

## CHAPTER 2. ALTERNATIVES AND MEASURES TO AVOID ADVERSE EFFECTS

The Proposed Action encompasses four management areas as defined in the LRMP. The management areas are located on the west side of the Basin, as specified below.

- **Blackwood Management Area:** Township (T) 15 North (N), Range (R) 16 East (E), Portions of Sections 25, 26, and 35; T14N, R16E., Portions of Section 2
- **McKinney Management Area:** T14N, R16E, Portions of Sections 12, 13, 14, 23, and 24; T14N, R17E, Portions of Section 18.
- **Meeks Management Area:** T14N, R16E, Portions of Sections 30 and 31; T14N, R17E, Portions of Sections 20, 29, and 32.
- **Emerald Bay Management Area:** T14N, R17E, Portions of Sections 29, and 32; T13N, R17E, Portions of Sections 5, 8, 9, 21, and 28.

The most substantial state land holdings in the project area are Sugar Pine Point State Park, D. L. Bliss State Park, and Emerald Bay State Park. Privately owned land is concentrated near the shore of Lake Tahoe in communities such as Tahoe Pines, Homewood, Chambers Lodge, Tahoma, Tahoe Cedars, Meeks Bay, Rubicon Bay, and several other smaller, intervening urban areas (Figure 2-1).

Two alternatives are being considered: the Proposed Action and the No-Action Alternative. The project area and treatment units are shown in Figures 2-1 and 2-2a–c. The project timeline is shown in Table 2-1.

### Alternatives

---

#### No Action

Under the No-Action Alternative, no fuel reduction treatments would occur in the Quail project area, and the expected fire behavior would not be altered. Upon ignition, fire behavior under existing untreated fuel conditions could have a fast rate of spread and long flame lengths, such that the effectiveness of fire suppression activities to control and contain the fire would be limited, and public and firefighter safety would be compromised. Fire suppression activities would continue, but may be less effective as hazardous fuels continue to accumulate. Under such conditions a catastrophic fire could have severely adverse effects on most resource areas.

## Proposed Action

The Proposed Action would implement vegetative treatments in stands totaling 2,704 acres to modify dense vegetation conditions. These treatments are designed to help restore a healthy, diverse (in terms of species composition and size class) forest, create a fire-resilient forest structure, and reduce fuel accumulations where excessive fuel loads exist.

Treatments of vegetation and fuels that meet the objectives of the Proposed Action involve (1) thinning brush and trees; (2) piling, burning, removing biomass, and chipping fuels; (3) cutting, chipping, and removing infested, diseased, and dead standing and down trees; and (4) prescribed underburning subsequent to vegetation treatments.

Hand treatment of conifer stands would generally entail thinning trees up to 14 inches in diameter in 2005. Approximately 15 trees per acre smaller than 14 inches in diameter would be retained. Piling of thinned materials and selected ground fuels would occur in 2005, followed by burning the piles in 2006 and underburning in 2010 (Table 2-1). Mechanical treatment of conifer stands would entail thinning trees up to 30 inches diameter in 2005, chipping activity and treatment of selected ground fuels in 2005, and underburning in 2010 (Table 2-1). In the general prescription for mechanical thinning, a target basal area of 100–140 ft<sup>2</sup>/acre would be established to reduce density sufficiently to promote healthier stand conditions. Due to an abundance of large trees in some stands and the 30-inch-diameter limit, some post-treatment basal areas in mechanically treated stands would remain higher than the target.

In the mechanically treated stands, a minimum of three snags per acre and three logs per acre of the largest diameters present would be retained. The number and average size of snags and down logs would likely be greater in manually treated stands, because hand thinning crews would not cut snags or buck down logs more than 20 inches in diameter.

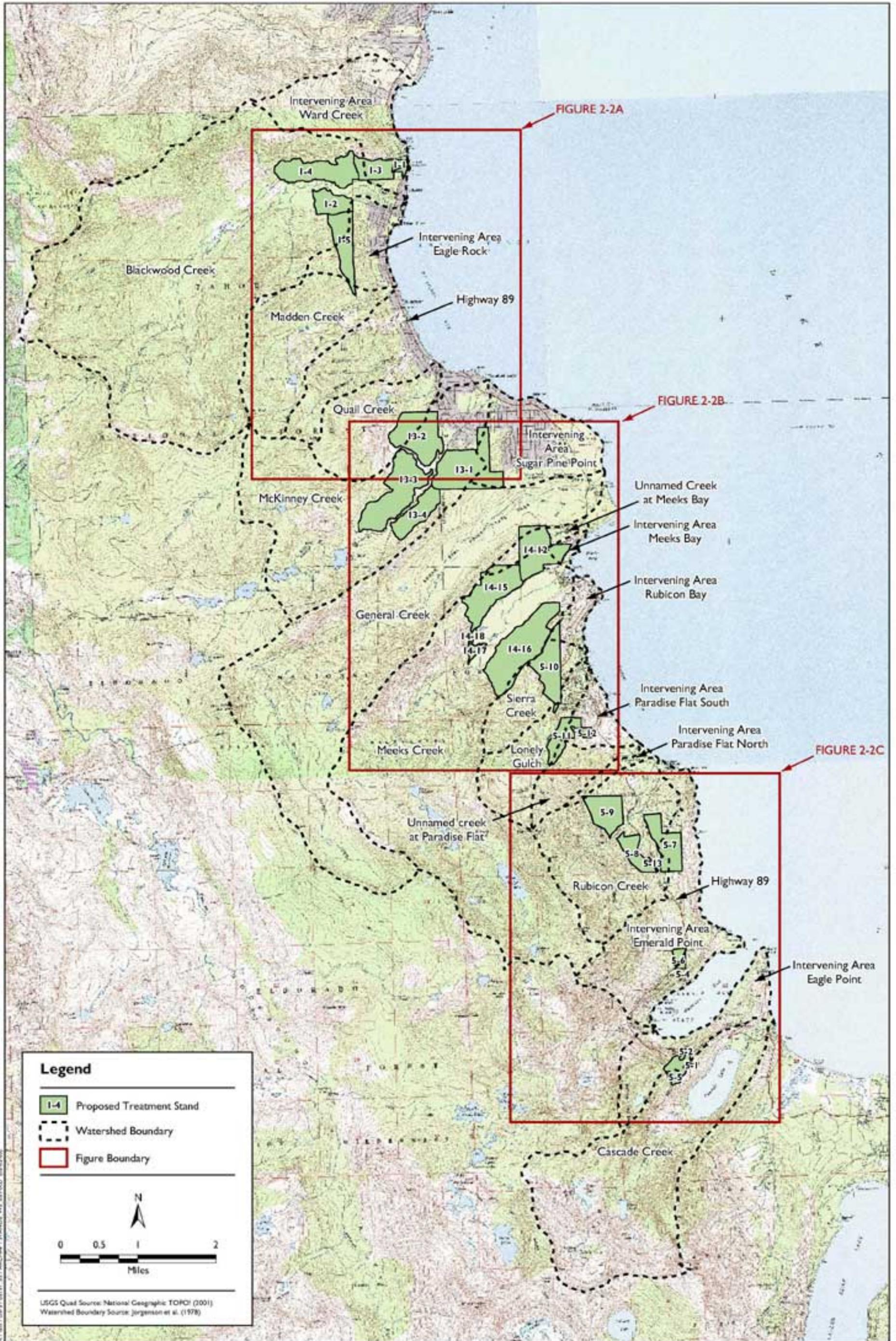
Aspen treatments would involve the removal of live conifers less than 14 inches in diameter to allow for aspen enhancement. All slash would be hand carried from the aspen stand and hand piled in adjacent areas for burning or chipping.

