquatic invasive species have become a priority for prevention and control in the Tahoe Basin. The Lake Tahoe Region Aquatic Invasive Species Management Plan (USACE 2009) details past introductions of aquatic nonnative and invasive species, their current status, priority threats, and future management strategies to avoid additional introductions and spread of current nonnative invasive populations (USACE 2009). Two invasive nonnative aquatic mussels – quagga mussel (*Dreissena bugensis*) and zebra mussel (*Dreissena polymorpha*) – and an invasive aquatic snail – New Zealand mudsnail (*Potamopyrgus antipodarum*) – are not present in the Tahoe Basin and are of particular concern due to their expanding range elsewhere, highly invasive nature, and potential to disrupt ecosystem functions. Aquatic invasive species of serious concern that are present in the Lake Tahoe area include Asian clam (*Corbicula fluminea*), bullfrog (*Rana catesbeiana*), Eurasian watermilfoil (*Myriophyllum spicatum*; an aquatic weed), and curlyleaf pondweed (*Potamogeton crispus*; an aquatic weed).

Nonnative introduced salmonid species that are present in Tahoe area streams and lakes are lake trout (*Salvelinus namaycush*), brook trout (*S. fontinalis*), rainbow trout (*Oncorhynchus mykiss*), and brown trout (*Salmo trutta*). Several warm-water fish species have also been introduced into Lake Tahoe and some tributary streams, including bluegill sunfish (*Lepomis macrochirus*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*M. dolomieu*), and brown bullhead catfish (*Ictalurus nebulosus*) (California State Parks et al. 2010). Some of these species have potential to occur in Lake Tahoe within KBSRA.

4.2.3 Sensitive Biological Resources

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

The California Natural Diversity Database (CNDDB) and its geographic information system (GIS) application, the California Native Plant Society (CNPS) online *Inventory of Rare and Endangered Plants*, TRPA GIS data, and LTBMU GIS data were used as the primary sources to identify and map previously reported occurrences of special-status species and sensitive natural communities within the study area. The CNDDB is a California statewide database managed by CDFW that is continually updated with the location and condition of the state's rare and declining species and habitats. Although the CNDDB is the most current and reliable tool available for tracking occurrences of special-status species in California, it contains only those records that have been reported to CDFW. TRPA and USFS-LTBMU GIS data are supplemented and updated annually based on survey results or other confirmed occurrence records provided to the agencies.

SENSITIVE NATURAL COMMUNITIES

Sensitive natural habitats may be of special concern to agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status and limited distribution, or because they provide important habitat to common and special-status species. Most types of wetlands and riparian communities are considered sensitive natural communities due to their limited distribution in California. In addition, sensitive natural communities include habitats that are subject to USACE jurisdiction under Section 404 of CWA, Section 1602 of the California Fish and Game Code, and the state's Porter-Cologne Water Quality Control Act, which protects waters of the state. In KBSRA, sensitive natural communities include Lake Tahoe and SEZ lands.

SPECIAL-STATUS SPECIES

Special-status species include plants and animals that are legally protected or otherwise considered sensitive by federal, state, or local resource agencies and conservation organizations. No special-status plant species are currently known to occur within KBSRA. The data review identified 22 special-status plant species known to occur in the vicinity of KBSRA. Of these species, KBSRA provides potential habitat for one special-status plant, Tahoe yellow cress (TYC), discussed below. The other 21 species were determined to have a low or no potential to occur in KBSRA because either no suitable habitat is present (due to lack of suitable land cover types, high levels of disturbance, or habitat modification) or because known occurrences occur outside the elevational range of KBSRA. Special-status species are defined as plants and animals in the following categories.

- Listed or proposed for listing as threatened or endangered under ESA.
- Designated as a candidate for listing as threatened or endangered under ESA.
- Designated as a sensitive, special-interest, or threshold species by TRPA.
- Listed or proposed for listing as threatened or endangered under CESA.
- Listed or a candidate for listing by the state of California as threatened or endangered under CESA.
- Listed as fully protected under the California Fish and Game Code.
- Animals identified by CDFW as species of special concern.
- Plants considered by CDFW to be "rare, threatened or endangered in California" (California Rare Plant Ranks [CRPR] of 1A, presumed extinct in California; 1B, considered rare or endangered in California and elsewhere; and 2, considered rare or endangered in California but more common elsewhere). The California Rare Plant Ranks correspond with and replace former CNPS listings. While these rankings do not afford the same type of legal protection as ESA or CESA, the uniqueness of these species requires special consideration under CEQA.
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section 15125 (c)), or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G).
- Otherwise meets the definition of rare or endangered under CEQA Section 15380(b) and (d).

Plants

A preliminary list of special-status plant species with potential to occur in KBSRA was developed based on a review of the following:

- the California Native Plant Society (CNPS) online Inventory of Rare and Endangered Plants;
- a list of special-status species known to occur within 5 miles of KBSRA, obtained from the California Natural Diversity Database;
- a list of taxa designated by TRPA as sensitive or threshold species (TRPA 2012a); and
- a list of federally endangered, threatened, or candidate species that may be affected by projects in the Tahoe Basin (USFWS 2011).

Tahoe Yellow Cress

TYC occurs only on the sandy beaches of Lake Tahoe. This species is designated as a sensitive plant and threshold indicator species by TRPA; and is listed as endangered in California under CESA.

The distribution and abundance of TYC are closely linked to lake level, with greater abundance and more occurrences present during low lake levels when more beach habitat is available for colonization (Pavlik et al. 2002). The species exhibits a metapopulation dynamic, where populations or clusters of plants at some locations may periodically disappear or decline in number in some years (e.g., in high water years), and TYC may recover or colonize exposed suitable habitats during other periods (Pavlik et al. 2002). The timing and probability of these dynamic extirpation and colonization events depend primarily on lake level and disturbances from recreation or development, but also on the biophysical characteristics of the sites themselves. The primary anthropogenic disturbances to this species are recreational use of beaches occupied by TYC and development of marinas, boat ramps, and piers, which result in trampling and degradation or loss of habitat.

Although potential habitat exists in the beach areas of KBSRA, and some TYC occurrences have been documented on beaches near KBSRA, TYC is not known to occur in KBSRA. The TYC Adaptive Management Working Group (AMWG) conducts regular population surveys at known and potential TYC population sites. KBSRA is not regularly surveyed for TYC by the AMWG because of lack of prior presence and heavy recreational use (California Tahoe Conservancy 2015). However, KBSRA was surveyed in 2015 by California Tahoe Conservancy staff. No TYC plants were found during the 2015 survey (California Tahoe Conservancy 2015).

Animals

A preliminary list of special-status animal species known or with potential to occur in the KBSRA was developed based on a review of the following:

- a list of species that are Federally listed as endangered or threatened, or candidate species that may be affected by projects in the Tahoe Basin (USFWS 2011);
- a list of special-status species known to occur within 5 miles of KBSRA, obtained from the California Natural Diversity Database.
- a list of taxa designated by TRPA as special-interest or threshold species (TRPA 2012a); and
- TRPA and USFS-LTBMU GIS data for wildlife surveys and special-interest species monitoring.

The preliminary data review identified 10 special-status wildlife species and two special-status fish species that could occur on or near the project site. Of these 10 species, seven are not expected to occur or have a low potential to occur, and three (waterfowl, osprey, and bald eagle) have a moderate to high likelihood to occur or are known to occur. This determination was based on the types, extent, and quality of habitats on the project site the proximity of the project site to known occurrences of the species; and the regional distribution and abundance of the species. The potential for Lahontan Cutthroat Trout (LCT) to occur is considered low, but because they have been re-introduced into Lake Tahoe, LCT, waterfowl, bald eagle, and osprey are discussed below.

Waterfowl

"Waterfowl" is designated as a special interest species by TRPA. Several waterfowl species occur in the Tahoe Basin during spring and summer months including Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), green-winged teal (*Anus crecca*), common merganser (*Mergus merganser*), and ruddy duck (*Oxyura jamaicensis*). In the Tahoe Basin, wetlands provide nesting, resting, and foraging habitat for waterfowl. Important areas for waterfowl include Pope Marsh, Truckee Marsh, Taylor Creek Marsh,

Grass Lake, and Spooner Lake (TRPA 2012a). In KBSRA, Lake Tahoe and its beach provides suitable foraging and resting habitat for several waterfowl species during summer and winter. However, waterfowl are not expected to nest in KBSRA due to high levels of disturbance.

Bald Eagle and Osprey

Bald Eagle and osprey are designated by TRPA as special-interest species. Bald eagle is also federally protected by USFWS under the Bald and Golden Eagle Protection Act. Osprey is associated with large fish-bearing waters. In the Tahoe Basin, osprey nests are distributed primarily along the northern portion of the east shore and southern portion of the west shore of Lake Tahoe. Other osprey nests in the Tahoe Basin are located along the shorelines of smaller lakes (such as Fallen Leaf Lake) and in forest uplands up to 1.5 miles from water. Ospreys forage in Lake Tahoe as well as several other fish-bearing lakes, streams, and rivers within the Tahoe Basin. Bald eagles require large bodies of water or free-flowing streams with abundant fish and adjacent snags or other perches for hunting. They generally nest in undisturbed coniferous forests, usually within a mile of a lake or reservoir. Bald eagle habitat typically consists of several components, most significantly, proximity to large bodies of water and wetlands associated with lakes, mature coniferous stands with presence of dominant trees, and adequate protection from human disturbance. Bald eagles are known to nest within the Tahoe Basin, including Emerald Bay and Marlette Lake.

Neither of these species nests within KBSRA. Ospreys likely forage in Lake Tahoe in the vicinity of the project and could perch in trees along the shoreline in the project area. Bald eagle could also forage or perch in the project area throughout the year, particularly during winter when the abundance of bald eagles in the Tahoe Basin is greatest.

Lahontan Cutthroat Trout

Lahontan cutthroat trout (LCT) is listed as a threatened species under the federal ESA. It is the only salmonid native to lakes and streams in the Tahoe Basin. It is found in both lake and stream habitats, but spawn in stream environments. LCT requires gravels and riffles for spawning, and generally does not persist or occur with nonnative salmonids. Several efforts have been made to restore Lahontan cutthroat trout populations in streams and small lakes; however, reintroduction efforts in the Tahoe Basin have been hampered by the presence of nonnative trout, which compete with, predate on, and/or hybridize with Lahontan cutthroat trout (California State Parks, et al 2010). The most recent effort toward reintroducing Lahontan cutthroat into Lake Tahoe itself, for recreational purposes, began during the summer of 2011. The Nevada Department of Wildlife stocked approximately 22,000 Lahontan cutthroat trout in Lake Tahoe (near Cave Rock) as part of its efforts to begin stocking native aquatic species for the benefit of anglers. Because of these reintroduction efforts, USFWS considers Lake Tahoe to be occupied habitat and a consultation with USFWS will be required for projects that disturb in-lake habitat.

4.3 AIR QUALITY

This section provides an overview of the air quality conditions within the Kings Beach State Recreation Area (KBSRA). It is divided into the following subsections:

- **Regulatory Setting** provides an overview of applicable laws, policies, statutes, and regulations within the vicinity of KBSRA.
- **Air Quality** in KBSRA provides a description of known air pollutants and a summary of existing air quality conditions with KBSRA.

4.3.1 Regulatory Setting

FEDERAL

The U.S. Environmental Protection Agency (EPA) has been charged with implementing national air quality programs. EPA air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments to the CAA were made by Congress in 1990.

Criteria Air Pollutants

The CAA required EPA to establish National Ambient Air Quality Standards (NAAQS). As shown in Table 4.3-1, EPA has established primary and secondary NAAQS for the following criteria air pollutants (CAPs): ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan, referred to as a state implementation plan (SIP), for areas that do not attain the NAAQS. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines an SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the non-attainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and permitting of stationary air pollution sources in the nonattainment air basin. A brief description of each CAP source types and health effects is provided in Table 4.3-2.

Ozone

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air in large amounts, but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_X) in the presence of sunlight (EPA 2012). ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X includes a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels. Emissions of the ozone precursors ROG and NO_X have decreased over the past two decades because of more stringent motor vehicle standards and cleaner burning fuels (California Air Resources Board [ARB] 2014:3-4 and 4-46).

Table 4.3-1 Ambient Air Quality Standards and Designations

Pollutant	Averaging Time	California [a,b]	National [c]	
			Primary [b,d]	Secondary [b,e]
Ozone	1-hour	0.09 ppm (180 µg/m³)	–[e]	Same as primary standard
	8-hour	0.070 ppm (137 µg/m³)	0.075 ppm (147 µg/m³)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m³)	35 ppm (40 mg/m³)	Same as primary standard
	8-hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	
Nitrogen dioxide (NO_2) [g]	Annual arithmetic mean	0.030 ppm (57 µg/m³)	53 ppb (100 µg/m³)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m³)	100 ppb (188 µg/m³)	–
Sulfur dioxide (SO_2)	Annual arithmetic mean	–	0.030 ppm	–
	24-hour	0.04 ppm (105 µg/m³)	0.14 ppm	
	3-hour	–	–	0.5 ppm (1,300 µg/m³)
	1-hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	–
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m³	–	Same as primary standard
	24-hour	50 µg/m³	150 µg/m³	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m³	12.0 µg/m³	15.0 µg/m³
	24-hour	–	35 µg/m³	
Lead [f]	Calendar quarter	–	1.5 µg/m³	Same as primary standard
	30-Day average	1.5 µg/m³	–	–
	Rolling 3-Month Average	–	0.15 µg/m³	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m³)	No national standards	
Sulfates	24-hour	25 µg/m³		
Vinyl chloride [f]	24-hour	0.01 ppm (26 µg/m³)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: µg/m³ = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million

[a] California standards for ozone, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California Ambient Air Quality Standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] Concentration expressed first in units in which it was issued. Equivalent units given in parentheses are based on a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25 degrees Celsius and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[c] National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over three years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over three years, are equal to or less than the standard.

[d] National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[e] National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[f] The California Air Resources Board (ARB) has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Sources: ARB 2013a, ARB 2013b; EPA 2015

Table 4.3-2 Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Acute[1] Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	headache, dizziness, fatigue, nausea, vomiting, death	permanent heart and brain damage
Nitrogen dioxide (NO_2)	combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	alterations to the immune system, carcinogenesis
Lead	metal processing	reproductive/developmental effects (fetuses and children)	numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases
[1] "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.
[2] "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.
Source: EPA 2014a

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2014b).

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (ARB 2014a:1-13 and 3-6; EPA 2012). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} have increased slightly over the last 20 years, and are projected to continue to increase slightly through 2035 (ARB 2014a:3-7). $PM_{2.5}$ emissions have remained relatively steady over the last 20 years and are projected to decrease slightly through 2035 (ARB 2014a:3-6).

Hazardous Air Pollutants

EPA has programs for identifying and regulating hazardous air pollutants (HAPs). Title III of the CAA directed EPA to promulgate national emissions standards for HAPs. The national emissions standards for HAPs may differ for major sources and for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year of any HAP or more than 25 tons per year of any combination of HAPs; all other sources are considered area sources.

REGIONAL AND LOCAL

Tahoe Regional Planning Agency

TRPA's Environmental Threshold Carrying Capacities (threshold standards) address CO, ozone, regional and sub-regional visibility, and nitrate deposition. Numerical standards have been established for each of these parameters, and management standards have been developed that are intended to assist in attaining the threshold standards. The management standards include reducing particulate matter, maintaining levels of NO_X, reducing traffic volumes on US Highway 50 (US 50), and reducing vehicle miles traveled. These threshold standards and associated management standards are described in more detail in the TRPA Regional Plan Goals and Policies, Attachment 1 (TRPA 2012d). In addition, the Tahoe Regional Planning Compact between California and Nevada states that the Regional Plan shall provide for attaining and maintaining federal, state, or local air quality standards, whichever are strictest, in the respective portions of the Region for which the standards are applicable (TRPA 2012a).

Mobility 2035: Lake Tahoe Regional Transportation Plan

In 2012, the Tahoe Metropolitan Planning Organization (TMPO) prepared the *Mobility 2035: Lake Tahoe Regional Transportation Plan* (RTP), which seeks to improve mobility and safety for the commuting public while at the same time delivering environmental improvements throughout the transportation network in the Lake Tahoe Basin. Important directions of the plan are to reduce the overall environmental impact of transportation in the Region, create walkable, vibrant communities, and provide real alternatives to driving. The plan also supported an update of the Transportation Element of the Tahoe Regional Planning Agency (TRPA) Regional Plan. Finally, the plan met the challenge of California's Senate Bill 375 by presenting an integrated land use and transportation strategy that will allow the Region to achieve targets for reducing greenhouse gas (GHG) emissions by 2035.

Placer County Air Pollution Control District

Criteria Air Pollutants

Placer County Air Pollution Control District (PCAPCD) attains and maintains air quality conditions in Placer County, including the KBSRA, through comprehensive programs of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. These clean-air strategies include preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution and respond to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, the CAA Amendments, and the California Clean Air Act (CCAA). All projects in Placer County are subject to adopted PCAPCD rules and regulations in effect at the time of construction.

Toxic Air Contaminants

At the local level, air districts may adopt and enforce ARB's control measures. All sources with the potential to emit TACs are required to obtain permits from the district under PCAPCD Rule 501 ("Permit Requirements") and PCAPCD Rule 502 ("New Source Review"). Permits may be granted to these

operations if they are constructed and operated in accordance with applicable regulations, including new-source review standards and air toxics control measures.

Sources that require a permit are analyzed by PCAPCD (e.g., health risk assessment) based on their potential to emit TACs. If it is determined that a source would emit TACs in excess of PCAPCD standards, then the source is required to implement BACT. If a source cannot reduce the risk below the threshold of significance even after the BACT has been implemented, the air district will deny the permit required by the source.

Fugitive Dust

PCAPCD is also responsible for implementing and enforcing fugitive dust control measures through implementation of PCAPCD Rule 228. Rule 228 includes standards and best construction practices intended to limit the emission of fugitive dust. Regulated activities include and activity or man-made condition capable of generating fugitive dust. However active operations on State lands are exempt from this rule.

Placer County General Plan

The Placer County General Plan Air Quality Element provides County-wide goals and policies aimed at improving air quality (Placer County 1994). Goals and policies in the Air Quality Element parallel those identified in the state and federal plans applicable to Placer County. The following policies are relevant to KBSRA and related to Goal 6.F of the General Plan, which is "to protect and improve air quality in Placer County":

- **Policy 6.F.1:** The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management.
- **Policy 6.F.2:** The County shall develop mitigation measures to minimize stationary-source and area-source emissions.
- **Policy 6.F.3:** The County shall support the PCAPCD in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.
- **Policy 6.F.4:** The County shall solicit and consider comments from local and regional agencies on proposed project that may affect regional air quality.
- **Policy 6.F.5:** The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of County-wide indirect and area-wide source programs and transportation control measures programs. Project review shall also address energy efficient building and site designs and proper storage, use, and disposal of hazardous materials.

STATE

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the CCAA. California law authorizes ARB to set ambient (outdoor) air pollution standards (California Health and Safety Code Section 39606) in consideration of public health, safety, and welfare.

Criteria Air Pollutants

ARB has established California Ambient Air Quality Standards (CAAQS) for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. (These are the same pollutants for which EPA established the National Ambient Air Quality Standards (NAAQS).) ARB has also established CAAQS for sulfates, hydrogen sulfide, vinyl

chloride, and visibility-reducing particulate matter. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

Toxic Air Contaminants

ARB regulates toxic air contaminants (TACs) through statutes and regulations that generally require the use of the maximum available control technology or best available control technology (BACT) for TACs to limit emissions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. Unlike CAPs, TACs are pollutants of local concern because they can present harmful effects when they are emitted in close proximity to sensitive receptors.

4.3.2 Air Quality in the Vicinity of Kings Beach State Recreation Area

CRITERIA AIR POLLUTANTS

As described above, concentrations of ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead are CAPs and used as indicators of ambient air quality conditions. CAPs are air pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set by EPA and ARB. Counties in California must comply with NAAQS established by the EPA as well as CAAQS set by ARB. The attainment status for the Lake Tahoe Air Basin is shown in Table 4.3-3.