Limited or no treatment would occur in SEZs and around nest sites of sensitive species. Thinning would be determined by canopy position (i.e., intermediate and suppressed trees would be selectively thinned), which would result in uneven spacing of residual trees. To the extent possible, thinning would be designed to restore a mosaic of tree spacing, small openings, and small clumps of pine.

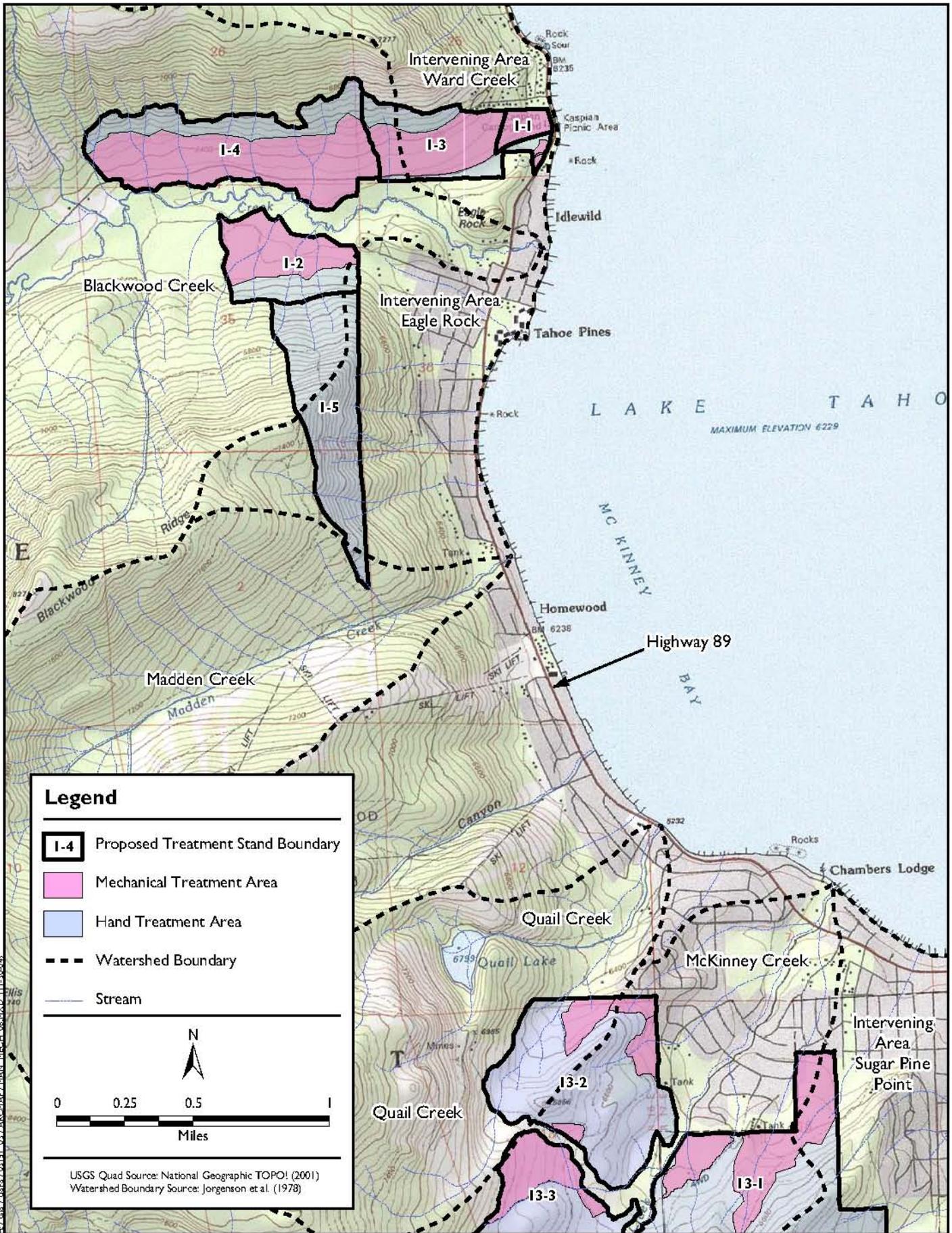
These treatments are designed to meet the purpose and need of the LRMP as amended in 2004 by the SNFPA Final EIS (FEIS) and ROD<sup>1</sup> for stand conditions in the WUI zone.