Table 4.3-3 Ambient Air Quality Standards and Attainment Status in Lake Tahoe Air Basin

Pollutant	California Attainment Status	National Attainment Status
Ozone	Nonattainment-Transitional	Unclassified
Carbon monoxide (CO)	Attainment	Unclassified
Nitrogen dioxide (NO_2)	Attainment	Unclassified
Sulfur dioxide (SO_2)	Attainment	Attainment
Respirable particulate matter (PM_{10})	Nonattainment	Unclassified
Fine particulate matter ($PM_{2.5}$)	Attainment	Unclassified
Lead	Attainment	Unclassified
Hydrogen sulfide (H_2S)	Unclassified	No national standards
Sulfates	Attainment	
Visibility-reducing particulate matter	Unclassified	

Notes: µg/m^3 = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million
Unclassified: a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
Attainment: a pollutant is designated attainment if the standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment: a pollutant is designated nonattainment if there was a least one violation of a standard for that pollutant in the area.
Source: ARB 2014b http://www.arb.ca.gov/desig/adm/adm.htm

CRITERIA AIR POLLUTANT AND PRECURSOR MONITORING STATION DATA AND ATTAINMENT AREA DESIGNATIONS

Concentrations of CAPs are measured at several monitoring stations near KBSRA. Data collected by the measurement station at 221 Fairway Drive in Tahoe City is generally representative of ambient air quality in the vicinity of KBSRA. The closest station that measures PM_{10} is located at 3337 Sandy Way in South Lake Tahoe, which is also within the Lake Tahoe Air Basin. Concentrations of CAPs measured at these stations are summarized in Table 4.3-4.

Table 4.3-4 Summary of Annual Air Quality Data (2012–2014)[a]

Ozone [b]	2012	2013	2014
Highest Concentration (1-hour/8-hour, ppm)	*	0.049/0.046	0.076/0.068
Second Highest Concentration (1-hour/8-hour, ppm)	*	0.049/0.046	0.070/0.067
Number of days state standard exceeded (1-hour/8-hour)	*	0/0	0/0
Number of days national standard exceeded (1-hour/8-hour)	*	0/0	0/0
Carbon Monoxide (CO)[c]	**2012**	**2013**	**2014**
Highest Concentration (8-hour, ppm)	*	*	*
Second Highest Concentration (8-hour, ppm)	*	*	*
Number of days national and state standards exceeded	*	*	*
Respirable Particulate Matter (PM_{10})[d]	**2012**	**2013**	**2014**
Highest Concentration (µg/m^c) (California)	84.1	139.3	58.6
Second Highest Concentration (µg/m^c) (California)	70.1	88.2	50.7
Annual Average (µg/m^c) (California)	*	*	14.6
Number of days national standard exceeded (measured [e])	*	*	0
Fine Particulate Matter ($PM_{2.5}$) [b]	**2012**	**2013**	**2014**
Highest Concentration (µg/m^c) (California)	*	10.2	145.5
Second Highest Concentration (µg/m^c) (California)	*	9.2	129.3
Annual Average (µg/m^c) (California)	*	*	8.1
Number of days national standard exceeded (measured [e])	0.0	*	*

Notes: µg/m^c = micrograms per cubic meter; NA = data not available; ppm = parts per million; * = Insufficient data to determine the value

[a] The ambient air quality standards and attainment status for these pollutants are presented in Table 4. 3-3.

[b] Ozone and $PM_{2.5}$ measurements are taken from the monitoring station on Fairway Drive in Tahoe City.

[c] Insufficient data available for carbon monoxide levels near the KBSRA.

[d] PM_{10} measurements are taken from the station on Sandy Way in South Lake Tahoe.

[e] Measured days are those days that an actual measurement was greater than the level of the daily standard. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Source: ARB 2015a, 2015b, 2015c, 2015d

EXISTING EMISSIONS SOURCES

Criteria Air Pollutants

Motor vehicles are the predominant source of CAPs and precursor emissions in and near the KBSRA, incluidng trips made using on-road vehicles to and from KBSRA.

Toxic Air Contaminants

Vehicles traveling along SR 28, which runs north along the border of the KBSRA, represent the predominant non-stationary source of TACs (and HAPs) in KBSRA. Other sources of TACs in the KBSRA area include any diesel powered equipment, which emit diesel PM, such as off-road maintenance and construction equipment.

Naturally Occurring Asbestos

Special Report 190, *Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County*, conducted by the California Geological Survey (CGS) in 2006 provides a map of areas within Placer County likely to contain naturally occurring asbestos (NOA). Although portions of Placer County contain areas of NOA, the KBSRA is located in an area considered Least Likely to contain NOA (CGS 2006).

Sensitive Receptors

Sensitive receptors are locations where human populations, especially children, seniors, and sick persons are found, and there is reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, hospitals, day care centers, and schools. The nearest schools are located north of KBSRA and include Kings Beach Elementary School, Kings Beach Head Start Preschool, Kings Beach Parents Co-Op, and the Tahoe Expedition Academy. The nearest hospitals, Incline Village Community Hospital and Incline Village Urgent Care Clinic, are located in Incline Village approximately 5.6 miles east along SR 28.

4.4 CLIMATE AND CLIMATE CHANGE

This section summarizes the existing climate within the Kings Beach State Recreation Area (KBSRA), and provides relevant information related to greenhouse gas emissions and climate change. This chapter is divided into the following sections:

- **Regulatory Setting** provides a summary of federal, state, and local regulations related to GHG emissions within the KBSRA.
- **Plan Area Climate** describes the existing climate within and surrounding the KBSRA.
- **Effects of Climate Change** describes the anticipated physical shifts in climate conditions within California and KBSRA.

4.4.1 Regulatory Setting

FEDERAL

National Greenhouse Gas Emissions and Fuel Economy Standards

On Agust 28, 2014, EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) finalized a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States (NHTSA 2012). EPA proposed the first ever national GHG emissions standards under the CAA, and NHTSA proposed Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. This proposed national programs allows automobile manufacturers to build a single light-duty national fleet that satisifies all requirements under both federal programs and the standards of California and other states. While this program will increase fuel economy to the equivalent of 54.5 mpg for cars and light-duty trucks by Model Year 2025, additional phases are being developed by NHTSA and EPA that address GHG emission standards for new medium- and heavy-duty trucks (NHTSA 2014).

STATE

Assembly Bill 32, California Global Warming Solutions Act of 2006

On September 27, 2006, Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006 (AB 32). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also required that these reductions "…shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continue in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The (Air Resources Board) shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

Climate Change Scoping Plan and Update

In December 2008, ARB adopted its *Climate Change Scoping Plan*, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT of CO_2-equivalent (CO_2e) emissions, or approximately 21.7 percent from the state's projects 2020 emissions

level of 545 MMT of CO_2e under a business-as-usual scenario (this is a reduction of 47 MMT CO_2e, or almost 10 percent, from 2008 emissions). ARB's original 2020 projection was 596 MMT CO_2e but this revised 2020 projection takes into account the economic downturn that occurred in 2008 (ARB 2011). The *Scoping Plan* reapproved by ARB in August 2011 includes the *Final Supplement to the Scoping Plan Functional Equivalent Document*, which further examined various alternatives to *Scoping Plan* measures. The *Scoping Plan* also includes ARB-recommended GHG reductions for each emissions sector of the state's GHG inventory. ARB estimates the largest reductions in GHG emissions to be achieved by 2020 will be by implementing the following measures and standards (ARB 2011):

- Improved emissions standards for light-duty vehicles,
- The Low-Carbon Fuel Standard,
- Energy efficiency measures in buildings and appliances,
- A renewable portfolio and electricity standards for electricity production, and
- The Cap-and-Trade Regulation for certain types of stationary emissions sources (e.g., power plants).

In 2014, ARB adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012 (ARB 2014d:4 and 5). According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 (ARB 2014d:ES-2). The updates also reports the trends in GHG emissions from various emission sectors.

Senate Bill 375 of 2008

Senate Bill (SB) 375, signed by Governor Schwarzenegger in September 2008, aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy, showing prescribed land use allocation in each MPO's Regional Transportation Plan. ARB, in consultation with the MPOs, is to provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in their respective regions for 2020 and 2035.

The Tahoe Metropolitan Planning Organization (TMPO) serves as the MPO for the Lake Tahoe Basin; thus, KBSRA is located in TMPO's jurisdiction.

Advanced Clean Cars Program

In January 2012, ARB approved the Advanced Clean Cars program which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into a single regulatory package of standards for vehicle model years 2017 through 2025. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percenter fewer global warmer gases and 75 percent less smog-forming emissions than the statewide fleet in 2016 (ARB [no date]).

Senate Bill X1-2, California Renewable Energy Resources Act of 2011

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California. SB X1-2 mandates that renewables from these sources make up at least 50 percent of the total renewable energy for the 2011-2013 compliance period, at least 65 percent for the 2014-2016 compliance period, and at least 75 percent for 2016 and beyond.

California Building Efficiency Standards of 2013 (Title 24, Part 6)

Buildings in California are required to comply with California's Energy Efficiency Standards for Residential and Nonresidential Buildings established by the California Energy Commission (CEC) regarding energy conservation standards and found in Title 24, Part 6 of the California Code of Regulations. California's Energy Efficiency Standards for Residential and Nonresidential Buildings was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated on an approximately 3-year cycle to allow consideration and possible incorporation of new energy efficient technologies and methods. All buildings for which an application for a building permit is submitted on or after July 1, 2014 must follow the 2013 standards (CEC 2012). Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The CEC Impact Analysis for California's 2013 Building Energy Efficiency Standards estimates that the 2013 Standards are 23.3 percent more efficient than the previous 2008 standards for multi-family residential construction and 21.8 percent more efficient for non-residential construction (CEC 2013:3).

Executive Order B-30-15

On April 20, 2015 Governor Edmund G. Brown Jr. signed Executive Order B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014. California is on track to meet or exceed the current target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (Assembly Bill 32, discussed above). California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent under 1990 levels by 2050. This is in line with the scientifically established levels needed to limit global warming below 2 degrees Celsius (°C), the warming threshold at which there will likely be major climate disruptions such as super droughts and rising sea levels according to scientific consensus.

REGIONAL AND LOCAL

Mobility 2035: Lake Tahoe Regional Transportation Plan

In 2012, the Tahoe Metropolitan Planning Organization (TMPO) prepared the Mobility 2035: Lake Tahoe Regional Transportation Plan (RTP), which seeks to improve mobility and safety for the commuting public while at the same time delivering environmental improvements throughout the transportation network in the Lake Tahoe Basin. Important directions of the plan are to reduce the overall environmental impact of transportation in the Region, create walkable, vibrant communities, and provide real alternatives to driving. The plan also supported an update of the Transportation Element of the Tahoe Regional Planning Agency (TRPA) Regional Plan. The RTP update included a Sustainable Communities Strategy (SCS), in accordance with California Senate Bill 375 (Sustainable Communities and Climate Protection Act). The SCS demonstrates how integrated transportation, land use, and housing strategies will help Lake Tahoe meet environmental thresholds and greenhouse gas targets for transportation sources on the California side of the Basin by 2035. Both the RTP and the SCS are integrated into TRPA's Regional Plan.

Tahoe Sustainability Action Plan

The *Tahoe Sustainability Action Plan* was completed by the Lake Tahoe Sustainability Collaborative in January 2014 (Lake Tahoe Sustainable Communities Program 2014). The California Strategic Growth Council (SGC) funded the regional collaboration to develop sustainability tools for regional and local agencies, non-profits, the business community, and local residents to use in promoting greenhouse gas reduction, among other sustainability goals. The grant and planning effort was administered by TMPO and carried out by the Lake Tahoe Sustainability Collaborative, a public and private partnership that includes

TRPA, and was established to lead the development of sustainability tools and drive coordinated sustainability efforts. The sustainability tools in the Tahoe Sustainability Plan are intended to support development of economic incentives, GHG reduction strategies, and climate change adaptation strategies.

4.4.2 Plan Area Climate

Regional climate is influenced by location, topography, temperature, and weather patterns. At an elevation of 6,250 feet, Kings Beach is characterized as having a warm-summer Mediterranean climate. The area experiences a combination of warm, dry summers and cold, snowy winters. Data collected at the Truckee-Tahoe Airport, located about 10 miles northwest of KBSRA, and was used to generally characterize wind conditions in the plan area. The data indicates that the area experiences calm to moderate wind conditions ranging from 0 to 16 miles per hour (mph) and rarely exceeds 24 mph. Wind in the area can come from all directions; however, wind primarily blows from the south (11 percent) or south west (11 percent). The strongest winds typically occur in the winter months (Weatherspark 2012).

Data collected by the Western Regional Climate Center (WRCC) in Tahoe City (approximately 13 miles from KBSRA) provides information on temperature and climate trends near Kings Beach. The moderate climate supports dry summers with precipitation in the form of snow primarily falling in the winter months. Annual average rainfall and snowfall between 1903 and 2015 for the area are 31.46 and 190.7 inches respectively (WRCC 2015).

Summer temperatures in the northeast shore of Lake Tahoe have historically been moderately warm with temperatures ranging from the high 30s to 70s (degrees Fahrenheit [°F]. Winter temperatures are typically cold and often drop below freezing (32 °F) and snowfall occurs often. Table 4.4-1 includes a monthly climate summary for Tahoe City. Temperature, precipitation, snowfall, and snow depth are averages from a period of record starting in September 1903 and ending January 2015 (WRCC 2015).

Table 4.4-1 Monthly Climate Summary for KBSRA

Climate Factor	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Maximum Temperature (°F)	38.6	40.3	44.0	50.4	59.6	68.7	77.9	77.2	69.8	58.8	46.9	40.3	56.0
Mean Minimum Temperature (°F)	19.1	19.9	22.8	26.9	32.8	38.6	44.4	43.7	39.0	32.3	25.8	20.8	30.5
Mean Total Precipitation (inches)	5.97	5.29	4.12	2.14	1.20	0.65	0.26	0.30	0.59	1.82	3.57	5.55	31.46
Mean Total Snowfall (inches)	45.9	36.5	35.2	15.9	3.7	0.2	0.0	0.0	0.3	2.4	15.5	35.2	190.7
Mean Snow Depth (inches)	23	30	28	13	1	0	0	0	0	0	3	11	9

Note: Temperature, precipitation, snowfall, and snow depth based on September 1903 through January 2015 data.

°F = degree(s) Fahrenheit

Source: WRCC 2015

4.4.3 Effects of Climate Change

EFFECTS IN CALIFORNIA

The International Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to provide the world with a scientific view on climate change and its potential effects. According to the IPCC global average temperature is expected to increase relative to the 1986-2005 period by 0.3–4.8 °C (0.5-8.6 °F) by the end of the 21st century (2081-2100), depending on future GHG emission scenarios (IPCC 2014:SPM-8). According

to the California Natural Resources Agency (CNRA), temperatures in California are projected to increase 2.7°F above 2000 averages by 2050 and, depending on emission levels, 4.1–8.6°F by 2100 (CNRA 2012:2).

Physical conditions beyond average temperatures could be indirectly affected by the accumulation of GHG emissions. For example, changes in weather patterns resulting from increases in global average temperature are expected to result in a decreased volume of precipitation falling as snow in California and an overall reduction in snowpack in the Sierra Nevada. Based upon historical data and modeling, the California Department of Water Resources (DWR) projects that the Sierra snowpack will experience a 25 to 40 percent reduction from its historic average by 2050 (DWR 2008:4).

As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available (CNRA 2012:11 and 12).

Changes in precipitation patterns and increased temperatures are expected to alter the distribution and character of natural vegetation and associated moisture content of plants and soils. A continued increase in frequency of extreme heat events and drought are also expected. These changes are also expected to lead to additional increases in the frequency and intensity of large wildfires (CNRA 2012:11).

EFFECTS IN THE KINGS BEACH STATE RECREATION AREA

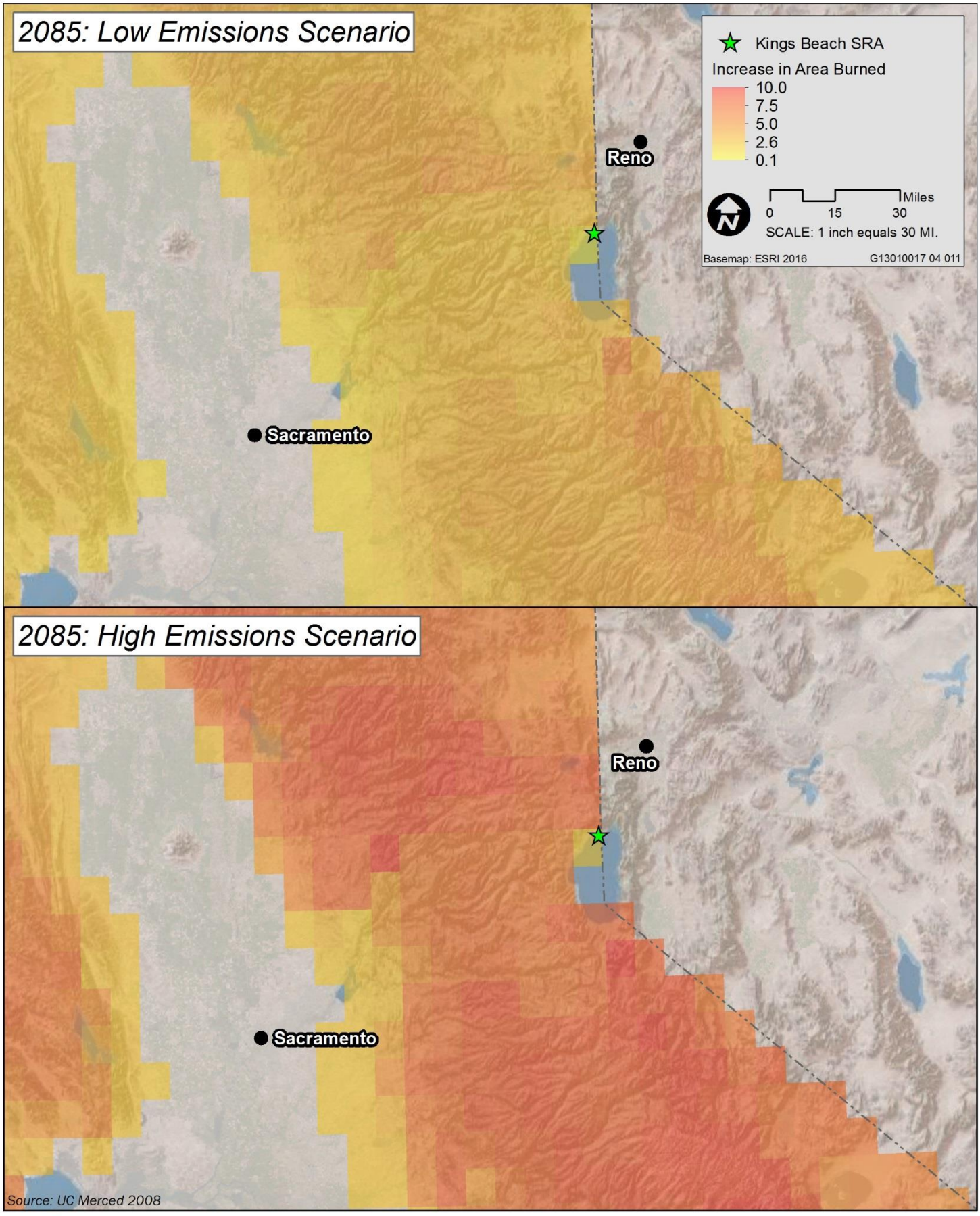
Climate change poses a significant threat to human and natural communities in California. The range of impacts predicted to occur varies by geographical location. The Lake Tahoe Basin and the Sierra Nevada as a whole will experience an increase in temperature and increased frequency and sizes of wildfire, as well as a reduction in snowpack and spring snowmelt.