---

<sup>1</sup> The Proposed Action is tiered to the LRMP and amending documents, including the SNFPA. Tiering means that this EA will refer to these documents rather than repeat the information they



M:\GIS\10051-001\11\_01\_ARCH\MP\10051001\_WS\_05\_P000\_000000.mxd



**Legend**

- I-4 Proposed Treatment Stand Boundary
- Mechanical Treatment Area
- Hand Treatment Area
- Watershed Boundary
- Stream

N

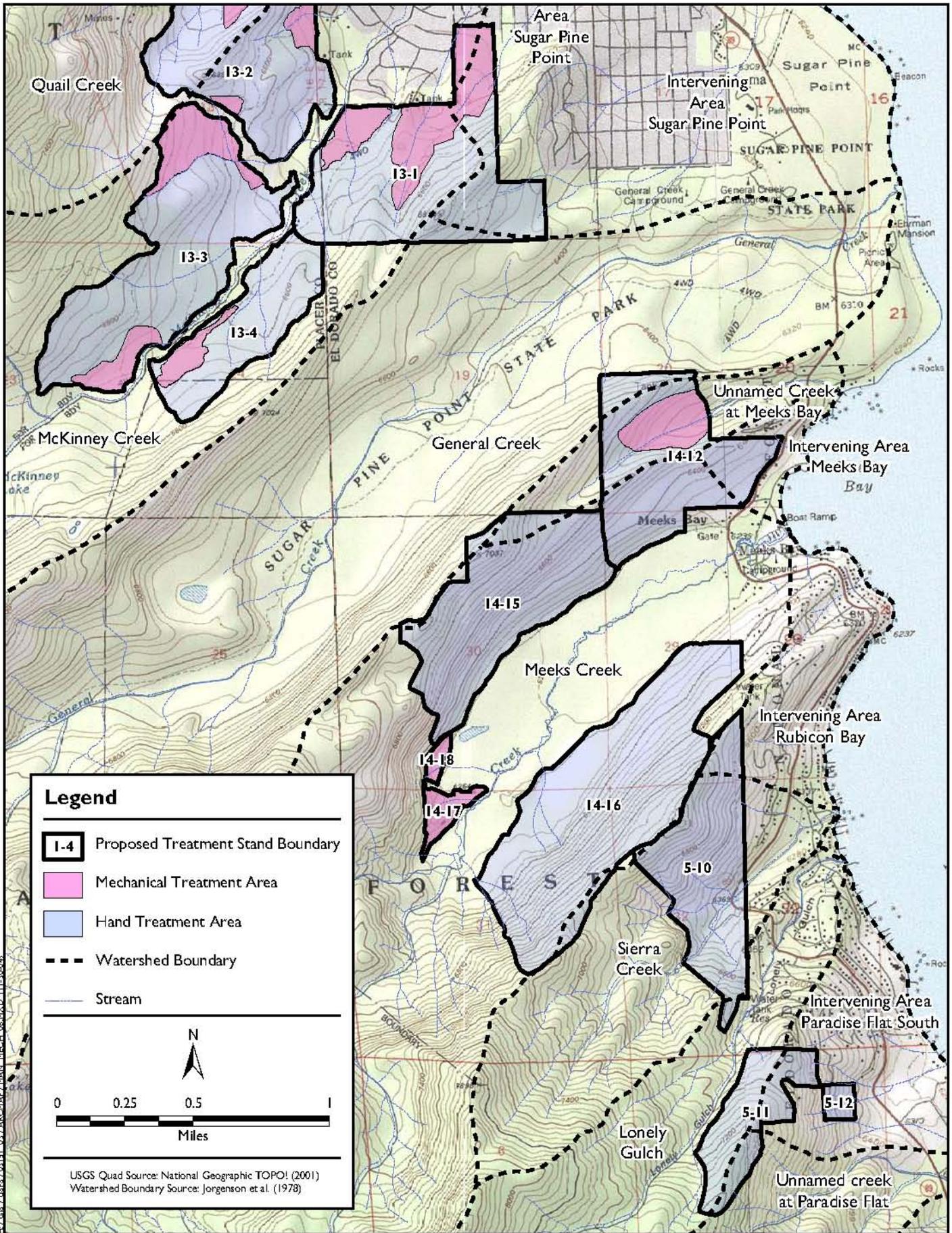
0 0.25 0.5 1

Miles

USGS Quad Source: National Geographic TOPO! (2001)  
 Watershed Boundary Source: Jorgenson et al. (1978)

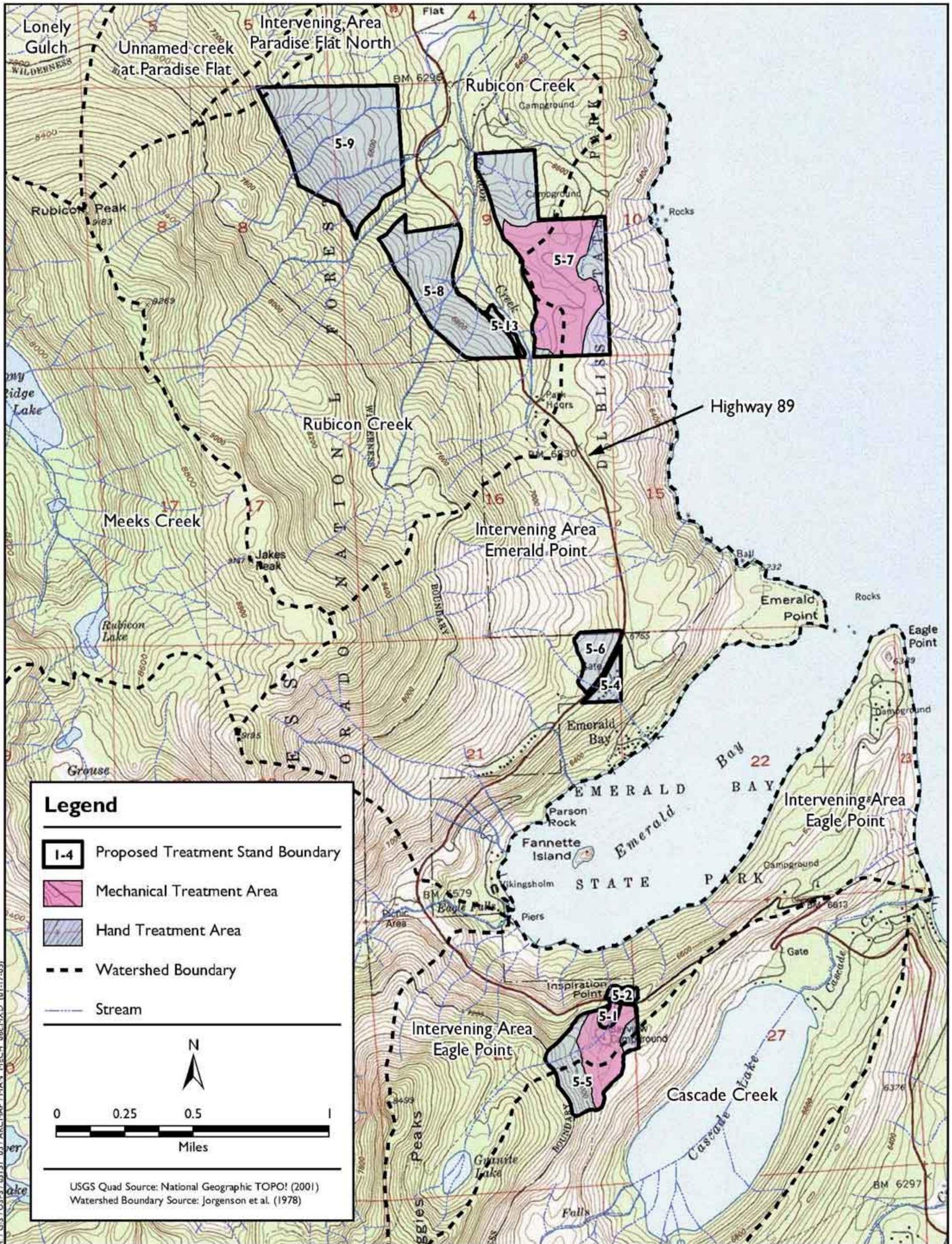
H:\GISE\JUSES\031111\_03\ARCMAP\PLAN\_MECH\_06.MXD (11/30/09)

**Figure 2-2A**  
**Proposed Hand and Mechanical**  
**Treatment Areas**



H:\GIS\JUSES\03111\_03\ARCMAP\PLAN\_MECH\_06.MXD (11/20/04)

**Figure 2-2B**  
**Proposed Hand and Mechanical**  
**Treatment Areas**



**Figure 2-2C**  
**Proposed Hand and Mechanical Treatment Areas**

**Table 2-1.** Quail Vegetation and Fuel Treatment Project—Estimated Treatment Timeline

Treatment Stand Number	Total Stand Area (acres)	Treatment Type							
		Hand Thinning/Piling		Mechanical <sup>1</sup> Thinning/Chipping		Pile Burning		Understory Burning <sup>2</sup>	
		Year	Acres	Year	Acres	Year	Acres	Year	Acres
1-1 <sup>3</sup>	13	—	0	2006	13	—	0	2009	5
1-2	80	2005	26	2006	54	2006	26	2009	80
1-3 <sup>3</sup>	87	2005	33	2006	54	2006	33	2009	87
1-4 <sup>3</sup>	186	2005	55	2006	131	2006	55	2009	186
1-5	129	2005	129	—	0	2006	129	2008	129
5-1	3	—	0	2008	3	—	0	—	0
5-2	3	2008	3	—	0	2009	3	—	0
5-4	8	2008	8	—	0	2009	8	—	0
5-5	51	2008	24	2008	27	2009	24	—	0
5-6	15	2008	15	—	0	2009	15	2011	12
5-7	127	2008	54	2008	73	2009	54	2011	100
5-8	70	2008	70	—	0	2009	70	2011	70
5-9	118	2008	118	—	0	2009	118	2011	118
5-10	151	2007	151	—	0	2008	151	2010	75
5-11	80	2007	80	—	0	2008	80	2010	50
5-12	10	2007	10	—	0	2008	10	—	0
5-13	3	2006	3	—	0	2008	3	2010	3
13-1 <sup>3</sup>	269	2006	187	2007	82	2007	187	2010	200
13-2	207	2006	173	2007	34	2007	173	2010	190
13-3	266	2006	207	2007	59	2007	207	2010	250
13-4	113	2006	99	2007	14	2007	99	2010	100
14-12	183	2007	150	2007	33	2007	150	2010	175
14-15	200	2007	200	—	0	2007	200	2009	200
14-16	310	2007	310	—	0	2007	310	2009	290
14-17	16	—	0	2007	16	—	0	2010	16
14-18	6	—	0	2007	6	—	0	2010	6
<b>Totals</b>	<b>2,704</b>	—	<b>2,105</b>	—	<b>599</b>	—	<b>2,105</b>	—	<b>2,342</b>

<sup>1</sup> Low ground pressure vehicles operating on slash trails where possible.<sup>2</sup> Understory burning following pile burning could be more akin to jackpot burning.<sup>3</sup> Unit overlaps with known protected activity center (PAC) for California Spotted Owl or Northern Goshawk (see Chapter 3).