Cal-Adapt is a climate change scenario planning tool developed by the California Energy Commission (CEC), CNRA, and others to provide downscaled modeling of local and regional climate data under two emissions scenarios: a high emissions scenario (A-2), which represents a business-as-usual future emissions scenario; and a low emissions scenario (B-1), which represents a lower GHG emissions future. According to Cal-Adapt, annual average temperatures in KBSRA are projected to rise by 3.8 to 6.8°F by 2100, with the range based on low (B-1) and high (A-2) emission scenarios (CEC 2015a).

Cal-Adapt also has the capacity to project future fire risk using the same A-2 and B-1 scenarios. Projected changes in wildfire risk in KBSRA and its surrounding area are shown in Exhibit 4.4-1. For future wildfire estimates, it should be noted that Cal-Adapt uses data modeled exclusively on climate projects and does not account for area-specific landscape and fuel sources. However, the California Department of Forestry and Fire Protection (CAL FIRE) designates KBSRA as a very high Fire Hazard Severity Zone which indicates that KBSRA and the surrounding vicinity will face future challenges associated with wildfire impacts (CAL FIRE 2007).

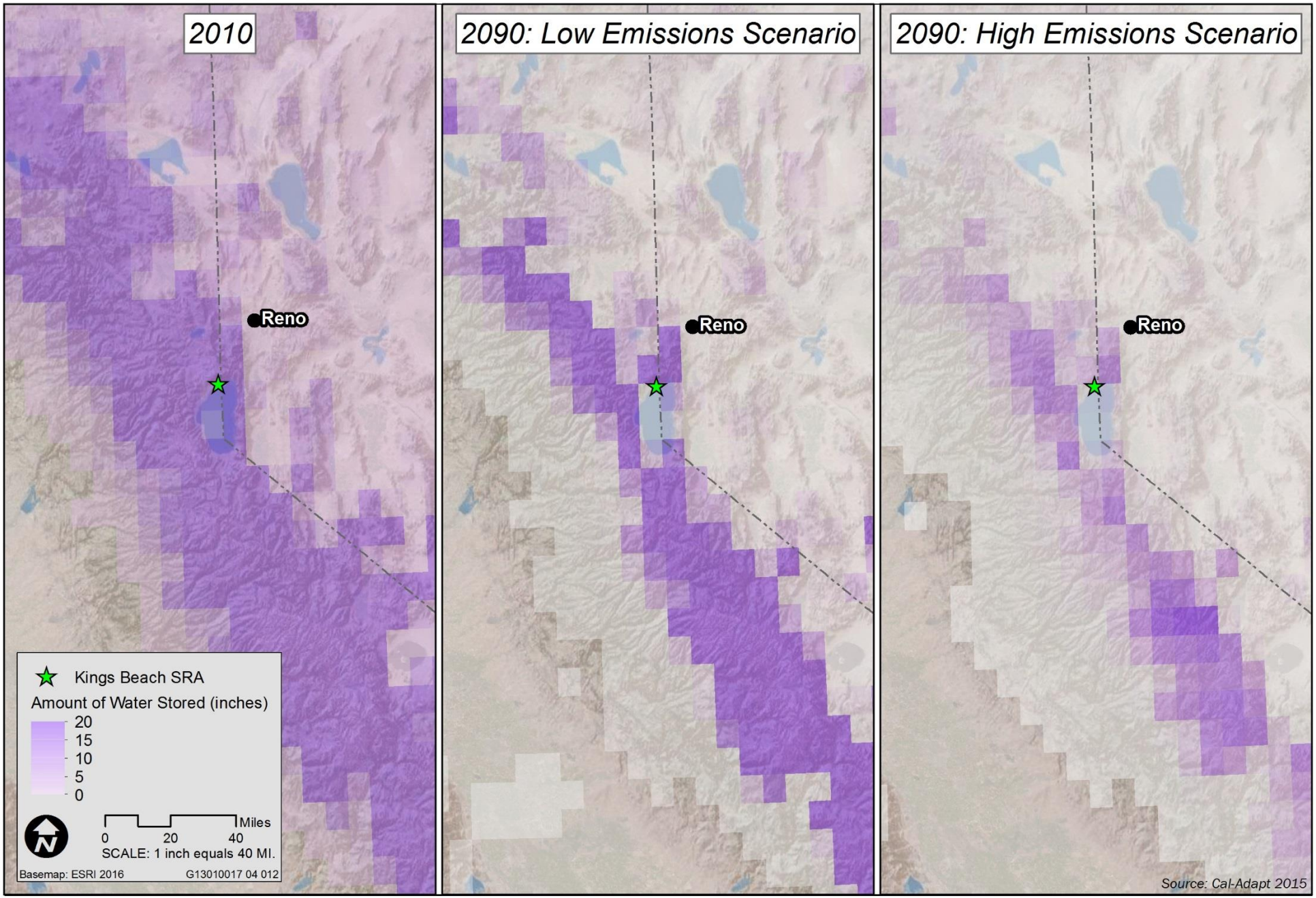
Anticipated shifts in snowfall and precipitation patterns could alter the existing conditions of KBSRA and the Lake Tahoe region. Precipitation in the form of rainfall rather than snowfall is likely to become more frequent in the Sierra as temperatures increase throughout the region. Further, rising temperatures could cause accelerated rates of early-season snowmelt resulting in the depletion of the Sierra Nevada snowpack, which serves as a natural reservoir for human and natural communities during the summer months. A reduction in April snowpack of 82.9 percent under the low-emissions (A-2) scenario and a reduction of 88.5 percent under the high-emissions scenario (B-1) totaling 0.63 inches and 0.41 inches respectively is predicted and shown in Exhibit 4.4-2 (Cal-Adapt 2015b). This substantial decrease in spring season snowpack could affect the water supply for the Tahoe Region and the state.

A decrease in total annual snowfall combined with an earlier snowmelt could deplete sources of water recharge for Lake Tahoe. Predicted changes in the total amount of precipitation show greater variability between the emission scenarios, with slight increases in total precipitation shown under the low-emissions (A-2) scenario and a decrease in overall precipitation shown under the high-emissions scenario (B-1) (Exhibit 4.4-3). Drought conditions are likely to become more common, which could lead to depletion in the water level for Lake Tahoe. These conditions may reduce the availability of recreational opportunities in KBSRA due to reduced access to water-related activities during the summer months. A reduction in water level may render historic docks inadequate for loading and unloading motorized water vehicles for greater periods of time. At the same time, increased summer temperatures, particularly in surrounding lower-elevation areas, could increase demand for water-oriented recreation at KBSRA.



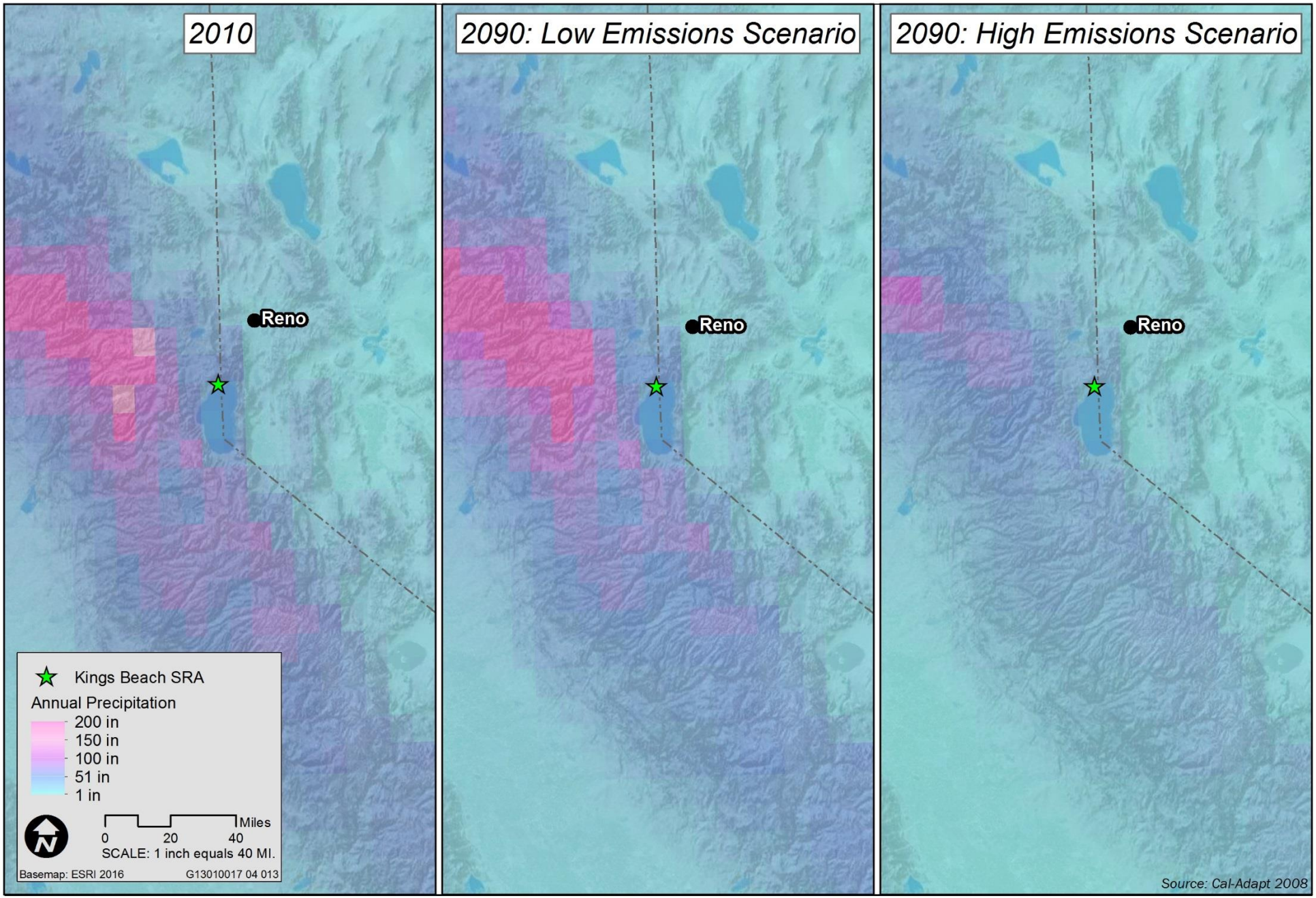
Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.4-1 Wildfire Risk



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.4-2 Snow Pack



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.4-3 Precipitation

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4.5 GEOLOGY, SOILS, LAND CAPABILITY, AND COVERAGE

This section contains a description of the geology, soils, land capability, and coverage of the Kings Beach State Recreation Area (KBSRA). This section is organized into the following sub-sections:

- **Regulatory Setting** provides a summary of laws, regulations, and policies that apply to KBSRA.
- **Geology and Seismicity** describes the regional geologic and seismic setting in the vicinity of KBSRA.
- **Soil Resources** describes the mapped soil units within KBSRA.
- **Natural Hazards** describes the potential for natural hazards within KBSRA.
- **Land Capability and Coverage** presents the existing land capability and land coverage conditions of KBSRA.

4.5.1 Regulatory Setting

Regulations protecting land coverage, soils, and geological resources in the Tahoe Region are enforced by the Tahoe Regional Planning Agency (TRPA), the Lahontan Regional Water Quality Control Board (Lahontan Water Board) through water quality regulations, and Placer County. The following discussion summarizes key regulations relating to geology, soils, land capability and coverage that apply to KBSRA.

TAHOE REGIONAL PLANNING AGENCY

Regional Plan

The Lake Tahoe Regional Plan (Regional Plan) provides the regulatory framework for environmental protection and development in the Tahoe Basin, and aims to achieve a balance between these two spheres. The Regional Plan includes several initiatives aimed at achieving this goal.

Four components of the Regional Plan specifically address policies and regulations pertaining to geology, soils, land capability, and coverage. These include the Environmental Threshold Carrying Capacities, Goals and Policies, Code of Ordinances, and Water Quality Management Plan, as described below.

Environmental Threshold Carrying Capacities

TRPA threshold standards are minimum standards of environmental quality to be achieved in the Tahoe Region. TRPA evaluates the attainment status of all TRPA threshold standards every four years, with the most recent Threshold Evaluation having been completed in 2012 (TRPA 2012a). Attainment of soil conservation thresholds are evaluated by TRPA through two indicator categories:

- **Land Coverage (impervious cover) Threshold Standard.** This standard requires compliance with allowable land coverage limits. All units of land, and by extension soils, within the Region have been assigned to a Land Capability District (LCD) based on their ability to tolerate disturbance and development while retaining their natural function. As such, coverage limitations are defined for LCDs based on their level of sensitivity, with LCD class 1 being the most sensitive, and LCD class 7 being the least sensitive. Base coverage limitations for the LCDs identified within KBSRA are listed in Table 4.5-1. Land Coverage Standards are further addressed in this section under TRPA Code of Ordinances, Section 30 – Land Coverage Standards.

- **Stream environment zone (SEZ) Threshold Standard.** This standard requires restoration of 25 percent of the SEZ lands that have been identified as disturbed, developed, or subdivided to assist in attaining a 5 percent increase in the area of naturally functioning SEZ lands, compared with the 1982 baseline.

Table 4.5-1 summarizes the status of the soil conservation threshold standards for land capability districts within KBSRA (TRPA 2012a).

Table4.5-1 2011 Status of the Soil Conservation Threshold Standards of Land Capability Districts within KBSRA

Threshold Standard	Allowable Base Coverage (percent)	Status
Land Capability District 1b	1	Considerably Worse than Target
Land Capability District 3	5	Considerably Better than Target
Land Capability District 5	25	Considerably Better than Target

Source: TRPA 2012a.

Lake Tahoe Regional Plan

Several components of the Lake Tahoe Regional Plan address policies and regulations pertaining to geology, soils, land capability, and coverage. These include the Goals and Policies, Code of Ordinances, and Water Quality Management Plan, as described below.

Goals and Policies

Goals and policies applicable to geology, soils, land capability, and coverage are included in the Land Use Element and Conservation Element of the Goals and Policies document of the Regional Plan.

The Land Use Element prioritizes the maintenance of the environmental, economic, social, and physical well-being of the Tahoe Region, and encourages development in areas that are most suited to it. Natural Hazards and Water Quality are two of the subelements, addressed here, of the Land Use Element.

The Natural Hazards Subelement addresses risks from natural hazards (e.g., flood, fire, avalanche, and earthquake). The Tahoe Region is often subject to rain or storm events which cause extreme fluctuations in stream flows or wave run-up which can result in flooding and damage to property. Grading, filling, and structural development within the flood plain causes alteration of the stream flow and may accentuate downstream flooding.

The Water Quality Subelement includes goals to reduce loads of sediment and algal nutrients to Lake Tahoe, meet sediment and nutrient objectives for tributary streams, surface runoff, and subsurface runoff, and restore 80 percent of the disturbed lands as compared the 1983 baseline. Goals also specify that the implementation of best management practices (BMPs) to control erosion and transport of sediment into surface waters shall be required as a condition of approval for all projects.

The Soils Subelement addresses soil erosion and loss of soil productivity through policies pertaining to coverage, including allowable coverage for categories of land uses in specific LCDs. This subelement also addresses special regulations regarding construction and soil disturbing activities occurring between October 15 and May 1.

Code of Ordinances

The TRPA Code of Ordinances implements the Regional Plan Goals and Policies. The following TRPA ordinances are most relevant to the geology, soils, and land capability and coverage aspects of the KBSRA General Plan (GP).

Chapter 30 – Land Coverage Standards

Since the late 1970s, TRPA has used the land capability classification system known as the Bailey System (*Land-Capability Classification of the Lake Tahoe Basin, California-Nevada: A Guide to Planning* [Bailey 1974]) to guide land use planning, policy formulation related to the impacts of development on soil erosion and permitting of development. The Bailey System was developed as a threat assessment and planning tool to identify and mitigate adverse impacts to water quality and stream systems that occur from surface runoff and erosion related to development. The Bailey system is the basis of the land coverage standards and limitations set forth in Chapter 30 of the TRPA Code of Ordinances.

Coverage is defined by TRPA as a human-built structure or other impervious surface that prevents normal precipitation from directly reaching the surface of the land underlying the structure, therefore precluding or slowing the natural infiltration of water into the soil (Chapter 90 of the Code). TRPA further defines coverage as impervious surface (hard coverage) or compacted soil (soft coverage). Research has established the connection between impervious surfaces and water quality. Specifically, coverage may affect water quality as it reduces the amount of soil available to infiltrate water and has the potential to result in surface runoff, erosion, and delivery of pollutants to receiving waters.

To determine the level of coverage that would be appropriate in the Tahoe Region, TRPA adopted the Bailey Land Classification system (Bailey 1974). The system assigns LCDs based primarily on soil characteristics and slope. The LCDs reflect the amount of development the site can support without experiencing soil or water quality degradation. The LCDs range from 1 to 7, with 1 being the most environmentally sensitive and 7 being most suitable for supporting development (see Table 4.5-2). Under this system, TRPA allows landowners to cover 1, 5, 20, 25, or 30 percent of their parcel with impervious surfaces depending on its environmental sensitivity as defined by the Bailey classification system.

Table 4.5-2 Land Capability Districts for the Lake Tahoe Region

Capability Levels	Tolerance for Use	Slope Percent	Relative Erosion Potential	Runoff Potential	Disturbance Hazards
7	Most ↑	0-5	Slight	Low to moderately low	Low hazard
6		0-16			
5		0-16		Moderately high to high	
4		9-30	Moderate	Low to moderately low	Moderate hazard lands
3		9-30		Moderately high to high	
2		30-50	High	Low to moderately low	High hazard lands
1a	Least	30+		Moderately high to high	
1b	(Poor Natural Drainage)				
1c	(Fragile Flora and Fauna)				

Source: Bailey 1974

At KBSRA, the recommended land area upon which the total allowable coverage is calculated is the total area of KBSRA, rather than on an individual parcel by parcel basis. This may require a deed restriction or other covenant to be recorded on the parcels to ensure that coverage calculations on the parcels will

always be calculated as if the parcels were legally combined, per Code Section 30.4.1.2.a(iii). As described in Code Section 30.4.1.C.3.b.i, highways, streets, roads, and the easements or rights-of-way allowing potential land coverage for linear public facilities, highways, streets, and roads are not included within a project site.

Code Section 30.4.6.D. Exemption from Land Coverage Calculations for Non-Motorized Trails

Section 30.4.6.D.3 of the TRPA Code provides an exemption from land coverage calculations for Non-Motorized Public Trails. To qualify for this exemption, the non-motorized trail must be a component of the trail networks identified in the Lake Tahoe Region Bike Trail and Pedestrian Plan; open to the public in perpetuity, at no cost; be routed to minimize disturbance of sensitive land and removal of large trees and riparian vegetation; meet industry standard engineering criteria; provide elevated stream crossings; incorporate appropriate BMPs; and minimize disturbance to sensitive wildlife habitat.

Code Section 30.5.2. Exceptions to Prohibition in Land Capability District 1b (Stream Environment Zone)

Section 30.5 of the TRPA Code of Ordinances prohibits additional land coverage in low capability LCDs unless the project meets certain exemptions. The following exception applies to the prohibition of land coverage and disturbance in Land Capability District 1b (Stream Environment Zone):

Land coverage and disturbance for public outdoor recreation facilities may be permitted in Land Capability District 1b (Stream Environment Zone) if TRPA finds that:

1. The project is a necessary part of a public agency's long-range plans for public outdoor recreation;

2. The project is consistent with the Recreation Element of the Regional Plan;

3. The project by its very nature must be sited in a stream environment zone, such as bridges, stream crossings, ski run crossings, fishing trails, and boat launching facilities, in accordance with the guidelines regarding public outdoor recreation facilities and activities that create additional land coverage or permanent disturbance and that by their very nature need not be sited in sensitive lands (1a, 1b, 1c, 2, 3 or SEZs);

4. There is no feasible alternative that would avoid or reduce the extent of encroachment in the stream environment zone; and

5. The impacts of the land coverage and disturbance are fully mitigated in the manner set forth in subparagraph 30.5.1.B.5, with the exception that the restoration requirement in such subsection shall apply exclusively to stream environment zone lands and shall include coverage and disturbance within the permitted Bailey coefficients.