The proposed treatments are intended to complement other fuel reduction treatments in the Lake Tahoe Basin, thereby contributing to the reduction in the risk of wildfire to communities in the WUI zone and modifying fire behavior across the landscape.

The Proposed Action would treat fuels in the urban defense zone with hand thinning, mechanical treatments, piling and burning, and prescribed fire. Fuel treatments would be conducted within RCA buffers to the boundary of SEZ buffers (Table 2-2).

## Measures Incorporated into the Proposed Action to Avoid or Minimize Adverse Effects

---

In response to public comments on the proposal, mitigation measures were developed to reduce some of the potential impacts the Proposed Action may cause.

### Air Quality

Smoke-sensitive areas would be identified in the Prescribed Fire Burn Plan, the Smoke Management Plan, and associated permits. Pile burning and prescribed burning would take place in accordance with the Smoke Management Plan. The Smoke Management Plan would be approved by the El Dorado and Placer County APCDs and would limit the timing, location, amount, and extent of burning to minimize potential adverse effects of smoke on sensitive receptors, including residences in the project vicinity. Direct effects on air quality would be minimized or avoided by the following measures incorporated into the Proposed Action.

- **AIR-1: Pile and cure slash.** Small tree thinning slash would be piled and cured for at least 1 year prior to ignition of piles.
- **AIR-2: Cover piles.** Piles would be covered with a treated paper for ignition during favorable wet weather and light wind conditions and/or when there is snow cover.
- **AIR-3: Comply with regulations.** All burning would fully comply with regulations of the Placer County and El Dorado County APCDs and Title 17 of the California Code.

---

contain. The Proposed Action is consistent with all standards and guidelines in the LRMP adopted in 1988, as amended by the SNFPA in 2004. These documents may be referenced if more information is needed than is found in this project-level document. The LRMP established a programmatic framework specifically for managing USFS lands, set general and specific goals for management, and established standards and guidelines to follow in pursuit of these goals. The desired condition of the forest and its resources as described in the LRMP sets the stage for site-specific project planning. All projects must be consistent with the LRMP as required by the National Forest Management Act (NFMA).

- **AIR-4: Chip slash where possible.** Chipping of thinning slash would be encouraged where accessibility is possible.
- **AIR-5: Remove biomass where feasible.** Small tree and downed woody biomass would be removed wherever it is economically feasible to reduce overall emissions from smoke and particulate matter.
- **AIR-6: Subdivide treatment units.** Treatment units to be treated with pile burning and prescribed burning would be subdivided into small areas with hand lines to strategically burn and monitor smoke conditions.
- **AIR-7: Manage prescribed burning to limit impacts.** Prescribed burning would be distributed over a period of time and conducted under conditions that would limit impacts on the public.
- **AIR-8: Control fugitive dust.** Dust from native surface roads and landings would be controlled using an approved dust palliative (e.g., dust suppressant, bulk material, chemical stabilizer) whenever dust is present. Woodchips would also be used to control dust on landings.

## Biological Resources

The SNFPA standards and guidelines (USDA Forest Service 2001a) provide specifications and treatment limitations for protecting and managing for California spotted owl, northern goshawk, willow flycatcher, forest carnivore, and mountain yellow-legged frog habitats. Those standards and guidelines are incorporated into the Proposed Action and hereby incorporated into this EA by reference. The following measures would be implemented to further protect common and special-status wildlife species, wildlife habitat, sensitive plant species, and vegetation communities. These measures supplement, and in some cases are redundant with, the standards and guidelines. Habitat for fish, waterfowl, and aquatic wildlife species (e.g., mountain yellow-legged frog) would be protected by implementing the measures described in *Soils and Water Quality* later in this chapter.

- **BIO-1: Delineate and avoid threatened, endangered, sensitive, or special-interest plant species.** Preproject surveys for threatened, endangered, sensitive, and special-interest plant species in treatment stands were completed in 2002 (August, September, and October) and 2003 (June and October). No such species were detected in treatment stands. If a sighting of a threatened, endangered, sensitive, or special-interest plant species is made before or during project implementation it would be reported to the USFS botanist. Where these plants are detected, they would be demarcated and avoided during project activities.
- **BIO-2: Control noxious weeds.** Measures to control the introduction and spread of noxious weeds in the project area would be implemented during construction activities. The SNFPA provides direction regarding actions to control the spread of

**Table 2-2.** Comparison of Minimum SEZ Setback Widths and RCA Widths for LTBMU Tree Removal and Slash Treatment Projects

Stream and Treatment Type	Minimum Stream Environment Zone (SEZ) Setback Width (feet) <sup>1</sup>	Minimum Riparian Conservation Area (RCA) Width (feet) <sup>2</sup>
<b>Perennial streams</b>		
Mechanical removal in summer	100	300
Mechanical removal in winter (over snow)	25	300
Hand work for thinning or fuelwood harvest	50	300
Hand removal of live trees infested with pests or pathogens	10	300
Slash pile construction	50	300
<b>Seasonal streams</b>		
Mechanical removal in summer	50	150
Mechanical in winter (over snow)	25	150
Hand work for thinning or fuelwood harvest	25	150
Hand removal of live trees infested with pests/pathogens	10	150
Slash pile construction	50	150
<b>Meadows, lakes, and other wetlands</b>		
Mechanical removal in summer	50	300
Mechanical removal in winter (over snow)	25	300
Hand work for thinning or fuelwood harvest	25	150
Hand removal of live trees infested with pests/pathogens	10	150
Slash pile construction	50	150

<sup>1</sup> As measured from the edge of a designated SEZ.

<sup>2</sup> As measured from the bankfull edge of the stream channel, the edge of riparian vegetation, or edge of a special aquatic feature, whichever is greater.

noxious weeds. These include equipment inspection and cleaning, use of weed-free straw or hay, and postproject inspections.

- **BIO-3: Avoid or minimize impacts on threatened, endangered, sensitive, or special-interest wildlife species.** Any detection of threatened, endangered, sensitive, or special-interest wildlife species or of nests, dens, roost sites, and other areas of concentrated use of these species before or during project implementation would be reported to the USFS wildlife biologist. Areas of concentrated use, particularly those that are important for reproductive activities (e.g., nest or den sites), would be protected in accordance with the LRMP, the SNFPA ROD, and the TRPA Regional Plan. Specific measures for some of these wildlife species are described below in measures BIO-4, 5, 6, and 7.
- **BIO-4: Determine occupancy status and identify nest locations of California spotted owl and northern goshawk in PACs.** A PAC is a land allocation around the known or suspected (on the basis of patterns of concentrated use) nesting or denning area of a particular species that is present in a given area; the size of a PAC depends on the species involved. Before project implementation, protocol-level surveys would be conducted in the East Blackwood, Upper General Creek, and Lower General Creek goshawk PACs (Stands 1-1 through 1-5) to determine presence or absence and identify nest sites of northern goshawks. Protocol-level surveys would be conducted within the Lower Blackwood spotted owl PAC to determine presence or absence and identify nest sites of California spotted owls. Under the Proposed Action, vegetation and fuel treatments would occur within these PACs and treatments would be designed to maintain habitat structure and function within PACs.
- **BIO-5: Conduct preproject surveys for California spotted owl and northern goshawk in suitable habitat outside PACs and for willow flycatcher in suitable habitat, or assume presence of those species.** In suitable habitat where presence or absence has not been confirmed within 2 years prior to project implementation, protocol-level surveys for California spotted owl, northern goshawk, and willow flycatcher would be conducted to determine presence or absence. Surveys for California spotted owl and northern goshawk would be conducted in suitable habitat within 0.25 mile of treatment stands. Surveys for willow flycatcher would be conducted in suitable habitat within 300 feet of treatment stands. Some of these surveys have already been conducted and would continue. Results of these surveys would be used to implement some of the measures described below. If surveys for these species in suitable habitat are not conducted and absence has not been confirmed, the presence of the species there would be assumed and LOPs would be implemented (see BIO-7 below).
- **BIO-6: Prohibit mechanical treatments around northern goshawk or spotted owl activity centers.** In compliance with the ROD standards and guidelines, mechanical treatments would not occur within a 500-foot buffer around a spotted owl or northern goshawk *activity center* within a PAC. In compliance with TRPA

guidelines, treatments within 0.5 mile of a northern goshawk activity center within a PAC would be avoided unless such treatments were necessary to enhance habitat quality. A spotted owl activity center is defined as the latest documented nest site, the latest known roost site when a nest location remains unknown, or a central point interpolated from repeated daytime detections when neither nest nor roost locations are known for all territorial owls (USDA Forest Service 2004). A northern goshawk activity center is defined as the latest documented nest site and the location(s) of alternate nests, or the location of territorial adult birds or recently fledged juvenile goshawks during the fledgling dependency period if the actual nest site is not located (USDA Forest Service 2004). Prescribed burning is allowed within the buffer. Please see the ROD standards and guidelines for specifications.

- **BIO-7: Implement limited operating periods.** To avoid project-related disturbances to breeding activities and habitat of species analyzed in the BE/BA, LOPs would be implemented around nests, dens, roost sites, and other areas of concentrated use of these species. An LOP constitutes a period during which project activities would not occur and is enforced in project implementation contracts. Implementation requirements such as the timing and location of LOPs for certain species are described below.

**California spotted owl and northern goshawk.** To avoid disturbances to California spotted owl and northern goshawk breeding activities and habitat, LOPs would be implemented during sensitive nesting times around active nest sites and in occupied PACs. If preproject surveys determine that a nest or PAC is not active, the LOP may be lifted at the USFS wildlife biologist's discretion.

A northern goshawk PAC is a 200-acre area that includes the best available habitat around known or suspected nest sites. An LOP between February 15 and September 15 would be imposed within 0.5 mile of any active goshawk nest site. If the location of the nest stand within a PAC is unknown, the LOP would be imposed within 0.5 mile of the PAC boundary. There are currently three goshawk PACs in the project area.

A California spotted owl PAC is an area 300 acres in size that includes the best available habitat around known or suspected nest stands in as compact a unit as possible (USDA Forest Service 2001b). An LOP between March 1 and August 31 would be imposed within 0.25 mile of a spotted owl activity center, as defined in measure BIO-6. There is currently one spotted owl PAC in the project area.

Preproject surveys would attempt to determine the locations of active nest sites if surveys are warranted (see measures BIO-4 and BIO-5). Also, an LOP would be imposed within 0.25 mile of any suitable habitat for either species unless surveys conducted within the last 2 years have confirmed that the species are not nesting there. Because LOPs would be established for project activities in areas of suitable

habitat (except as noted above), project activities within these areas would occur outside the nesting seasons and would not adversely affect nesting attempts.

***Willow flycatcher.*** Willow flycatchers occur in the Basin but are not known to occur in the project area. Prior to project implementation, protocol-level surveys for willow flycatcher would be conducted in suitable riparian/meadow habitat if it occurs within 300 feet of a treatment stand (see measure BIO-3). If willow flycatchers are detected, an LOP between June 1 and August 31 would be imposed. The location of the LOP would be determined by the USFS wildlife biologist on the basis of site conditions and type of project activity. If absence has not been confirmed (i.e., if surveys have not been conducted) in suitable habitat within 300 feet of a treatment stand before project activities commence, the LOP would automatically be implemented.

***American marten.*** American martens occur throughout the Basin. Suitable habitat for American marten occurs within the project area, and martens have been detected in and near the project area. If a den site is detected in the project area before or during project activities, an LOP would be implemented from May 1 to July 31 within 100 acres surrounding the den site.