Code Section 30.4.2.B.3. Tourist Accommodation Facilities, Multi-Residential Facilities, Public Service Facilities, and Recreation Facilities within Community Plans

This section sets a maximum allowable coverage (base coverage plus transferred coverage) of 50 percent of high capability lands (LCDs 4 through 7) for tourist accommodation facilities, multi-residential facilities, public service facilities, and recreation facilities within an approved community plan.

Code Section 30.6. Excess Land Coverage Mitigation Program

This section describes mitigation requirements that apply to projects where the amount of TRPA-verified coverage existing in a project area prior to a project exceeds the base allowable coverage. Existing land coverage that is in excess of the base allowable coverage, but less than the maximum allowable coverage can be mitigated by transferring coverage from elsewhere. Projects in areas that exceed that

maximum allowable coverage must mitigate a portion of the excess coverage by reducing coverage onsite, reducing coverage offsite, by paying a land coverage mitigation fee, or through other less-common approaches described in Code Section 30.6.1.B.

Chapter 33 – Grading and Construction

Chapter 33 of the TRPA Code describes the various standards and regulations that protect the environment against significant adverse effects from excavation, filling, and clearing, due to such conditions as exposed soils, unstable earthworks, or groundwater interference.

Chapter 60 – Water Quality

Chapter 60 of the TRPA Code of Ordinances sets forth requirements for installation of BMPs for the protection or restoration of water quality and attainment of minimum discharge standards. Projects shall comply with temporary and permanent BMP programs as a condition of project approval.

Chapter 85 – Backshore

TRPA defines the Backshore as the area of wave run-up or slope instability, plus an additional ten feet. Backshore areas are generally treated as SEZs and land coverage within the backshore is limited to one percent. TRPA Code Section 85.5 prohibits additional land coverage or permanent disturbance within the backshore with limited exceptions provided for public outdoor recreation, public service, and erosion control projects. Public outdoor recreation projects may be permitted within the backshore if TRPA finds that:

1. The project is a necessary part of a public agency's long range plans for public outdoor recreation;
2. The project is consistent with the Recreation Element of the Goals and Policies;
3. The project, by its very nature, must be sited in the backshore;
4. There is no feasible alternative that avoids or reduces the amount of land coverage or disturbance proposed in the backshore; and
5. The impacts of the coverage and disturbance are mitigated to the extent feasible through means including, but not limited to, the following:
    - Application of BMPs; and
    - Restoration in the amount of 1.5 times the area of land in the backshore covered or disturbed for the project (beyond the 1% coverage allowed).

Water Quality Management Plan

The Lake Tahoe Water Quality Management Plan (also known as the Section 208 Plan, in reference to the pertinent section of the Clean Water Act) is a framework that sets forth the components of the water quality management system in the Lake Tahoe Region, the desired water quality outcomes for the Tahoe Basin, and the mechanisms adopted by all the relevant entities to achieve and maintain those outcomes.

STATE

Lahontan Regional Water Quality Control Board

The nine regional water quality control boards within California provide regionally specific water quality standards and control measures to implement the federal Clean Water Act. The Lahontan Water Board is

responsible for surface and ground water quality within the project site. The water quality control plan for the Lahontan region (Lahontan RWQCB 1995) establishes water quality objectives enforced through federal National Pollutant Discharge Elimination System (NPDES) permits. NPDES permits are intended to address land uses and activities that could create erosion or sediment transportation and potentially degrade water quality. Compliance with these permits requires implementation of erosion control BMPs and preparation of a Storm Water Pollution Prevention Plan (SWPPP) to minimize erosion and sediment transport adjacent waterbodies.

California Tahoe Conservancy

The mission of the California Tahoe Conservancy (CTC) is to preserve, protect, restore, enhance and sustain the unique and significant natural resources and recreational opportunities of the Lake Tahoe Region (California Government Code - Title 7.42 Sections 66905. to 66908.3). CTC's jurisdiction extends throughout the California side of the Lake Tahoe Region, as defined in California Government Code Section 66905.5. In 1987, CTC authorized staff to develop and implement a Land Coverage (Land Bank) Program. Through this program, CTC acquires properties eligible for purchase through willing sellers, the development potential on these properties is retired, and all rights and credits acquired by CTC are stored in a Land Bank. Through a Memorandum of Understanding (MOU) with TRPA, CTC is authorized to receive disbursements of TRPA excess coverage mitigation fees to perform coverage reduction through its Land Bank (TRPA/CTC 1988). The MOU also authorizes CTC to sell coverage rights on the open market and conduct SEZ restoration or mitigation for private or public service projects through the Land Bank.

CTC's Land Coverage Program acquires and restores developed areas that have become degraded and that are, or have the potential to, contribute to water quality problems; protects land prior to development activities generating the need for mitigation; provides ongoing management to ensure that resource benefits are sustained; assists property owners in complying with regional land coverage policies so they may construct or rehabilitate homes and businesses; and simplifies and expedites public and private projects.

LOCAL

Placer County General Plan

The Natural Resources Element and Health and Safety Element of the Placer County General Plan include a number of goals and policies intended to reduce soil erosion and to minimize injury to people and damage to property from exposure to seismic and geologic hazards. Specific policies require that development projects near stream environments do not cause or worsen erosion or sedimentation (Policies 6.A.4 and 6.A.10). The Placer County General Plan also requires projects to include a variety of technical reports and plans that demonstrate that the project will minimized the risk of exposure of people or property to seismic hazards, unstable soils, landslides, and avalanche (Policies 8.A.1, 8.A.2, 8.A.4, 8.A.5, 8.A.6, 8.A.9, 8.A.10, 8.A.11, 8.A.12, and 8.H.2)

Placer County Grading Ordinance

Placer County Code Article 15.48, "Grading, Erosion and Sediment Control," contains ordinances enacted for the purpose of regulating grading on property within the unincorporated area of Placer County to safeguard life, limb, health, property and public welfare; to avoid pollution of watercourses with hazardous materials, nutrients, sediments, or other earthen materials generated on or caused by surface runoff on or across the permit area; and to ensure that the intended use of a graded site is consistent with the Placer County General Plan, any specific plans, and applicable Placer County ordinances. The most common activities requiring a grading permit include the following: fill or excavation greater than 250 cubic yards, cuts or fills exceeding four feet in depth; structural retaining walls exceeding four feet in total height, as measured from the bottom footing to the top of the wall and/or supporting a

surcharge; soil or vegetation disturbances exceeding 10,000 square feet; grading within or adjacent to a drainage course or wetland; or grading within a floodplain.

4.5.2 Geology and Seismicity

Regional Geology

The geology of the Kings Beach area is characterized by granitic bedrock, overlain by volcanic deposits and mud flows. Shifting lake levels deposited lacustrine sediments far above the modern high water elevation, where they were later covered by volcanic materials. The interlayering of volcanic and sedimentary parent materials was key in the development of the unique Kingsbeach soil type, described in further detail below.

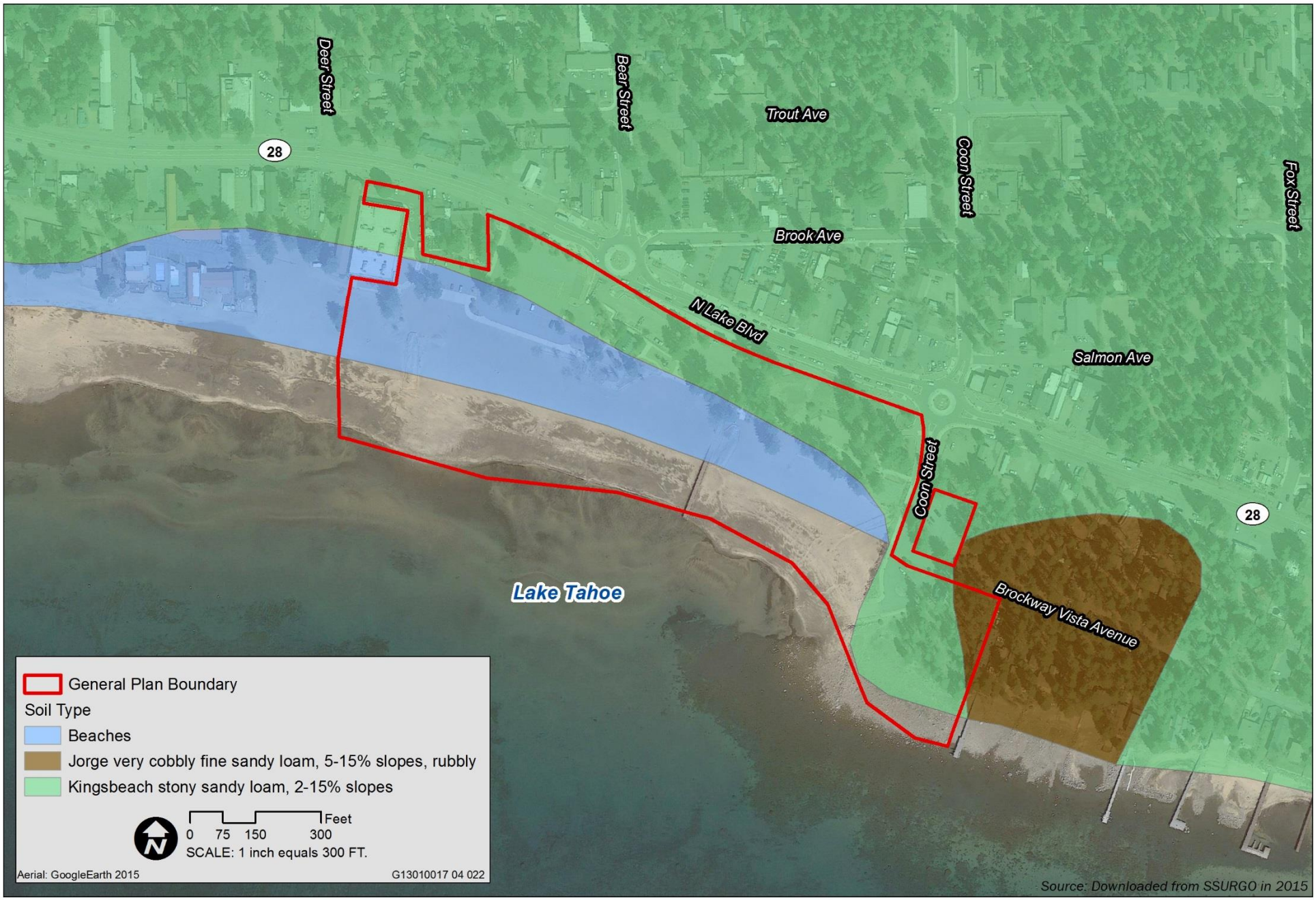
Seismic Setting

The State Mining and Geology Board defines an active fault as one that has had surface displacement within the last 11,000 years (CGS 2008). Although no active faults are located directly within KBSRA, three active faults occur within a distance of three miles: the West Tahoe-Dollar Point Fault (the longest in the Basin at approximately 28 miles long); the Stateline-North Tahoe Fault; and the Incline Village Fault (Brothers et al. 2009). Recent studies indicate that all three of these faults have experienced large rupture events within recent geologic time (Dingler 2007; Seitz and Kent 2004). Of the three faults, the West Tahoe-Dollar Point Fault has the fastest slip rate (the rate at which two faults pass each other or build tension) and its most recent confirmed rupture event was approximately 4,000 years ago (Brothers et al. 2009). The high slip rate, the height of scarps (earthquake generated breaks in topography) and the length of time since the last event indicate that the West Tahoe-Dollar Point Fault could generate an earthquake with a magnitude greater than 7 (Brothers et al. 2009). The height of scarps along the Incline Village fault show that this fault has experienced several magnitude 7 events and that it last ruptured approximately 575 years ago. (Schweickert et al. 2000; Seitz et al. 2005). A large earthquake along any of these faults could cause strong seismic shaking within the KBSRA area.

4.5.3 Soil Resources

Soils are a critical element in land-use planning and environmental analysis in the Lake Tahoe Basin. A wide variety of soil types can be found across the region. They are differentiated from each other by characteristics such as parent material, landscape position, texture, structure, organic matter content, depth to bed rock, depth to groundwater, and hydrologic function. Exhibit 4.5-1 shows the soil mapping units described within KBSRA (NRCS 2007). Note that soil mapping extends to the high-water line of Lake Tahoe, however the beach soil type likely extends further lakeward in KBSRA.

- **Jorge very cobbly fine sandy loam (7156), 5 to 15 percent slopes**: This soil is located on hillslopes and is formed in colluvium (material that has been moved downhill by gravity) weathered from volcanic rock. The soil profile consists of a very cobbly fine sandy loam to 34 inches, underlain by a very cobbly loam to 59 inches. Typical vegetation includes mixed conifer forest overstory with an understory of greenleaf manzanita, western serviceberry, creeping snowberry. These soils are described as well drained and the surface runoff class is "Low."



Kings Beach State Recreation Area
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Exhibit 4.5-1 Soils

- **Kingsbeach stony sandy loam (7161), 2 to 15 percent slopes:** The Kingsbeach soil is an unusual case. It is formed in volcanic material atop ancient lake bed sediments. Although the upper portion of the soil profile is coarse textured and well drained, the lakebed sediments (beginning between 20 and 29 inches below the ground surface) restrict water movement through the soil creating a perched, seasonally high water table. Permeability is described as moderately slow in the subsoil and very slow in the substratum of lakebed sediments, however, the surface runoff class is "Medium."

- **Beach (7011):** Beaches occur at lake-level elevations ranging from 6,220 to 6,250 feet above mean sea level (amsl), and are characterized by well-drained, homogenous, gravelly coarse sand. Beach sediments take on a variety of characteristics depending on their physical origin and location, including stable beach sediments as well as active littoral deposits that respond to wave action. Their depth profile ranges from zero to 79 inches. Minor component landforms (equal to or less than ten percent) consist of barrier beaches, valley flats, fens, floodplains, outwash terraces, and hillslopes. Beach soil units are very well drained, occurring at or near the water table.

4.5.4 Natural Hazards

GROUND FAILURE/LIQUEFACTION

Soil liquefaction occurs when ground shaking from an earthquake causes a sediment layer saturated with groundwater to lose strength and take on the characteristics of a fluid. Factors determining the liquefaction potential are soil type, the level and duration of seismic ground motions, the type and consistency of soils, and the depth to groundwater. Loose sands and peat deposits are susceptible to liquefaction, while clayey silts, silty clays, and clays deposited in freshwater environments are generally stable under the influence of seismic ground shaking (CGS 2008: pp. 35-37). Liquefaction poses a hazard to engineered structures. The loss of soil strength can result in bearing capacity insufficient to support foundation loads, increased lateral pressure on retaining or basement walls, and slope instability. Areas of the KBSRA site underlain by relatively loose sandy soils combined with a shallow groundwater table could be susceptible to liquefaction.

SUBSIDENCE

Land surface subsidence can be induced by both natural and human phenomena. Natural phenomena include: subsidence resulting from tectonic deformations and seismically induced settlements; soil subsidence from consolidation, hydrocompaction, or rapid sedimentation; subsidence from oxidation or dewatering of organic rich soils; and subsidence related to subsurface cavities. Subsidence related to human activity includes subsurface fluid or sediment withdrawal. Lateral spreading is the horizontal movement or spreading of soil toward an open face, such as a streambank, the open side of fill embankments, or the sides of levees. The potential for failure from subsidence and lateral spreading is highest in areas where there is a high groundwater table, where there are relatively soft and recent alluvial deposits, and where creek banks are relatively high. The KBSRA area contains alluvial deposits and areas of high groundwater that could be susceptible to subsidence and lateral spreading.

4.5.5 Land Capability and Coverage

A review of relevant site plans for past projects within KBSRA indicates that the site contains LCDs 5, 3, and 1b. Exhibit 4.5-2 shows the extent of TRPA-verified LCDs and existing land coverage within the KBSRA GP area. The majority of the land area within the site is LCD 5, however the beach areas are mapped as LCDs 1b and 3. Lands below the high water line of Lake Tahoe are considered part of the

Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.5-2 Coverage

water body and are not mapped as a land capability district. Three drainage outfalls are located within the beach area and support some riparian vegetation, however these areas are not distinguished from the non-riparian LCD 1b areas for the purposes of land coverage regulation. These features are discussed further in Section 4.1, "Hydrology and Water Quality."

Existing land coverage consists of public parking areas, pedestrian paths, public gathering spaces, a public restroom, and other passive recreation amenities. Table 4.5-3 provides a summary of existing TRPA-verified land coverage within the KBSRA site. Because the site is located within a TRPA-approved Community Plan, the maximum allowable land coverage within LCD 5 is 50 percent, not 25 percent. The difference in coverage between the maximum allowable and the base allowable must be purchased and transferred from outside parcels. The amount of existing land coverage exceeds both the base allowable and maximum allowable limits across all LCDs in KBSRA. Some of the excess coverage has previously been accounted for through excess coverage mitigation associated with development of the restrooms and other features. The exact amount of excess coverage (taking into consideration the legally existing land coverage and previously mitigated excess coverage) would be determined during the TRPA permitting process. Projects within KBSRA would not be able to add additional coverage and may be required to mitigate excess coverage consistent with TRPA Code Section 30.6.

Table 4.5-3 Existing and Allowable Land Coverage

Land Coverage District	Project Area (sq ft)	Base Allowable Land Coverage (%)	Base Allowable Coverage (sq ft)	Maximum Allowable Transferred Coverage (sq ft)	Existing Coverage (sq ft)	Excess Coverage (existing minus maximum sq ft)
1b	136,764	1%	1,368	1,368	4,660	3,292
3	13,376	5%	669	669	2,080	1,411
5	291,350	25%	72,838	145,675	151,431	5,756

Note: These figures represent the summation of verified land coverage as determined for individual projects that have occurred within the project area. The data has been updated to reflect the change of the parcel boundary for APN 090-135-043 and the exclusion of the Kings Beach Conference Center.

Source: KB Foster 2002, JWA Consulting Engineers 1994, DBW 2003

BACKSHORE

The TRPA regulated backshore generally consists of the LCD 1b and LCD 3 areas of the site. In the area west of the existing pier, the backshore includes the area mapped as LCD 1b (area of wave run-up) plus an additional ten feet. To the east of the pier, the landward edge of the backshore is identified as the border between LCDs 3 and 5. The base allowable coverage within backshore areas is one percent (TRPA Code Section 85.4). Additional land coverage may be permitted for public recreation projects provided that the project meets the conditions of TPRA Code Section 85.5.5 as described above.

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4.6 CULTURAL RESOURCES

This section provides an overview of the cultural resources setting for the Kings Beach State Recreation Area (KBSRA). It is divided into the following subsections:

- **Regulatory Setting** provides an overview of regulations that are applicable to cultural and paleontological resources with KBSRA.
- **Cultural Setting** provides an overview of the prehistoric, ethnographic, and historic setting for KBSRA.
- **Documented Cultural Resources** provides a summary of previous cultural resource investigations, identified cultural resources, and cultural resource management needs within KBSRA.

4.6.1 Regulatory Setting

FEDERAL

Section 106 of the National Historic Preservation Act

Section 106 constitutes the main federal regulatory framework guiding cultural resources investigations, and requires considerations of effects on properties that are listed in, or may be eligible for listing in the National Register of Historic Places (NRHP). The NRHP is the nation's master inventory of known historic resources. It is administered by the National Park Service and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

National Register of Historic Places

Federal protection of resources in legislated by: a) the National Historic Preservation Act (NHPA) of 1966 as amended by 16 U.S.C. 470; b) Archaeological Resource Protection Act of 1979; and c) the Advisory Council on Historical Preservation. These laws and organizations maintain processes for determining the effects on historical properties eligible for the NRHP. The formal criteria (36 Code of Federal Regulations [CFR] 60.4) for determining NRHP eligibility are as follows:

- The property is at least 50 years old (however, properties under 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP);
- It retains integrity of location, design, setting, materials, workmanship, feeling, and associations, and
- It possesses at least one of the following characteristics:
    - Association with events that have made a significant contribution to the broad patterns of history (events).
    - Association with the lives of persons significant in the past (persons).
    - Distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant, distinguishable entity whose components may lack individual distinction (architecture).

- Yielded, or may be likely to yield, information important to prehistory or history (information potential).

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires public agencies to consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to Public Resources Code (PRC) Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical Resources

"Historical resource" is a term with a defined statutory meaning (PRC, Section 21084.1; determining significant impacts to historical and archaeological resources is described in the State CEQA Guidelines, Sections 15064.5[a] and [b]). Under State CEQA Guidelines Section 15064.5(a), historical resources include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (PRC, Section 5024.1).

2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be historically significant if the resource meets the criteria for listing in the California Register of Historical Resources (PRC, Section 5024.1), including the following:

    a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    b) Is associated with the lives of persons important in our past;

    c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    d) Has yielded, or may be likely to yield, information important in prehistory or history.

4) The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC Section 5020.1(j) or 5024.1.

Unique Archaeological Resources

CEQA also requires lead agencies to consider whether projects will affect unique archaeological resources. PRC Section 21083.2, subdivision (g), states that unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Accidental Discovery of Historical or Archaeological Resources

The State CEQA Guidelines require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be an historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural and Sacred Sites Act applies to both State and private lands. The Act requires that upon discovery of human remains, construction or excavation activity cease and the county coroner be notified. If the remains are of a Native American, the coroner must notify the Native American Heritage Commission (NAHC), which then notifies those persons most likely to be descended from the Native American's remains. The Act stipulates the procedures the descendants may follow for treating or disposing of the remains and associated grave goods.

California Health and Safety Code

Section 7050.5(b) of the California Health and Safety Code (CHSC) specifies protocol when human remains are discovered. The code states:

> *In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.*

California Register of Historical Resources

All properties listed in or formally determined eligible for listing in the NRHP are eligible for the California Register of Historical Resources (CRHR). The CRHR is a listing of State of California resources that are significant within the context of California's history. The CRHR is a statewide program of similar

scope and with similar criteria for inclusion as those used for the NRHP. In addition, properties designated under municipal or county ordinances are also eligible for listing in the CRHR.

A historic resource must be significant at the local, state, or national level under one or more of the criteria defined in the California Code of Regulations (CCR) Title 15, Chapter 11.5, Section 4850. The CRHR criteria are similar to the NRHP criteria and are tied to CEQA because any resource that meets the criteria below is considered a historical resource under CEQA. As noted above, all resources listed in or formally determined eligible for the NRHP are automatically listed in the CRHR.

The CRHR uses four evaluation criteria:

1. Is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.

2. Is associated with the lives of persons important to local, California, or national history.

3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.

4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.

Similar to the NRHP, a resource must meet one of the above criteria and retain integrity. The CRHR uses the same seven aspects of integrity as the NRHP.

Public Resources Code Section 5024.5 and State-owned Lands

Historical and archaeological resources on state-owned lands are subject to the requirements of Section 5024.5 of the PRC. The provisions are intended to protect significant historical and prehistorical features by requiring notification of the State Historic Preservation Officer (SHPO) during the planning process. If SHPO determines that a proposed action would have an adverse effect on a listed historical resource, the DPR and SHPO shall adopt prudent and feasible measures that will eliminate or mitigate the adverse effects. State Parks would maintain written documentation of SHPO concurrence with proposed actions, which would have an effect on a historical resource on the master list.

LOCAL

Tahoe Regional Planning Agency

Tahoe Regional Planning Agency (TRPA) has not adopted Environmental Threshold Carrying Capacities for cultural resources. Instead, TRPA's policies and standards related to cultural resources are included in the Regional Plan.

Lake Tahoe Regional Plan

TRPA regulates growth and development in the Lake Tahoe region through the *Regional Plan for the Lake Tahoe Basin* (Regional Plan). The Regional Plan includes the Goals and Policies document and the Code of Ordinances. The Conservation Element (Chapter 4) of the Goals and Policies includes a Cultural Subelement, with the following goal and policies:

Goal C-1: Identify and preserve sites of historical, cultural, and architectural significance within the Region. The Tahoe Region has a heritage that should be recognized and appropriately protected. Due to the harsh weather conditions, changing development standards, and changing uses of the Region, many structures that had significant historical or architectural value have been destroyed or lost.

- **Policy C-1.1.** Historical or culturally significant landmarks in the Region shall be identified and protected from indiscriminate damage or alteration; and

- **Policy C-1.2.** Sites and structures designated as historically, culturally, or archaeologically significant shall be given special incentives and exemptions to promote the preservation and restoration of such structures and sites.

Code of Ordinances

The Code of Ordinances recognizes sites, objects, structures, districts or other resources, eligible for designation as resources of historical, cultural, archaeological paleontological, or architectural significance locally, regionally, state-wide or nationally. Chapter 67 also provides for consultation with state historical agencies as well as the Washoe Tribe. Additionally, Standard 33.3.7 in Chapter 33 (Grading and Construction, Section 33.3, Grading Standards) addresses discovery of historical resources. To be eligible for designation by TRPA, resources must meet one of the following criteria:

- **Resources Associated with Historically Significant Events and Sites.** Such resources shall meet one or more of the following: a) Association with an important community function in the past; b) Association with a memorable happening in the past; or c) Contain outstanding qualities reminiscent of an early state of development in the region.

- **Resources Associated with Significant Persons.** Such resources include: a) buildings or structures associated with a locally, regionally, or nationally known person; b) notable example or best surviving works or a pioneer architect, designer or master builder; or c) Structures associated with the life or work of significant persons.

- **Resources Embodying Distinctive Characteristics.** Resources that embody the distinctive characteristics of a type, period, or method of construction that possess high artistic values or that represent a significant and distinguishable entity but whose components may lack individual distinction. Works of a master builder, designer, or architect also are eligible. Resources may be classified as significant if they are a prototype of, or a representative example of, a period style, architectural movement, or method of construction unique in the region, the states, or the nation.

- **State and Federal Guidelines.** Archeological or paleontological resources protected or eligible for protection under state or federal guidelines.

- **Prehistoric Sites.** Sites where prehistoric archaeological or paleontological resources that may contribute to the basic understanding of early cultural or biological development in the region.

Placer County

The Recreational and Cultural Resources Section (Section 5) of the Placer County General Plan (adopted August 16, 1994, and updated in 2013) includes a goal to "identify, protect, and enhance Placer County's important historical, archaeological, paleontological, and cultural sites and their contributing environment." This plan also includes policies to protect and enhance cultural resources through various means, including: incentive programs for private property owners, public education, avoidance and mitigation of cultural resource impacts in discretionary development projects, coordination with the local Native American community and NAHC, and assisting private citizens seeking historic landmark designations for their property.

4.6.2 Cultural Setting

The following discussion is derived from the cultural resources setting described in the 2012 Lake Tahoe Regional Plan Update Environmental Impact Statement (EIS) (TRPA 2012e); the Heritage Resources Inventory and Evaluation Report for the KBSRA performed by Susan Lindstrom and Judith Marvin (Lindstrom and Marvin 2015); and the State Route 89/Fanny Bridge Community Revitalization Project EIR/EIS/EA (Federal Highway Administration [FHWA] 2014).

PREHISTORIC SETTING

The current cultural chronology for the Lake Tahoe region recognizes the following distinct phases, each of which can be defined in large part by the presence of distinct projectile points found on archaeological sites. Phases are described from oldest to most recent:

- Pre-Archaic / Tahoe Reach Phase [ca. 10,000–8000 before present (B.P.)]
- Early Archaic / Spooner Phase (ca. 8000–5000 B.P.)
- Middle Archaic / Martis Phase (ca. 5000-1300B.P)
  - Early Martis Phase (ca. 5000–3000 B.P.)
  - Late Martis Phase (ca. 3000–1300 B.P.)
- Late Archaic / Kings Beach Phase (ca. 1300-150 B.P.)
  - Early Kings Beach Phase (ca.1300–800 B.P.)
  - Late Kings Beach Phase (ca. 800–150 B.P.)

Pre-Archaic / Tahoe Reach Phase (10,000-8,000 B.P.)

This phase has not been well defined, but is generally equated with small, highly mobile groups whose economy was focused on game hunting. Little evidence for sites of this phase has been found in the Sierra Nevada. Its presence in the region is postulated based on sites of this age at lower elevations.

Early Archaic / Spooner Phase (8000–5000 B.P.)

This cultural phase has been characterized by the presence of projectile points of the Pinto Split Stem series and Humboldt series found predominantly in the Great Basin. Paleo-environmental conditions during this period reflect a widespread Middle Holocene warming and drying trend. General cultural patterns attributed to the Early Archaic include small game hunting, increased milling of hard seeds, and a mixed-mode, forager-collector subsistence strategy.

Middle Archaic / Martis Phase (ca. 5000–1300 Before Present [B.P.])

The Early Martis (5000–3000 B.P.) and the Late Martis (3000–1300 B.P.) phases were defined by a heavy reliance on flaked basalt implements and milling stones and slabs for the grinding of seed foods. The predominance of flaked and ground stone artifacts on archaeological sites of this time appears to reflect an economic focus on hunting and seed gathering. During this time, conditions became cooler and wetter, similar to the climate experienced today. Human populations increased and diversified, though remained small enough to prevent resource overexploitation.

Late Archaic / Kings Beach Phase (ca. 1300–150 B.P.)

In contrast with the Middle Archaic / Martis phase, technology during the Early Kings Beach Phase (1300–700 B.P.) and Late Kings Beach Phase (700–150 B.P.) was characterized by chert and obsidian toolstone, bedrock mortars, smaller projectile points (presumably arrow points), and an economic

emphasis on fishing and seed gathering. The Kings Beach Complex is usually attributed to the late prehistoric Washoe. Environmental conditions continued to be temperate during the Late Archaic, although periodic warm-dry intervals appear to have resulted in substantial and prolonged droughts. Socio-economic and technological changes likely resulted from population increases and "demographic packing" and consequent "interspersed" settlement patterns. Innovations attributed to the Late Archaic include the bow and arrow, the increased use of bedrock mortars for piñon pine exploitation, and an increase in the use of simple flake tools. The inclination toward basalt and other coarse-grained material for tool manufacture decreased during this time.

ETHNOGRAPHIC SETTING

The Washoe Tribe inhabited the Tahoe Basin region at the time of Euro-American contact in the early 1840s. The largest Washoe settlements were found in the larger valleys on and along the eastern slope of the Sierra Nevada between Honey Lake to the north and Little Antelope Valley to the south. Although most Washoe resided in long-term or "winter" settlements in the lowland valleys east of the Sierra crest, Lake Tahoe was the spiritual and geographic center of the Washoe world. The Washoe, members of the widespread Hokan linguistic group, are the only Great Basin group to speak a non-Numic language. Although the evidence is far from conclusive, historians postulate an early relationship (more than 4,500 years ago) between the Hokan-speaking Washoe and other Hokan speakers in California.

The Washoe were economically and socially organized into basic household or extended family units residing in multifamily communities. Groups maintained ties with each other and with neighboring Penutian-speaking groups, including the Maidu, Miwok, and Paiute. The territory of ethnographic Washoe, like the territories of most native California groups, was fluid; it was also utilized by non-Washoe neighboring groups, particularly when resources were abundant, or as a trade/travel corridor. Joint land use, particularly in areas where resources were abundant or that served as trade and travel corridors, was usually accommodated by negotiation.

With a relatively abundant environment and some of the highest pre-contact population densities in the region, the Washoe pursued an "intensive subsistence strategy and a demographically packed settlement pattern." This pattern of land use involved high seasonal mobility, mixed strategies of foraging and collecting, and intensive exploitation of resources. Areas such as the upper Truckee River watershed include several types of microenvironments—meadows, marshes, and riparian corridors—and each supported a diverse range of floral and faunal species available for use by the Washoe.

Fishing was one of the most important forms of subsistence acquisition available to the Washoe, and historians suggest that this activity provided the most predictable and consistent source of year-round food during prehistoric and ethnographic times. Seasonal fish runs occurred in all of the major rivers and streams along the eastern side of the Sierra Nevada. Runs in the streams surrounding Lake Tahoe included varieties of Tahoe sucker (*Catostomus tahoensis*) and Lahontan cutthroat trout (*Salmo clarki henshawi*) in the spring and summer, and mountain whitefish (*Prosopium williamsoni*) in the fall and winter. Fishing was accomplished through the use of spears, traps, weirs, hooks and lines, and angling through ice-holes during the winter months.

In general, Washoe lifeways remained largely unchanged for centuries until the middle decades of the 19th century. Would-be miners, loggers, ranchers, and Euro-American settlers began to flood the region following the gold strikes in the Sierra Nevada foothills and the silver discoveries in the nearby Nevada Comstock Lode. Like many Native American groups in California and Nevada, the Washoe suffered greatly from the loss of their traditional territory and lifeways, and their population decreased dramatically and soon became marginalized.

Today, however, the Washoe people constitute a thriving native community that is reinvesting in its heritage and culture through newfound political, economic, and social influence throughout the Basin and the surrounding region. Currently, the Washoe are a recognized tribe by the U.S. Government and have maintained an established land base. Its 1,200 tribal members are governed by a tribal council that consists of members of the Carson, Dresslerville, Woodfords, and Reno-Sparks Indian groups, as well as members from non-reservation areas.

HISTORIC SETTING

Tahoe Basin

Although the earliest documented Euro-American presence in the Tahoe Region occurred in the late 1840s and the early to mid-1850s as travelers and surveyors passed through the area, it was the Comstock (silver) mining boom in Nevada starting in 1859 that led to rapid development of the Tahoe Basin. The surge in freight and passenger traffic through the Sierra Nevada quickly led to the creation of improved transportation routes, the harvesting of vast stands of timber, and the eventual development of ranching, all of which have played important roles in the economic and social history of the Tahoe Region.

Transportation

A prominent historic-era transportation feature in the Basin is present-day U.S. 50, which has largely followed the existing roadway alignment since at least the 1860s. Formerly known as the Johnson Pass Road, the Placerville–Lake Tahoe Road, the Lake Bigler Toll Road, and the Lincoln Highway, U.S. 50 was originally part of a series of routes informally referred to in the 19th century as the Bonanza Road System in reference to its connection with the rich Comstock Lode mines, located just over the Sierra crest in Nevada. The completion in the early 1930s of a highway (the Brockway Highway, now SR 28) that encircled the lake took away much of the freight and passenger business from railroad and steamers. During this same period, the Lincoln Highway (present-day U.S. Highway 50) became the major access road to the lake, and all roads connecting Lake Tahoe to Nevada and California were paved.

Lumbering

As the rich placer diggings were played out in the Sierra Nevada foothills, timber became the chief economic driver in the Tahoe Region. Taking advantage of the abundant supply, major timber companies were established along the shores of Lake Tahoe. The lumber boom lasted from 1860 into the 1890s in response to a growing demand of timber for mine supports in the Comstock Lode, and for housing, fuel, and industrial structures, buildings, and the railroad. Within a relatively short period of time, the hills on the east side of the Carson Range were stripped of most commercially desirable timber and harvesting was directed to the Lake Tahoe Basin. As trees were cut, logs were brought to the lakeshore by a network of flumes, chutes, and teams of oxen to be pulled across Lake Tahoe by steamer to mills where they were sawed into lumber. By the 1870s, the industry was dominated by several large firms such as the Sierra Nevada Wood and Lumber Company, Donner Lumber and Boom Company, and the Pacific Wood, Lumber, and Flume Company. The largest firm was the Carson and Tahoe Lumber and Fluming Company.

At the peak of the lumber boom, consumption of lumber in the Tahoe region totaled 25 million board-feet per year, of which nearly 18 million was used in the nearby mines. By 1883 it was estimated that more than 600 million board-feet of lumber was used in the Comstock mines and 2 million cords of wood had been burned as fuel. As the logging industry in the Tahoe Basin declined, large firms such as the Carson and Tahoe Lumber and Fluming Company either went out of business or, for a time, engaged in secondary endeavors. The Carson and Tahoe Lumber and Fluming Company, for example, continued as a real estate venture, selling and leasing large tracts of former timber lands, primarily to ranchers.

By the early twentieth century, much of the Tahoe Basin had been stripped of lumber; with the introduction of paper mills, attention turned to harvesting fir trees for pulp wood. Successful logging operations sustained several communities in the Tahoe area including Tahoe City, Kings Beach, and Truckee. However, as the forests were logged out, timber companies shut down. By the 1970s and 1980s, logging was curtailed as the Region became more valuable as a recreational and commercial resource than as a timber resource.

Resort, Casino and Recreational Development

By the late 19th century, Lake Tahoe had become a popular vacation spot for wealthy San Francisco residents. The Tahoe House, Tahoe Tavern, Glenbrook Inn, Tallac House, and Brockway Springs Hotel were some of the first retreats developed. Guests staying at these resorts could take a South Pacific train from San Francisco all the way to Truckee. The Lake Tahoe Railway would then take them into Tahoe City, where they either settled down into one of the nearby lodging options, or climbed aboard a steamship that could deliver them to several spots around the Lake.

For many early visitors Tahoe's prime attractions were the casinos that opened up on the North Shore after the turn of the 19th century. In 1927 the Ta-Neva-Ho (present-day Cal-Neva Resort) opened as Crystal Bay's first casino, The Tahoe Biltmore, among others, soon followed.

Modern recreational skiing in the Sierra dates back to 1938, when Bay Area residents traveled to present-day Sugar Bowl mountain peaks via the Southern Pacific Railroad. Walt Disney, Austrian Hannes Schroll and a few others had the foresight to recognize the area's potential as a world-class ski resort, and in 1938 Sugar Bowl officially opened. The resort would go on to build the first ski lift in California. Meanwhile, the Lake Tahoe Ski Club had already put the North Shore on the map for winter recreation, having hosted the 1931 Winter Olympic Tryouts, as well as the 1932 National Jumping and Cross-Country competitions. This all took place at present-day Granlibakken, then known as Olympic Hill, which was owned by the Tahoe Tavern. In 1960, Tahoe's reputation for winter sports gained international recognition when Squaw Valley hosted the Winter Olympics. These were the first Olympic Games to be televised. Many of the resorts, motels, restaurants and ski lifts built to accommodate the influx of Olympians and fans still host guests today.

Kings Beach

Due to its lack of proximity to trans-Sierra traffic associated with economic activities in the Tahoe Basin, the Kings Beach area remained relatively undeveloped until the 1920s. The main thoroughfare, now known as US 50, did not reach Kings Beach and subsequently left the area remote. Historical records indicate that the first American-related activity to occur in Kings Beach was a small-scale logging business, Wiggins' Station, operating in 1864, owned by George W. Wiggins. The business was later purchased by John Griffin in 1872, around the same time the Brockway Hot Springs were being developed into a tourist resort. Commencing operation, the hot springs would become the foremost tourist attraction for the Kings Beach area for the next 50 or so years. Given that highway and railroad infrastructure did not connect Kings Beach at the time of its foundation, the Brockway Hot Springs Resort became a stop for touring boats around Lake Tahoe, accessible via private pier. In 1924, the Old Brockway Gold Course was constructed as a recreational amenity for socialites visiting the resort.

In the early-1920s, Kings Beach still had not experienced much development, as there were only five small cabins in the area. The first commercial establishment in Kings Beach was the Buckhorn Inn, constructed in 1923 and later demolished in 1978.

In 1925, one of the partners in the Brockway Springs operation sold Kings Beach to Joe King (although rumored that he won the property in a card game), an alleged bootlegger and the individual from who the town is named. King would establish a property called the "Squirrel Inn" which contained a

speakeasy, as well as a few other small businesses. In 1925, King began construction of the Kings Beach Resort, which was advertised as a "Complete Vacation Center."

Substantial development beyond these properties would not occur until the 1930s; however, King's ownership of the town would warrant the building of a new, separate Kings Beach pier in the mid-1920s. Between 1936 and 1938, King erected a large shopping center in the heart of the town near the beach. The center included the Tahoe Theatre, Paine's grocery store, Martha Mortenson's beauty parlor, a barbershop, meat market, café, and a branch of Loynd's Pharmacy.

Although there is little record of a considerable rise in economic activity or immigration, the establishment of a post office in 1937 signifies that Kings Beach at least sustained a seasonal or permanent population of merit at that time. Further, the gambling industry in Nevada contributed to a rise in tourism and need for automobile access, which gave rise to the construction of modern-day SR 28 (formerly SR 39) in 1936.