***Other wildlife species.*** LOPs or protection zones for all other threatened, endangered, sensitive, or special-interest wildlife species could be implemented if these species are detected in the project area prior to project implementation. Appropriate LOPs or protection zones would be implemented around nest sites, roost sites, den sites, or other areas of concentrated use. The USFS wildlife biologist would determine the location and duration of LOPs using standard guidelines (e.g., the ROD for the SNFPA EIS), if available and appropriate.

***Waterfowl, Fisheries, and Aquatic Resource Measures.*** Habitat for fish, waterfowl, and aquatic wildlife species (e.g., mountain yellow-legged frog) would be protected by implementing the measures described under Soil and Water Quality below. These measures are designed to reduce disturbance and sediment deposition in riparian zones and to protect riparian resources including wildlife habitat.

- **BIO-8: Prepare and monitor treatments in PACs under the oversight of a wildlife biologist.** Where treatments would occur within a California spotted owl or northern goshawk PAC, a qualified wildlife biologist would oversee marking of the unit. Treatments would be prepared to maintain or enhance habitat conditions within PACs and maintain at least two canopy layers where present throughout the unit, while meeting the purpose and need of the Proposed Action. Snags and down woody material would be retained at generally higher levels than in areas outside PACs. A wildlife biologist would develop and implement a program to monitor the response of spotted owls and northern goshawks to treatments in PACs.

- **BIO-9: Identify suitable habitat and conduct preproject surveys for mountain yellow-legged frog.** Prior to implementation of the Proposed Action, an assessment of suitable habitat within the project area by LTBMU biologists would be conducted to determine the presence and distribution of suitable habitat and the likelihood of occurrence for this species.

## Cultural Resources

The avoidance measures listed below have been identified to ensure that cultural resources would not be affected during activities associated with the Proposed Action. If these sites are avoided and not disturbed during this undertaking, the Proposed Action is unlikely to have an effect on historical and/or archaeological resources or to disturb any human remains. No further cultural resource investigations are warranted unless buried archaeological remains are discovered during ground-disturbing activities related to the Proposed Action or if known sites would be disturbed in an unanticipated manner.

- **CR 1: Stop work if buried cultural resources are discovered.** If buried cultural resources, such as chipped or ground stone, historic debris, building foundations, or bone, are discovered during ground-disturbing activities, all work in that area and within 100 feet of the find would be stopped immediately until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment and avoidance measures in consultation with the USFS archaeologist and SHPO.
- **CR-2: Apply standard resource protection measures to known historic properties.** Standard resource protection measures, as defined in Attachment B of the Regional Programmatic Agreement between the USFS Pacific Southwest Region, SHPO, and the Advisory Council on Historic Preservation, would be applied to any known historic properties that fall within the Area of Potential Effect (APE). All recorded sites, including an appropriate buffer zone, would be flagged before project implementation, and project coordinators would be notified as to their locations to ensure that sites would not be affected by the Proposed Action.
- **CR-3: Avoid heritage resource sites.** All proposed activities and disturbances would avoid heritage resource sites. Avoidance means that no activities associated with the Proposed Action that may affect heritage resources would occur within site boundaries, including any defined buffer zones. Portions of the Proposed Action may need to be modified, redesigned, or eliminated to properly avoid heritage resource sites. When changes in proposed activities (e.g., project modifications) are necessary to avoid heritage resource sites, these changes would be completed before initiating any activities.
- **CR-4: Establish buffer zones.** Buffer zones may be established to ensure added protection at locations that the LTBMU archaeologist identifies. The use of buffer zones in conjunction with other avoidance measures is particularly applicable if the setting contributes to the resource's eligibility for listing in the NRHP (36 CFR Part

60.4) or if the setting may be an important attribute of a type of heritage resource site (e.g., historic building or structure, historic or cultural property important to Native Americans). The archaeologist would determine the size of buffer zones needed on a case-by-case basis.

## Recreation

Comments related to potential impacts on recreation focused on access to recreation sites during treatment periods and concern over the possibility of increased OHV use as a result of opening up the forest. The following measures would be implemented to minimize potentially adverse impacts associated with recreation.

- **REC-1: Post public notices and enforce temporary closures.** Public notices would be posted prior to project implementation to inform recreational users of potential road and trail closures. Public recreation use would be monitored and project areas signed during operational periods. Temporary closures would be enforced if public safety would potentially be compromised during tree felling and equipment use.
- **REC-2: Minimize road and trail closures.** In order to minimize road and trail closures, the schedule for tree felling that blocks access routes would be concentrated to the extent feasible, and any trees felled across roads and trails would be immediately removed to minimize closures. Closures of individual segments of trails and roads are expected to last between 15 and 30 minutes per occurrence. Activity in the Bayview campground and D. L. Bliss State Park would occur outside the late May through mid-September operating period.
- **REC-3: Minimize illegal OHV travel.** If old roads currently closed to OHV travel and blocked with down logs are exposed by thinning treatments, they would be reblocked by boulders or other obstructions.

## Soils and Water Quality

There are three government agencies responsible for surface water quality management and regulation on National Forest System Lands located on the western side of the Lake Tahoe Basin: LRWQCB, TRPA, and USFS Pacific Southwest Region. LRWQCB is the state water quality control agency for the project area; TRPA and USFS Pacific Southwest Region are designated Water Quality Management Agencies (WQMAs) under Section 208 of the federal Clean Water Act (CWA). Each agency has prepared a water quality management plan<sup>2</sup> that identifies water quality problems, sets forth water quality

---

<sup>2</sup> Water Quality Control Plan for the Lahontan Region (Lahontan Basin Plan) (Lahontan Regional Water Quality Control Board 2004).