By 1939, at least a dozen building structures existed within a grid of eight streets north of SR 28, as well as an enhanced pier to serve recreational activities. At this time, Kings Beach contained the infrastructure to support recreational and resort opportunities. North of the road was a garage, cab company, plumbing and heating contractors, and other retail businesses. Resort cabins, motels, restaurants, and recreational concessionaries were located between the lake and the road.

The 1960s introduced modern development in Kings Beach. Large subdivisions of apartments, summer homes, motels, and condominiums were developed as a result of the 1960 Squaw Valley Winter Olympics. Since then, the historically small, rustic development characteristic of Kings Beach has given way to such modern developments. It was during this shift that the resort-period buildings (Buckhorn Inn, Kings Beach Resort) were demolished in order to develop a recreational beach area (modern day KBSRA) for tourist and seasonal use.

4.6.3 Documented Cultural Resources

CULTURAL RESOURCES INVESTIGATIONS IN KBSRA

KBSRA is composed of 13.91 acres on the shoreline of Lake Tahoe. Traces of Kings Beach history exist within borders of the area including the remnants of several stone retaining walls, planter boxes, walkways, and patios. Surveys performed on August 9, 2014 and on April 20 and 21, 2015 assessed KBSRA for archaeologically and architecturally significant elements (Lindström and Marvin 2015). The resulting Heritage Resource Inventory and Evaluation Report included prefield research for heritage resources found within and near KBSRA. The Kings Beach Pier (P-31-2763/CA-PLA-1929H) is the only recorded heritage resource within the boundaries of the project area. Prefield research was also conducted between the years of 1998 and 2013 for CA-PLA-9 (prehistoric campsite) and CA-PLA-128 (quartz quarry with bedrock mortars). These resources are located west and east of the project vicinity, respectively.

The archaeological field survey disclosed thee isolated finds: one prehistoric biface fragment, one piece of amethyst bottle glass, and a displaced boulder bedrock milling feature located outside KBSRA. Isolates are defined as one or two artifacts occurring by themselves and not associated with an archaeological site. Because they have no historical context, isolates are generally not eligible for listing in the NRHP, CRHR, or by TRPA. Isolated finds are not considered significant unless they are unusual or exceptional. The three isolates discovered during survey are not associated with significant events or persons or distinctive technical, architectural, or artistic characteristics, nor do they possess prehistoric or

historic information potential (Lindström and Marvin 2015). Therefore, the three isolates do not qualify for listing in the NRHP, CRHR, or TRPA.

The architectural survey revealed the presence of stone retaining walls in KBSRA. There is speculation that these walls could have been built by apprentices of the Stewart Indian School in Carson City. The federal Stewart Indian School was established in 1890 and required Native American youth to attend the school up to secondary school age. Its students were apprenticed to construct buildings using colored native stones. It is postulated that these apprentices could have aided in the construction of the stone retaining walls found in KBSRA because they were known to have constructed other structures in Kings Beach. This conclusion, however, is conjecture given that the evidence is speculative. The lack of supporting evidence nullifies the potential historical or cultural significance associated with the involvement of the Stewart apprentices in the construction of Kings Beach Resort. In addition, due to the nearly complete demolition of the Kings Beach Resort, these remnants do not have sufficient integrity of workmanships, feeling, design, or association to merit listing in the NRHP or CRHR. This conclusion is supported by SHPO Julianne Polanco, in a concurrence letter dated September 16, 2015 (Lindström and Marvin 2015). The SHPO concurrence letter also agreed with the Lindström and Marvin (2015) report finding that the existing Kings Beach pier (P-31-2763/CA-PLA-1929H) is not eligible for the NRHP due to lack of integrity. Therefore, the existing pier is not considered to be a historical resource.

KBSRA CULTURAL RESOURCES MANAGEMENT NEEDS

Given that KBSRA does not contain resources of cultural or historical significance, KBSRA would not require substantial cultural resources planning and management. The small acreage contained by KBSRA reduces the need for numerous surveys. Further, the Heritage Resource Inventory and Evaluation Report submitted in May 2015 covered the total acres enclosed by KBSRA; therefore, the report provides an adequate assessment of the project area's historical and cultural value.

However, potential impacts to unknown heritage resources could still occur due to project implementation. Archival research, field surveying, and Native American consulting indicate that the area is unlikely to contain unknown heritage resources. Nonetheless, the absence of such resources cannot be definitively concluded. In the case that due to project-related activities, previously unknown heritage resources are uncovered, all ground-disturbing activities should cease and the project applicant should consult a qualified archaeologist to evaluate the resources significance under federal, state, and TRPA criteria. If the discovered resource is found to be significant, mitigation measures consistent with the CEQA (Section 15060-15065) and the TRPA Code of Ordinances (Chapter 67) should be developed and a mitigation plan submitted for approval by the review agency archaeologist. Following approval, a Registered Professional Archaeologist (RPA) should be on-call during future ground-disturbing activities.

Similarly, in the event that human remains are encountered during project implementation, all activity should be stopped immediately and the County Coroner's Office should be contacted pursuant to PRC Section 7050.5. If the remains are determined to be of Native American origin, the Native American Heritage Commission should be notified within 24 hours of determination as required by PRC Sections 5097.94, 5097.98, and 5097.99. The Commission should then notify the designated Most Likely Descendants. In the case of KBSRA, the Washoe Tribe would most likely be the Native American contact.

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4.7 SCENIC AND AESTHETIC RESOURCES

This section describes the aesthetic and scenic resources for the Kings Beach State Recreation Area (KBSRA). It is divided into the following subsections:

- **Regulatory Setting** provides an overview of the Tahoe Regional Planning Agency (TRPA) Environmental Threshold Carrying Capacities for Scenic Resources.
- **Existing Scenic Conditions** describes existing scenic conditions within KBSRA organized by the TRPA threshold categories of roadway travel units, shoreline travel units, roadway scenic resources, recreation area scenic resources, and built environment.

4.7.1 Regulatory Setting

TAHOE REGIONAL PLANNING AGENCY SCENIC THRESHOLDS

Following the adoption of TRPA Resolution 82-11, TRPA established Environmental Threshold Carrying Capacities for Scenic Resources (scenic threshold standards). The scenic threshold standards acknowledge that the visual landscape of the Tahoe Region is one of its most impressive and memorable qualities. It possesses a striking combination of rugged mountain peaks, a vast lake surface, and densely forested slopes. These landscape elements work in concert to produce a visual impression that makes the Lake Tahoe Basin one of the truly unique places in the world. Despite significant development and alteration of the landscape for over a century, the Tahoe region continues to attract visitors because of its powerful and stunning inherent landscape character, which successfully maintains visual dominance over most of the area. It is the view of natural landscapes and features offered from the region's scenic corridors, recreation areas, and bike trails that the framers of the Tahoe Planning Compact intended to preserve when they declared, "*Maintenance of the social and economic health of the region depends on maintaining the significant scenic … values provided by the Lake Tahoe Basin*" (Public Law 96-551). TRPA's scenic thresholds are intended to protect and enhance the region's scenic values by attaining and maintaining numerical standards for roadway and shoreline travel units, numerical standards for other areas, and a policy statement for the built environment.

ROADWAY AND SHORELINE TRAVEL ROUTE RATINGS

Developed as a means to assess the scenic value of areas most likely to affect a large number of viewers, the travel route ratings of individual roadway and shoreline units provide an evaluation and rating of scenic conditions associated with roadway and shoreline corridors and vista points contained in those corridors.

Roadway Travel Units

Roadway corridors within the Tahoe region include all state and federal highways and Pioneer Trail. These roadways are separated into 54 travel segements (travel units) and are designated to provide a continuous two-directional viewshed of consistent visual character. During periodic monitoring, every four to five years, the scenic rating of each travel unit is updated to reflect current conditions. Travel route ratings are composed of a numeric composite index (score) that reflect the scenic quality within and throughout the entire travel units. To achieve an "in attainment" rating, travel units must meet or exceed a minimum compositie score (i.e., threshold standard). Roadway travel unit scores are based on the following components of scenic quality:

- Man-made features along the roadway,
- Physical distractions to driving along the roadways,
- Roadway characteristics,
- View of the Lake from the roadways,
- General landscape views from the roadways, and
- Variety of scenery from the roadways.

These six aspects contribute to an overall rating of each segment. Given the subjective variability of effects to visual resources, evaluations are inherently qualitative; however, assessments are performed by qualified scenic experts who assign numerical ratings to travel units based on objective and consistent monitoring criteria.

Each component ranges from one (strong negative effect on scenic quality) to five (positive effect on scenic quality); therefore, roadway travel unit scores can vary between an absolute low of five and absolute high of 30. To be in attainment for the scenic threshold system, travel units must score a total of at least 15.5 and, to ensure that scenic quality is not deteriorating, must be equal to or greater than the score originally given in the first evaluation performed in 1982.

Shoreline Travel Units

Shoreline travel units represent the visual character of the shore to viewers on Lake Tahoe. The 72-mile shoreline is divided into 33 units of varying length that exhibit similar visual character. Shoreline units are rated numerically based of the following components of visual quality:

- Man-made features along shoreline,
- General landscape views within the shoreline unit, and
- Variety of scenery within the shoreline unit.

Each component is rated from one (low or absent) to five (high), and a compsite rating is determined by adding the ratings of each three components. Therefore, the composite rating for shoreline units range from three to 15. To be in attainment of the Threshold Standard, the current composite rating must be at least 7.5 and equal to or greater than the 1982 rating.

Scenic Quality Ratings

Unlike travel route ratings, scenic quality ratings evaluate the character and visual quality of specific viewpoints contained in travel and shoreline units. Within the 54 designated roadway travel units, 208 scenic resources have been identified by TRPA. An additional 184 scenic resources have been designated within the 33 established shoreline units. For these specific resources, scenic quality is measured by rating four subcomponents which provide the most useful and objective measures of relative scenic value:

- Unity
- Vividness
- Variety
- Intactness

These characteristics are rated from zero (absent) to three (high), and a composite rating is provided by adding the rating of each characteristic. Therefore, ratings for individual scenic resources can range from zero and 12. To be in attainment, scenic resources must have a composite rating of equal to or greater than the original score given in 1982. If the score drops below 1982 levels, the resource is considered to be out of attainment.

Other Areas

TRPA also evaluates the scenic quality of other areas, specifically public recreation areas and bike trails. A total of 37 public recreation areas (e.g., beaches, campgrounds) and 11 segments of class I and class II bicycle trails are included in the scenic evaluation.

The threshold standard for public recreation area and bike trails addresses three types of scenic resources:

- Views from the recreation area or bicycle trail (Type 1),
- Views of natural features within the recreation area or along the bicycle trail (Type 2), and
- Visual quality of human-made features within the recreation area or adjacent to the bicycle trail (Type 3).

Composite scores for Type 1 and Type 2 resources are produced for recreation areas and bike trails using the same subcomponents included in the Scenic Quality Ratings Threshold Standards (i.e., unity, vividness, variety, and intactness). Type 3 resources (human-made features) are rated based on the following characteristics:

- Coherence—Refers to a coordinated appearance of human-made facilities in terms of possessing some unifying characteristic or quality.
- Condition—Refers to the general physical condition of the human-made elements, and is related to the maintenance and age of facilities.
- Compatibility—Refers to the sense of fit between human-made features and the surround natural landscapes. Human-made feature that are highly compatible blend in with their surrounds and defer to the form, colors, and textures of the natural landscape.
- Design quality—Refers to the presence of architectural qualities that make the human-made elements distinctive and valued visual features.

All three types of resources were evaluated on a scale of one (low) to five (high); therefore, the composite score for each resource could range from 4 to 20. The first threshold evaluation of these resources was conducted in 1993. To achieve attainment status, the composite score must be equal to or greater than the recorded composite from 1993.

Built Environment (Community Design)

The threshold standard associated with the built environment, also referred to as community design, is a policy statement contained in TRPA Resolution 82-11. It reads:

> "*It shall be the policy of the TRPA Governing Body in development of the Regional Plan, in cooperation with local jurisdictions, to ensure the height, bulk, texture, form, materials, colors, lighting, signing and other design elements of new, remodeled and redeveloped buildings to be compatible with the natural, scenic, and recreational values of the region.*"

The policy statement establishes the goal of preserving the natural, rural character of the Tahoe region while allowing development and redevelopment to occur. Design standards and guidelines are applied to new development and redevelopment projects approved by TRPA and other applicable governing bodies. The design standards and guidelines are intended to improve the character of communities and enhance aesthetic conditions over time as older development is replaced with new development that complies with the design standards and guidelines.

4.7.2 Existing Scenic Conditions

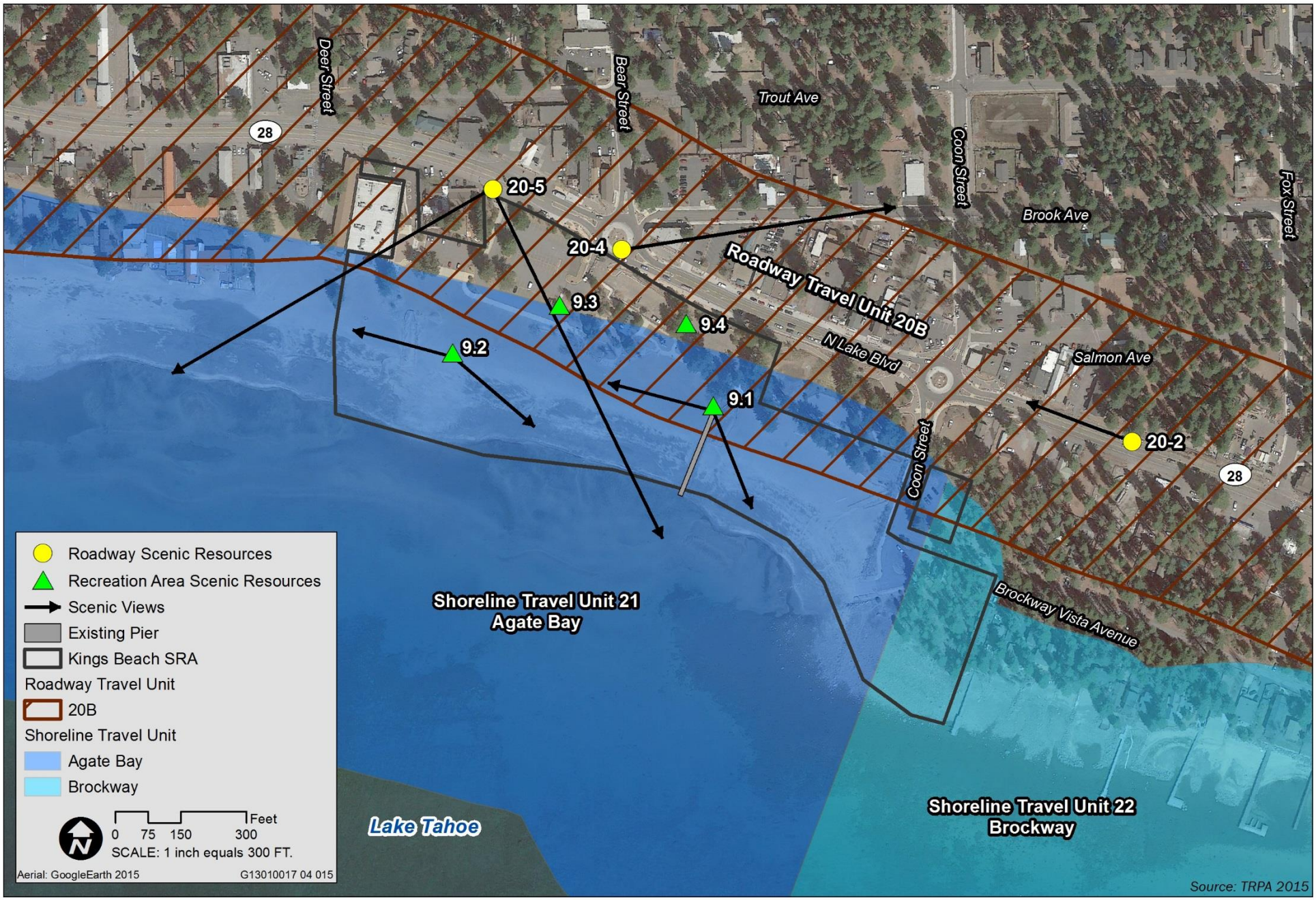
Views from KBSRA are dominated by views of Lake Tahoe and distant peaks and ridges to the south, and views of commercial development partially screened by vegetation to the north. KBSRA is located within TRPA-designated roadway and shoreline travel units, and it is a designated recreation area evaluated under the TRPA threshold monitoring program (Exhibit 4.7-1). The current state of visual resources at KBSRA is reflected in the most recent scenic threshold monitoring conducted in 2015 (TRPA 2015).

ROADWAY TRAVEL UNITS

Views of KBSRA from the roadway are generally high quality, as they provide relatively unobstructed views of Lake Tahoe and distant mountains. The removal of commercial buildings that occurred as part of the Conservancy's acquisition of the plaza area in KBSRA expanded views of Lake Tahoe and contributed to the existing high quality views from SR 28. The Roadway Unit for Kings Beach (Unit 20B) showed enhancements had been made in human-made features and roadway structure through implementation of sidewalk medians, roundabouts and landscaping east of the North Tahoe Event Center (Exhibit 4.7-2). The composite score increased by a total of 2.5 points between 2011 and 2015 with scores of 13.5 and 16, respectively. A composite score of 16 brought the roadway unit into attainment of TRPA's threshold standard for the first time since monitoring of the roadway unit began in 2001. Continued implementation of the Kings Beach Commercial Core Project is expected to continue to improve the visual quality of the roadway unit. This roadway travel unit was previously part of Roadway Travel Unit 20 (Tahoe Vista). In 2001 Unit 20 was separated into four units due to its length and diversity of character. Scenic monitoring scores and comments from 2001 through 2015 are included in Table 4.7-1.

Table 4.7-1 Roadway Travel Unit 20B (Kings Beach) Scenic Threshold Monitoring Data

Year	Threshold Composite	Man-Made Features	Roadway Distractions	Road Structure	Lake Views	Landscape Views	Variety	Status
2001	12.5	2	2	1	3	2.5	2	Not in Attainment
2006	13.5	2.5	2.5	1	3	2.5	2	Not in Attainment
2011	13.5	2.5	2.5	1	3	2.5	2	Not in Attainment
2015	16	3	2.5	3	3	2.5	2	Attainment
1996 Comments: Improvements in this area noted in 1996 are: completion of the California Tahoe Conservancy lakefront access project, several commercial remodels in Kings Beach, and completion of utility undergrounding have collectively improved the man-made features subcomponent.								
2001 Comments: This unit extends approximately 1.2 miles from Beach St. to lakeside part of Chipmunk Dr. Improvements noted since 1996 include remodel of Safeway and landscaping and structure upgrade at the golf course, and the California Tahoe Conservancy removal of fence and spa building at North Tahoe Beach Center site. Some sign and facade improvements have also occurred in Kings Beach. The new fish mural is an improvement to a large blank wall without creating distraction from natural setting. This unit is not in threshold attainment.								
2006 Comments: No comments.								
2011 Comments: No comments.								
2015 Comments: Sidewalk medians, roundabouts and landscaping east of the Kings Beach Event Center made significant improvements to the road structure. Additional improvements are planned for the west side of the unit and should be assessed in future evaluations and additional increases in the road structure are expected. Redevelopment and new development have contributed positively to the man-made features.								
Source: TRPA 2015								



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.7-1 Scenic Resources

Exhibit 4.7-2 Recent Streetscape Improvements Adjacent to KBSRA

SHORELINE TRAVEL UNITS

Views of KBSRA from Lake Tahoe show a mix of trees and development in the foreground with fairly intact views of distant ridges in the middle to background (Exhibit 4.7-3). KBSRA contributes positively to views of this area of shoreline, as it provides a visual break in the surrounding development, which provides a more natural character to this section of shoreline. Views of the Kings Beach shoreline can be seen from Shoreline Travel Unit 21 (Agate Bay), and a small portion of the eastern end of KBSRA (east of Coon Street) falls within Shoreline Travel Unit 22 (Brockway). While some upland changes have occurred in this area, such as the Conservancy's removal of structures along Brockway Vista, monitoring of Shoreline Travel Unit 21 showed that little change to the scenic quality of views from the lake in this unit had occurred since 1982, and the total score has not decreased since its initial evaluation in 1982. Therefore, with a composite score of eight, Shoreline Unit 21 remains in attainment of TRPA's threshold standard. Shoreline Travel Unit 22 decreased below the score assigned to it in 1982, and is therefore not in attainment of the threshold standard. Recent improvements have been noted in this travel unit, but the unit is still out of attainment. Scenic monitoring data for Shoreline Travel Unit 21and 22 and included in Tables 4.7-2 and 4.7-3, respectively.

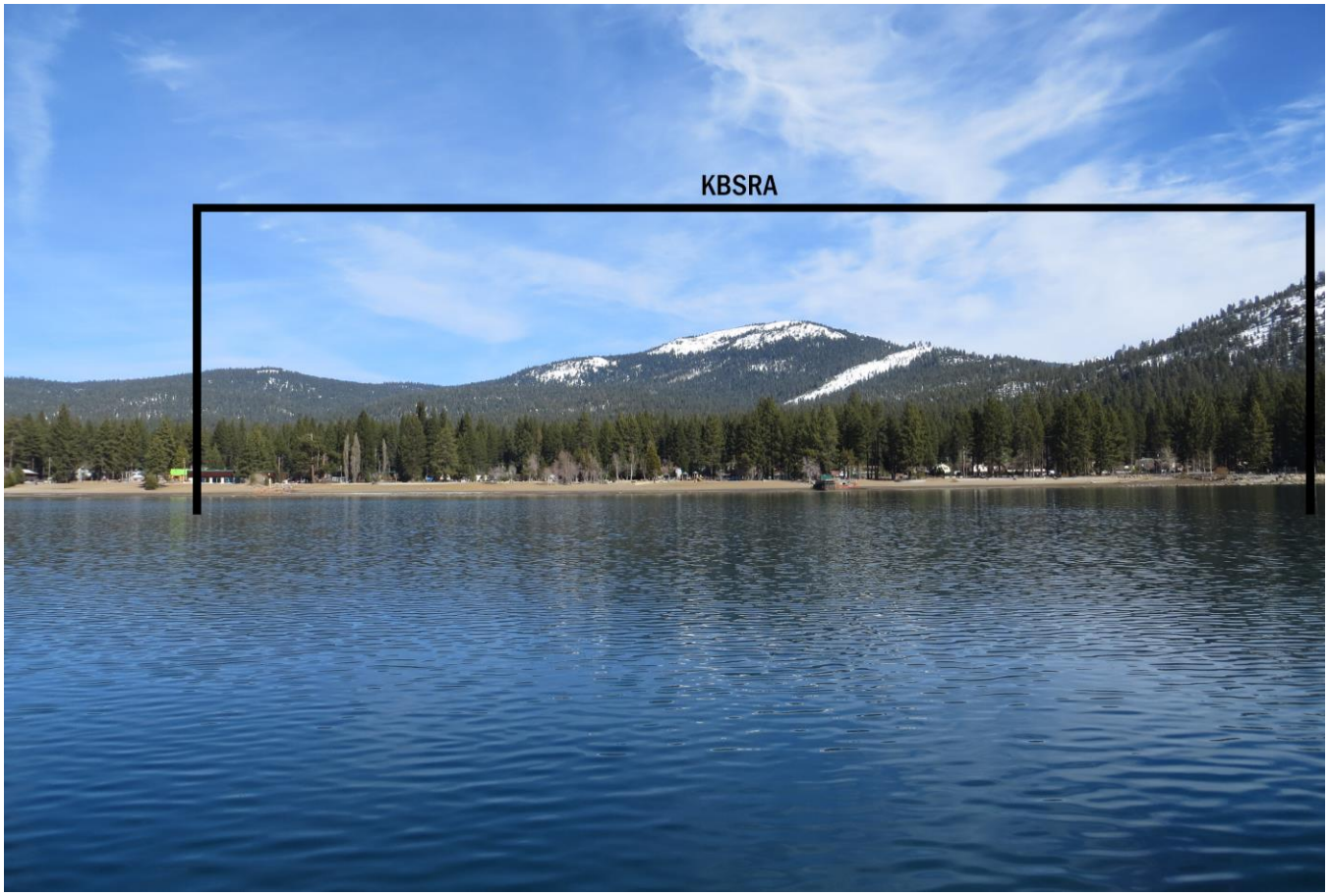


Exhibit 4.7-3 View of KBSRA from Lake Tahoe

Table 4.7-2 Shoreline Travel Unit 21 (Agate Bay) Scenic Threshold Monitoring Data

Year	Threshold Composite	Man-Made Features	Background Views	Variety	Status
1982	8	1	4	3	Attainment
1991	8	1	4	3	Attainment
1996	8	1	4	3	Attainment
2001	8	1	4	3	Attainment
2006	8	1	4	3	Attainment
2011	8	1	4	3	Attainment
2015	8	1	4	3	Attainment
1996 Comments: No comments.					
2001 Comments: The low man-made features rating reflects, in part, the number of boats and beach equipment clutter found along the beach throughout this unit. Several residential rebuilds include poor setback and screening characteristics. Two tourist accommodation upgrade projects fail to make scenic improvements. This unit remains at risk.					
2006 Comments: No comments.					
2011 Comments: No comments.					
2015 Comments: New HOA pier improved manmade conditions slightly, but not to the extent that would increase the score.					
Source: TRPA 2015					

Table 4.7-3 Shoreline Travel Unit 22 (Brockway) Scenic Threshold Monitoring Data

Year	Threshold Composite	Man-Made Features	Background Views	Variety	Status
1982	10	2	4	4	Attainment
1991	10	2	4	4	Attainment
1996	10	2	4	4	Attainment
2001	9	1.5	4	3.5	Not in Attainment
2006	9	1.5	4	3.5	Not in Attainment
2011	9	1.5	4	3.5	Not in Attainment
2015	9.5	2	4	3.5	Not in Attainment
1996 Comments: No comments.					
2001 Comments: The low man-made features rating reflects, in part, the number of boats and beach equipment clutter found along the beach throughout this unit. Several residential rebuilds include poor setback and screening characteristics. Two tourist accommodation upgrade projects fail to make scenic improvements. This unit remains at risk.					
2006 Comments: No comments.					
2011 Comments: No comments.					
2015 Comments: New HOA pier improved manmade conditions slightly, but not to the extent that would increase the score.					
Source: TRPA 2015					

Projects along the shore of Lake Tahoe are subject to the scenic quality review standards described in TRPA Code section 66.3. The scenic quality review includes a quantitative system for calculating and limiting the visual magnitude of the shoreline structures, such as piers and buildings. To support the assessment of the pier redevelopment and other structures that could be proposed in the GP, a baseline scenic assessment has been completed. The baseline scenic assessment included a calculation of the area of visual façade of all structures in KBSRA that could be seen from the lake. A composite contrast rating of 16 was calculated based on the color and reflectivity, and textures of existing structures visible in KBSRA. Based on this score and the 1,565 linear feet of shoreline in KBSRA, 4,318 square feet of visible façade could be allowed in KBSRA pursuant to Code section 66.3. The baseline scenic assessment determined that 4,708 square feet of visible façade currently exist. Because the existing visible façade exceeds the allowable amount, the GP and pier reconstruction will be required to 1) reduce the faced visible from the lake, 2) reduce the contrast score by using colors and textures that blend into the natural environment, and/or 3) reduce the visible magnitude of structures elsewhere consistent with TRPA mitigation requirements.

ROADWAY SCENIC RESOURCES

Three roadway scenic resources have been designated along SR 28 in the vicinity of KBSRA (Exhibit 4.7-1). These resources reflect important scenic views visible from the roadway that were identified in the 1982 Lake Tahoe Basin Scenic Resource Inventory (TRPA 1982b). Scenic Resources 20-2 and 20-4 include the view to the northwest along SR 28, and to the east from the intersection of SR 28 and Bear Street, respectively. Neither of the resources include views of KBSRA, thus they would not be affected by physical environmental changes at KBSRA. Scenic Resource 20-5 includes panoramic views of Lake Tahoe as viewed from SR 28 facing south across the western portion of KBSRA (Exhibits 4.7-4a and 4.7-4b). This view is the least obstructed view of Lake Tahoe within Kings Beach, and is therefore important to travelers on SR 28, pedestrians in Kings Beach, and visitors to KBSRA. The threshold score for Scenic Resource 20-5 has improved since the resource was first inventoried in 1982, and the resource is in attainment of the TRPA threshold standard. A summary of TRPA threshold monitoring scores for the resource is provided in Table 4.7-4.

Adjacent roadway travel units were evaluated to determine if designated scenic resources in those units include distant views of KBSRA, however KBSRA is not visible from designated scenic resources in surrounding roadway travel units.

Exhibit 4.7-4a Western Side of the View from Roadway Scenic Resource 20-5

Exhibit 4.7-4b Eastern Side of the View from Roadway Scenic Resource 20-5

Table 4.7-4 Roadway Scenic Resource 20-5, Threshold Monitoring Data

Year	Unity	Vividness	Variety	Intactness	Threshold Composite Score	Status
1982	2	2	2	2	8	Attainment
1991	3	2	2	3	10	Attainment
1996	3	2	3	3	11	Attainment
2001	3	2	3	3	11	Attainment
2006	3	2	3	3	11	Attainment
2011	3	2	3	3	11	Attainment
2015	3	2	3	3	11	Attainment

Source: TRPA 2015

RECREATION AREA SCENIC RESOURCES

KBSRA is a recreation area documented in the 1993 Recreation Areas Inventory and Evaluation (TRPA 1993), and subsequently included in TRPA's Other Areas Scenic Threshold category. The TRPA inventory identified important views from the recreation area and designated these as scenic resources, as shown in Exhibit 4.7-1. It identified panoramic views of the lake from the foot of the pier as Resource 9-1 (Exhibit 4.7-5), and panoramic views of the lake from mid-beach as area as Resource 9-2 (Exhibit 4.7-6). The inventory also identified the beach (resource 9-3) and trees that punctuate the inland edge of the beach (resource 9-4), as important natural features.

Exhibit 4.7-5 View of Lake Tahoe from Scenic Resource 9-1 in KBSRA

Exhibit 4.7-6 View of Lake Tahoe from Scenic Resource 9-2 in KBSRA

Periodic threshold monitoring since 1993 demonstrates that enhancements were made in 2001 through the removal of decaying buildings, which contributed to an increase in the scenic quality score for the Recreation Area. No changes to the scenic quality score have occurred since. Given that the composite score for the recreation area is equal to or greater than the original score given in 1993, KBSRA is in attainment of TRPA's scenic threshold standard.

The Recreation Areas Inventory and Evaluation (TRPA 1993) also identified elements that contribute to, and detract from the scenic quality of KBSRA, and it included recommendations for preserving the scenic quality of KBSRA. Several of these elements have been modified or improved since the 1993 inventory was completed, including improvements to the east end of the parking lot, removal of debris from the beach, and revegetation of cut-banks that can be seen in the distance along the west side of Agate Bay. The positive and negative elements that still affect the scenic quality of KBSRA are listed below, followed by the recommendations from the 1993 inventory that apply to KBSRA:

- Elements that Contribute to the Scenic Quality of KBSRA
    - Panoramic views of the lake framed by the sides of Agate Bay
    - Broad expanse of sandy beach
    - Trees that define the edge of the parking lot
    - Stone-covered viewing terrace/entry walk
- Elements that Detract from the Scenic Quality of KBSRA
    - Development west of the beach is very close to the beach and no attempt has been made to blend structures with the surrounding environment
    - The boat launch at the east end of the recreation area lacks landscaping and looks barren
- Recommendations for Preserving the Scenic Quality of Kings Beach
    - A program for cleaning the beach of debris should be developed (recommendation may no longer apply)
    - The rock walls and terrace should be rehabilitated (i.e., replace missing and/or broken pavers, etc.) and planter areas refurbished. Sidewalks should be kept clean of sand buildup.
    - Eastern portion of the parking area should be upgraded to match the western portion (recommendation may no longer apply)
    - Views to the lake from the highway and commercial areas must be maintained or enhanced.
    - Additional Landscaping should be introduced into the boat launch area to mitigate the effects of the large expanse of pavement. At a minimum, the launch area requires some visual softening when viewed from the beach, as it is currently a negative visual element at the eastern end of the recreation area.
    - The west end of the beach requires a heavy landscape treatment (i.e., a grove of trees) to screen the recreation center and parking lot from the beach.

4.7.3 Built Environment

Facilities in KBSRA are described in Chapter 3, KBSRA Land Use and Facilities. The existing facilities within KBSRA include a mix of facilities, some of which have a positive effect on the aesthetic quality of KBSRA, others of which detract from it. The restrooms were built in the early 2000s and are generally in good repair. They reflect the design standards in place at the time and include natural materials and an architectural style that blends with the natural environment and contributes positively to the scenic quality of KBSRA (Exhibit 4.7-7). Similarly, the plaza area on the Conservancy parcels was relatively recently constructed and contributes to the character of KBSRA (Exhibit 4.7-8).

Other facilities within KBSRA are older and show signs of deterioration. Many of the older facilities do not reflect current design standards and guidelines. Rehabilitating or replacing these older facilities could contribute to the aesthetic quality of KBSRA. Examples of facilities that have a negative effect on the aesthetic character of KBSRA include the stone and concrete walls and walkways immediately south of the central restroom (Exhibit 4.7-9), the concessionaire building near the base of the pier (Exhibit 4.7-10), and the boat launch area in the eastern part of the park (Exhibit 4.7-11).

Exhibit 4.7-7 Existing Restroom at KBSRA

Exhibit 4.7-8 Plaza Area

Exhibit 4.7-9 Walls and Walkway at KBSRA

Exhibit 4.7-10 Concessionaire Building

Exhibit 4.7-11 Boat Launch Area

The existing pier at KBSRA a 10 feet wide by 207 feet long fixed structure with a wooden deck, guard rail, and steel pilings. The current configuration is regularly inaccessible to watercraft due to low lake levels (Exhibit 4.7-12).

Exhibit 4.7-12 Pier Profile View

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4.8 NOISE AND AUDITORY RESOURCES

This section provides an overview of the existing auditory resources and noise levels in and around the Kings Beach State Recreation Area (KBSRA). It is divided into the following sections:

- **Regulatory Setting** provides an overview of regulations that are applicable to noise within KBSRA.
- **Plan Area Noise and Auditory Resources** provides a description of the existing noise levels and auditory resources within and near KBSRA.

4.8.1 Regulatory Setting

TAHOE REGIONAL PLANNING AGENCY

The elements of the Tahoe Regional Planning Agency (TRPA) Regional Plan related to noise include the following: Noise Subelement of the Goals and Policies (TRPA 2012b); Code of Ordinances (Code), Chapter 68, Noise Limitations (TRPA 2012a); Plan Area Statements (PASs) and Community Plans; and Environmental Threshold Carrying Capacities (TRPA 2012c).

Lake Tahoe Regional Plan

Goals and Policies

The Noise Subelement of the Goals and Policies document contains the following potentially applicable goals and policies:

Goal 1: Single Event Noise Standards Shall Be Attained and Maintained. Threshold standards were adopted that apply to aircraft, motorized watercraft, motor vehicles, off-road vehicles, and snowmobiles to reduce impacts associated with single noise events.

- **Policy 3.** Motor vehicles and motorcycles shall comply with the appropriate noise threshold standards.
- **Policy 5.** The use of snowmobiles will be restricted to designated areas.
- **Policy 6.** The plan will permit uses only if they are consistent with the noise standards. Sound proofing practices may be required on all structures containing uses that would otherwise adversely impact the prescribed noise levels.

Goal 2: Community Noise Equivalent Levels Shall Be Attained and Maintained. CNEL Threshold Standards were adopted to address the annoyance associated with cumulative noise events on people and wildlife. The main sources of noise in the Region are attributed to the major transportation corridors and the airport. Therefore, the policies are directed towards reducing the transmission of noise from those sources. Implementation of the following policies will help result in attainment of the CNEL Threshold Standards.

- **Policy 1.** Transmission of noise from transportation corridors shall be reduced. The noise associated with the transportation corridors can be decreased by reducing the number of trips and by installing mitigation measures. Trip reduction will be accomplished by the transit improvements identified in the Transportation Element. Ordinances will establish specific site design criteria for projects to help reduce the transmission of noise from the transportation corridors. The design criteria will also be

incorporated into the water quality and transportation improvement programs. The mitigation measures may include set-backs, earth berms, and barriers.

- **Policy 3.** TRPA will further define CNELs for wilderness and roadless areas, and for critical wildlife habitat areas. The noise sub-element also established a 55 dBA CNEL value for the following transportation corridors: State Routes (SRs) 89, 207, 28, 267, and 431.

- **Policy 4.** The highway CNEL standards override the land use-based CNELs and are limited to an area within 300 feet from the edge of the road.

Code of Ordinances

Chapter 68, Noise Limitations, of the TRPA Code of Ordinances is intended to implement the Noise Sub-element of the Goals and Policies and to attain and maintain the TRPA Environmental Threshold Carrying Capacities (TRPA 2012a, 2012b, 2012c).

Section 68.4, Community Noise Levels, states that TRPA shall use community noise equivalent levels (CNELs) to measure community noise levels and that PASs shall set forth CNELs that shall not be exceeded by any one activity or combination of activities (see PASs below). The CNELs set forth in the PASs are based on the land use classification, the presence of transportation corridors, and the applicable threshold standard.

Environmental Threshold Carrying Capacities

TRPA has established threshold standards for nine resource areas, including noise. There are two noise threshold indicators: single noise events and cumulative noise events. In 2011, the region was in non-attainment for single noise events and for cumulative noise. However, TRPA's 2011 *Threshold Evaluation Report* (TRPA 2011) indicates that noise standards and evaluation approaches need to be reevaluated. The majority of standards were determined to be out of attainment as a result of a 'no exceedance' interpretation of the standards and TRPA has little enforcement authority to address many noise issues, single event noise in particular.

Single Noise Events

A noise event can be defined as an unexpected increase in acoustic. Single Noise Event Threshold Standards adopted by TRPA are based on the numerical value associated with the maximum measured level in acoustical energy during an event. This threshold establishes maximum noise levels for aircraft, watercraft, motor vehicles, motorcycles, off-road vehicles, and snowmobiles.

Cumulative Noise Events

Cumulative noise, or CNEL, is a noise measurement based on a weighted average of all measured noise over a 24-hour period. The CNEL indicator applies a +4.77 dB penalty to noise levels during the nighttime period (10 p.m. to 7 a.m.) to account for people's increased sensitivity to nighttime noise. TRPA adopted CNEL standards for different zones within the region to account for expected levels of serenity. The standards, established in the Goals and Policies, apply to the entire Lake Tahoe region. Table 4.8-1 summarizes thresholds for single events (L_{max}) and threshold for community noise events.

The noise limitations established in Chapter 68 of the Code of Ordinances, including the noise standards for individual PASs, do not apply to noise from TRPA-approved construction or maintenance projects, or the demolition of structures, provided that such activities are limited to the hours between 8:00 a.m. and 6:30 p.m. Further, the noise limitations of Chapter 68 shall not apply to emergency work to protect life or property.

Table 4.8-1 Relevant TRPA Regional Plan Cumulative Noise Level Standards

Category	Standard
Boats (not to exceed any of 3 tests)	82 dBA measured at 50 feet within engine at 3,000 rpm
	SAE Test J1970 or SAEJ1970, Shoreline Test, 75 dBA (standard adopted 7/03)
	SAE Test J2005, Stationary Test, 88 dBA if watercraft manufactured on or after 1/1/93 and 90 dBA if watercraft manufactured before 1/1/93 (standard adopted 7/03
Motor Vehicles (< 6,000 pounds GVW)	76 dBA running at <35/mph (82 dBA running at >35/mph) measured at 50 feet
Motor Vehicles (> 6,000 pounds GVW)	82 dBA running at <35/mph (86 dBA running at >35/mph) measured at 50 feet
Motorcycles	77 dBA running at <35/mph (86 dBA running at >35/mph) measured at 50 feet
Snowmobiles	82 dBA running at <35/mph measured at 50 feet
Community Noise Equivalent Levels: Background levels shall not exceed the following:	
Land Use Category	*CNEL, dBA*
High Density Residential	55
Low Density Residential	50
Hotel/Motel Facilities	55
Commercial Area	65
Urban Outdoor Recreation	55
Rural Outdoor Recreation	50
Policy Statement: It shall be a policy of the TRPA Governing Board in the development of the Regional Plan to define, locate, and establish CNEL levels for transportation corridors.	
Transportation[1]	
State Routes 28 and 267	55 dBA CNEL[2]

Notes: CNEL = community noise equivalent level measurements are weighted average of sound level gathered throughout a 24-hour period; dB = decibels; dBA = A-weighted decibels; mhp = miles per house; rpm = revolutions per minute

[1] CNEL values for transportation corridor.

[2] This transportation corridor threshold overrides the land use CNEL thresholds and is limited to an area within 300 feet from the edge of the road.

Source: TRPA Code of Ordinances 2012a, 2012b, 2012c

Kings Beach Community Plan

TRPA thresholds establish noise limits for different use categories. The community plan identifies the noise thresholds standards that apply to specific geographic areas within Kings Beach. These standards can be equal to or more stringent than the threshold standards for the applicable use category.

TRPA thresholds are 65 CNEL for commercial areas, 55 CNEL for residential and urban recreation, and 55 CNEL for highway corridors. Based on CNEL values for transportation corridors, 55 dBA CNEL would be applied within 300 feet of the edge of pavement along SR 28, as also shown in Table 4.8-1. The transportation corridor standards override the land use CNEL standards. The underlying land use standard would apply beyond 300 feet from the highways. The maximum cumulative noise equivalent levels for the Kings Beach Area Plans are as follows:

- Where applicable, a maximum 55 CNEL override for the SR 28 corridor is permissible.
- The maximum CNEL for Special Area #4 is 55 CNEL.
- The maximum CNEL for all areas of the Community Plan except as noted above is 65 CNEL.

- The maximum CNEL for Shorezone Tolerance Districts 6 and 7 is 55 CNEL and the maximum for the lakezone is 50 CNEL.

PLACER COUNTY

Placer County Noise Element

The General Plan for Placer County (2013c) contains policies governing noise related to development within Placer County, as identified below. The maximum allowable noise exposure limits for transportation noise sources in Placer County are summarized in Table 4.8-2.

Table 4.8-2 Placer County Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Outdoor Activity Areas[1]	Interior Space	
	L_{dn}/CNEL	L_{dn}/CNEL	L_{eq}, dBA[2]
Residential	60[3]	45	
Transient Lodging	60[3]	45	
Hospitals, Nursing Homes	60[3]	45	
Theatres, Auditoriums, Music Halls			35
Churches, Meeting Halls	60[3]		40
Office Buildings			45
Schools, Libraries, Museums			45
Playgrounds, Neighborhood Parks	70		

Notes: CNEL = community noise equivalent level

[1] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[2] As determined for a typical worst-case hour during periods of use.

[3] Where it is not possible to reduce noise in outdoor activity areas to 60 L_{dn}/CNEL or less using a practice applicable of the best-available noise reduction measures, and exterior noise level of up to 65 dBA L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Source: Placer County General Plan 2013c

PLACER COUNTY NOISE ORDINANCE

The Placer County Noise Ordinance (Article 9.36 of the Placer County Code) defines sound level performance standards for sensitive receptors (refer to Table 4.8-3). The ordinance states that it is unlawful for any person at any location to create any sound, or to allow the creation of any sound, on properly owned, leased, occupied, or otherwise controlled by such a person that causes the exterior sound level, when measured at the property line of any affected sensitive receptor, to exceed the ambient sound level by 5 dBA or exceed the sound level standards as set forth in Table 4.8-3 whichever is greater.

Table 4.8-3 Placer County Noise Ordinance Level Standards for Sensitive Receptors

Sound Level Descriptor (dBA)	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 p.m.)
Hourly L_{eq}	55	45
L_{max}	70	65

Notes: dBA = A-weighted decibels.

Source: Placer County Code 9.36.060, "Sound Limits for Sensitive Receptors)

Each of the sound level standards specified in Table 4.8-3 shall be reduced by 5 dBA for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be lower than the ambient sound level plus 5 dBA.

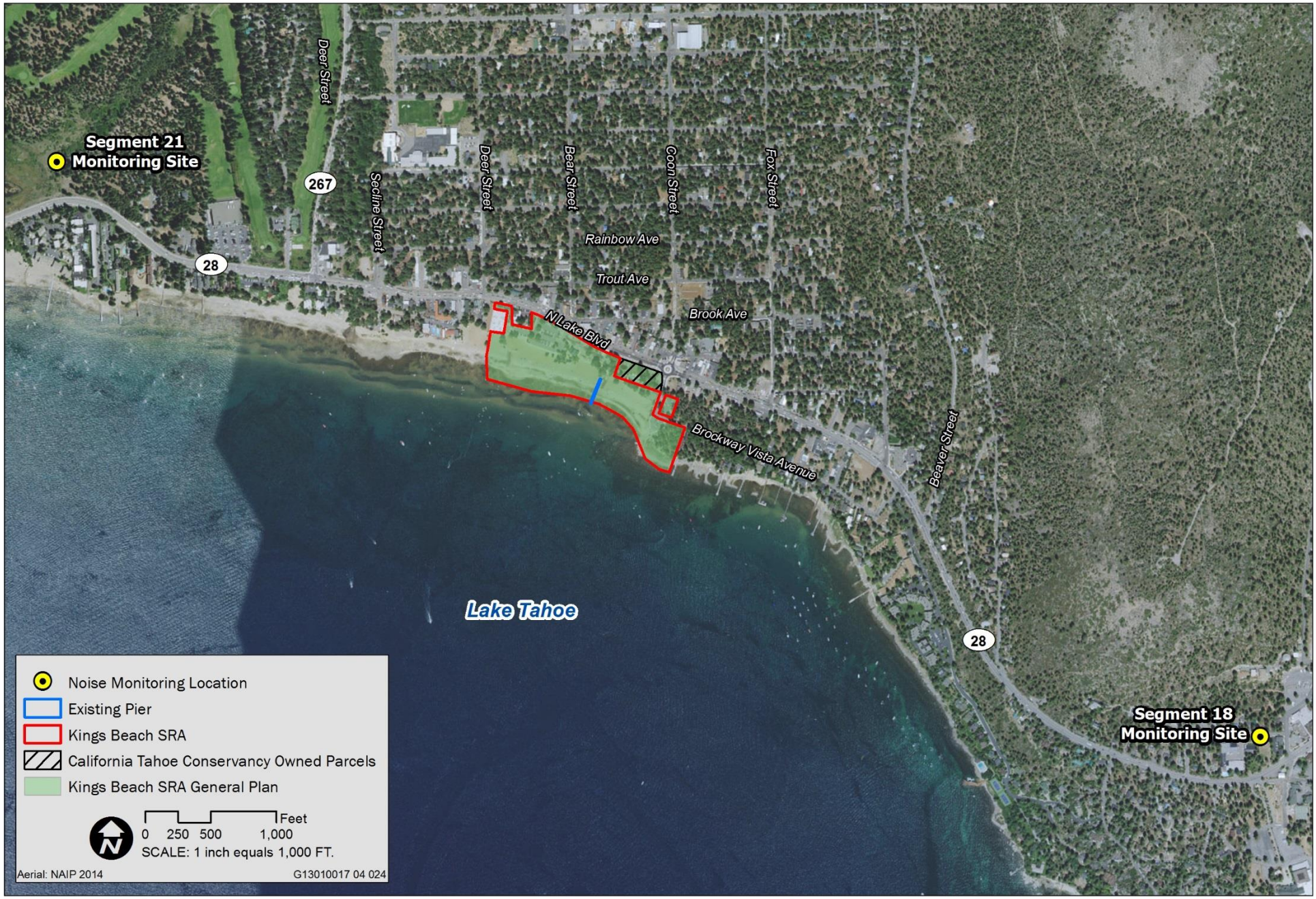
As described in Section 9.36.030, "Exemptions," some noise-generating activities are exempt from the above noise ordinance standards, including construction that is performed between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 8:00 a.m. and 8:00 p.m. Saturday and Sunday, provided that all construction equipment is fitted with factory-installed muffler devices and maintained in good working order.

4.8.2 Plan Area Noise and Auditory Resources

Pleasant sounds experienced in the KBSRA include the sound of waves crashing against the shoreline, which can intensify during storms and subdue in mellow and moderate conditions. Evergreen and coniferous forests encompass KBSRA and its surrounding areas, which provide aesthetically pleasing sounds as wind passes through the vegetation.

Human-made sounds may also be heard in KBSRA that can be beneficial, neutral, or adverse to visitor experience. Location, time, and context contribute to the effects of human-related sounds. Human-generated sounds associated with park enjoyment may include talking, yelling, music, and laughing, and could illicit varying degrees of positive and negative responses depending on the receptor. These sources of sounds intensify during the summer months and weekends when recreational opportunities increase.

KBSRA is bordered by SR 28, which runs through Kings Beach near the shoreline. On-road vehicle-related traffic noise can be heard from KBSRA with fluctuations occurring between the weekdays and weekends and between seasons. TRPA commissioned a study by Bollard Acoustical Consultants that assessed current CNEL levels during weekdays and weekends at various locations around the Lake Tahoe region. Two locations on SR 28, one to the east (Segment 18) and one to the west (Segment 21) of KBSRA, were monitored to evaluate the consistency between actual levels of noise and TRPA CNEL thresholds of significance for transportation corridors. The monitoring locations are shown on Exhibit 4.8-1. For SR 28, the TRPA CNEL standard is 55 dBA. For Segment 18, the study showed no exceedance of the TRPA standard during weekdays or weekends. Monitoring at Segment 21 identified inconsistency with the 55 dBA standard as recordings demonstrated CNEL values of 58 dBA on weekdays and 57 dBA on weekends (Bollard Acoustical Consultants 2014).



Kings Beach State Recreation Area
California Department of Parks and Recreation

Exhibit 4.8-1 Noise Monitoring Locations

5 OPERATIONS AND MAINTENANCE

This chapter provides a summary of operations and maintenance activities at the Kings Beach State Recreation Area (KBSRA). It is divided into the following sections:

- **Facility Management** describes existing staffing and revenue for facility management.
- **Visitor Services and Safety** provides a brief summary of staffing levels for visitor services and safety.

5.1 FACILITY MANAGEMENT

KBSRA is managed on a day-to-day basis by DPR operational staff consisting of two full-time employees: one Park Maintenance Worker and one Park Maintenance Assistant. These employees spend approximately 75 percent of their time managing KBSRA itself, and the remaining 25 percent of their time on the other six north shore California Tahoe Conservancy (Conservancy) parcels under agreement with the Conservancy (Conservancy and DPR 2014).

In addition, DPR usually employs 10 seasonal staff to assist with both maintenance and visitor services from April to November each year. Maintenance staff are responsible for trash and litter collection and disposal, which is particularly problematic following special events; restroom maintenance; TRPA permitting to conduct sand management; sand management; stormwater basin management; and landscaping. Visitor services staff are responsible for fee collection at the visitor kiosk, directing traffic near the entrance on peak summer days, law enforcement, special event coordination, and boat inspection verification during high water years when the boat ramp is operational. The time spent between maintenance and visitor services changes as the need arises. Additional assistance is provided by DPR staff from other nearby park units and from Sierra District staff, and KBSRA staff may help out at other park units when needed (Linkem, pers. comm., 2016).

DPR manages the parking lot at KBSRA and collects parking fees. Parking revenue varies throughout the year as visitation levels change. The parking revenue in 2014/15 was $216,443. Total revenue for 2014/15, which includes parking, permit fees for special events, and the lease fee from the summer concessionaire, was $304,983. Revenue is expected to increase in 2016/17 when the closed parking lot at the Bear St. entrance is reopened for visitor use, and automatic pay machines are installed in all lots. The annual cost of operating the park unit is approximately $450,000.

DPR is responsible for operation and management of both the DPR lands at KBSRA and the adjacent Conservancy lands described as the Plaza. For the lands included in the Plaza, and for the other six Conservancy beaches along the north shore, utility bills are paid by the Conservancy in accordance with the 2014 agreement with DPR. This includes site utilities (gas, electric, water and sewer) and the removal of hazard trees. DPR has agreed to pay for the replacement of routine maintenance items on these lands such as drains, light bulbs, door locks, faucets, and sprinkler heads (Conservancy and DPR 2014).

Special events are permitted by DPR at KBSRA. On the beach area of KBSRA, events include swim clinics, paddleboard races and festivals, ironman and adventure races, and concerts and theater presentations. The Music on the Beach concert series every Friday through the summer has been a popular event for 10 years at KBSRA. The parking lots, and the Coon Street and boat ramp area has been used for barbeques and car shows. The most recent available revenue information is from fiscal year 2013-2014

from NTPUD, the agency managing KBSRA at the time, which reported approximately $3,000 in special event revenue annually (NTPUD 2014b).

DPR and the Conservancy have agreed to make improvements to KBSRA lands consistent with the General Plan revision. Included in those facility needs will be improvements to accessibility consistent with the federal Americans with Disabilities Act, California Government Code Sections 4450, Access to Public Buildings by Physically Handicapped Persons, and 7250, Facilities for Handicapped Persons. These needed improvements, with an estimated cost of approximately $430,000, were identified by DPR in 2012 and are being implemented as funding allows (DPR 2012). Currently, DPR includes the following statement on its website: "We are working to improve accessibility throughout our parks but we regret that there are currently no accessible activities at this park" (DPR 2016). However, there are some generally accessible features at KBSRA such as the parking areas, restrooms, and routes of travel, that meet current accessibility standards.

5.2 VISITOR SERVICES AND SAFETY

A full-time Park Ranger is assigned to the KBSRA to provide for visitor services and park safety. As with maintenance personnel, the Ranger spends approximately 75 percent of the time directly on KBSRA, and about 25 percent time on the other six north shore parcels owned by the Conservancy. In accordance with the agreement with the Conservancy, DPR management of KBSRA and the adjoining Conservancy lands includes law enforcement services and all necessary personnel, equipment, supplies, and services needed to operate and manage the park in a safe, clean, and orderly manner for the protection of resources and the public (Conservancy and DPR 2014).

The seasonal staff members working from April to November each year also assist with visitor services and maintaining the visitor information kiosks. As with facility management, additional assistance is provided by DPR staff from other nearby park units and from Sierra District staff, just as the KBSRA staff assists at other park units when needed (Linkem, pers. comm., 2016).

KBSRA contains some features that are generally accessible to disabled visitors, such as the parking areas and paths that meet current accessibility standards. However, improvements necessary to comply with accessibility requirements were identified by CSP in 2012 and are being implemented as funding allows. Needed accessibility improvements include modifications to the entrance station, parking lot, picnic areas, playground, benches, stairs, beach access, pier, walkways, restroom, and concessionaire building.

6 PARK SUPPORT AND PARTNERSHIPS

This chapter provides a summary of agencies and partner organizations that support operation of KBSRA. It is divided into the following sections:

- **Department of Parks and Recreation and California Tahoe Conservancy** describes the roles, responsibilities and agreements between DPR and the Conservancy in the operation of KBSRA.
- **Concessions** summarizes an existing concession agreement at KBSRA.
- **Volunteers and local partners** provides an overview of local agency and non-profit organization support for KBSRA.

6.1 DEPARTMENT OF PARKS AND RECREATION AND CALIFORNIA TAHOE CONSERVANCY

DPR and the Conservancy have a partnership at Kings Beach that continues today, described briefly in Section 5.1 Facility Management, above. The primary agreement that describes the current partnership is the *Agreement Between the California Tahoe Conservancy and the State of California, Department of Parks and Recreation for the Kings Beach State Recreation Area and certain California Tahoe Conservancy-Owned Recreation Property in Placer County* that was signed by both state agencies on October 1, 2014 (Conservancy and DPR 2014).

The agreement tasks the Conservancy with leading the development and coordination of a public process to consider and evaluate additional improvements that may be needed for KBSRA including Conservancy lands associated with the park. This effort is currently underway, with a public process that is considering alternative pier locations, sizes and lengths, as well as other potential improvements at KBSRA. The agreement also identifies DPR as the lead in preparing the General Plan revision for KBSRA to include these improvements and adjust park boundaries as needed. The agreement stipulates that these actions shall be completed in the context of a public process that involves the greater Kings Beach community and arrives at a collective vision for KBSRA (Conservancy and DPR 2014).

Appendix B of the agreement details the operations and maintenance responsibilities of DPR and the Conservancy for the Kings Beach Plaza portion of KBSRA, the Coon Street Asset Parcel, the two adjacent beaches to the west of KBSRA (Steamer's Beach and the Sun and Sand Beach Easement) and the four other non-contiguous Conservancy parcels along the north shore of Lake Tahoe. DPR provides law enforcement services and all necessary year round, and seasonal personnel, equipment, supplies, and outside services, including sewer and trash removal. The Conservancy pays for all site utilities and hazard tree removal. Additional provisions are included that cover extraordinary and non-routine maintenance needs. All this is detailed in the agreement for each of the sites.

6.2 CONCESSIONS

A concession agreement is in place to provide watersport rentals to the public at the concession shed/office and equipment storage facilities located landward from the pier and adjacent to the plaza at KBSRA (DPR 2014c). The current agreement is with North Tahoe Watersports. The rent required by the concession agreement is $50,000 annually, or 25 percent of monthly gross receipts, whichever is greater. The concession operates from 9:00 a.m. to 6:00 p.m. from May 1 to October 31 each year. DPR sets

standards for environmental conservation, maintenance and repair, housekeeping, insurance, staffing, and rates charged by the concessionaire, among a range of other operational provisions normally required by DPR in concessionaire agreements (DPR 2014c).

6.3 VOLUNTEERS AND LOCAL PARTNERS

The non-profit Sierra State Parks Foundation (Foundation) is a key partner at KBSRA. The Foundation generates essential funding for eight California DPR park units, located in the Lake Tahoe Basin and Truckee, California, which directly supports restoration, preservation, and interpretation efforts. They support DPR in providing park users opportunities to experience educational and interpretive programs which connect visitors with the unit or region's history, culture, and environment. The Foundation seeks to assist DPR in offering interpretive and educational programs throughout their area of focus, including KBSRA.

The Foundation is currently supporting DPR in developing an interpretation program for KBSRA. The interpretation program will provide park users with an informational resource regarding park rules and regulations, public facilities, park events, recreation activities, the local ecosystem, and history of the park. The KBSRA interpretation program will also organize various community restoration programs which directly align with the mission of DPR. The interpretation program will educate KBSRA users in the various park rules and regulations by providing visual displays, paper brochures, and an onsite staff member to answer questions. The Foundation hopes to raise awareness of the need for restoration and preservation projects at KBSRA and generate the necessary financial assistance to complete essential projects.

The Foundation supports DPR in coordinating most volunteer efforts for KBSRA and the other parks it supports. Other volunteer efforts at KBSRA include the annual Lake Tahoe beach clean-up sponsored by the League to Save Lake Tahoe and several land management agencies around the lake.

NTPUD, which formerly managed KBSRA, is also an active KBSRA partner. In exchange for two parking places in the parking lot for administrative use, NTPUD plows the parking lot in winter (Linkem, pers. comm., 2016). NTPUD manages the North Tahoe Event Center which is immediately adjacent to KBSRA. The Event Center serves as a community center for Kings Beach, and accommodates a variety of events that often include use of the beaches and facilities of KBSRA. NTPUD has also expressed interest in acquiring fee title ownership from DPR of additional lands immediately adjacent to the North Tahoe Event Center, and in developing or modifying agreements with DPR to streamline the use of the North Tahoe Event Center for special events.

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