Water Quality Management Plan for the Lake Tahoe Region (Basin 208 Plan) (Tahoe Regional Planning Agency 1988).

standards, and specifies water quality control measures necessary to maintain or restore water quality in its respective jurisdiction. A summary of the measures that have been incorporated into the Proposed Action to comply with the most stringent provisions in the three agency's plans is given below. The Soils and Hydrology Report prepared for the Proposed Action provides a more complete description of all watershed protection measures incorporated into the Proposed Action.

### **Best Management Practices**

The USFS Pacific Southwest Region has developed a wide range of BMPs (PSW Region BMPs) specific to silvicultural projects and other forest management activities in California since being designated as the WQMA for National Forest System Lands in California (USDA Forest Service 2002). The PSW Region BMPs are updated regularly and are used extensively by LTBMU staff during the planning and implementation of vegetation and fuel management projects in the Basin. The PSW Region BMPs are typically supplemented as required with BMPs from TRPA's water quality control plan (Tahoe Regional Planning Agency 1988) and activity-specific BMPs developed by LTBMU soil scientists and watershed specialists. A complete list of the BMPs that would be used during implementation of the Proposed Action is provided in Appendix A. No road construction, reconstruction of old roads, or construction of new landings would be required. Monitoring of soil quality and BMP effectiveness would be conducted.

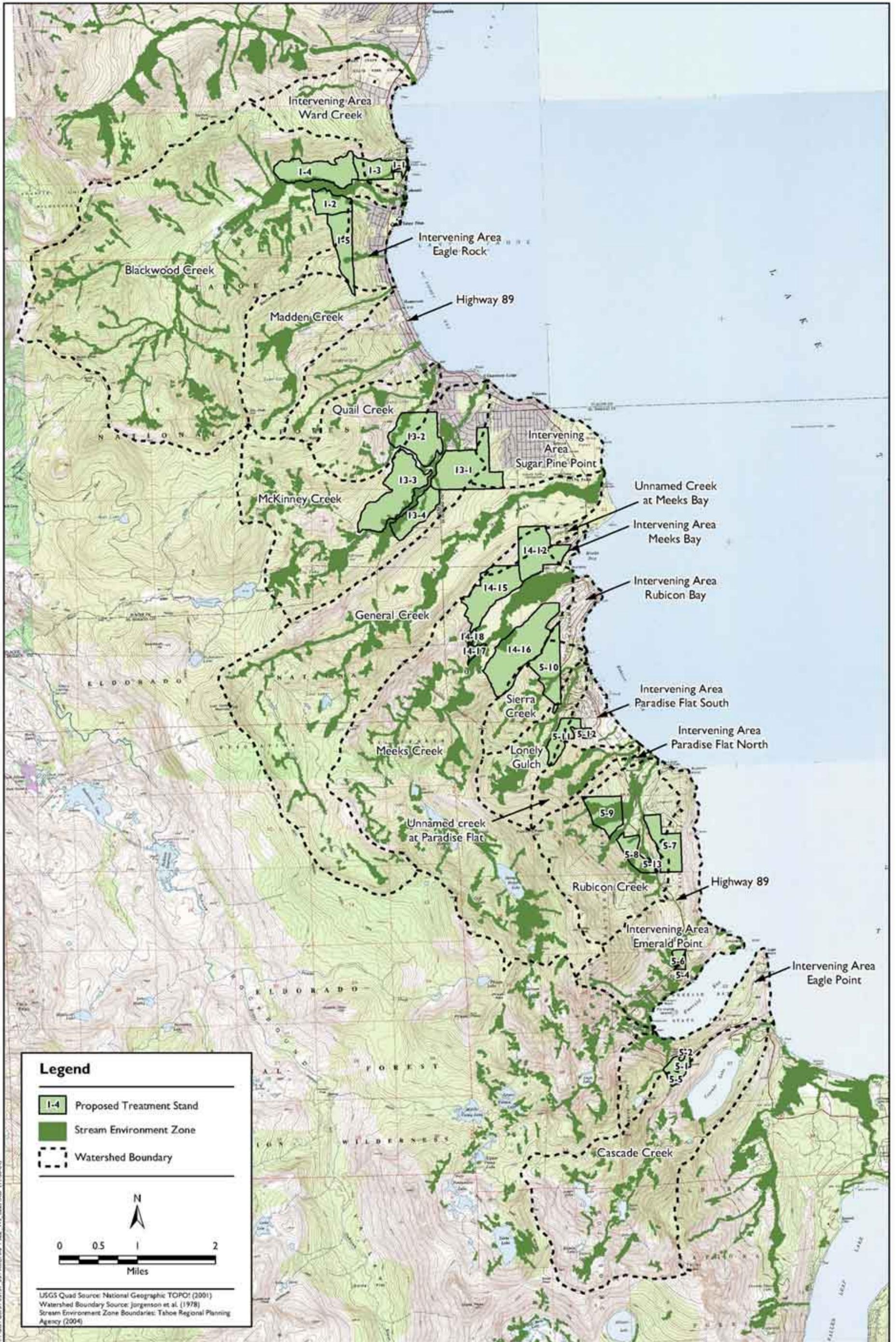
### **Stream Environment Zone Restrictions**

SEZs are biological communities that owe their characteristics to the presence of surface water and/or a seasonally high groundwater table (Lahontan Regional Water Quality Control Board 2004). The distribution of SEZs in the 21 subject watersheds is shown in Figure 2-3. The primary restrictions imposed on LTBMU vegetation and fuel management projects that would be incorporated into the Proposed Action to minimize disturbance in SEZs are listed below for reference.

- All vehicles used for tree removal would be restricted to areas outside SEZs or to existing roads within SEZs, except during over-snow operations.
- Work in SEZs would be limited to the time of year when soils are dry or when snow conditions are adequate for over-snow operations.
- Felled trees would be kept out of intermittent and perennial streams.
- Prescribed burns would generally be located away from stream channels or standing water.

---

Water Quality Management for National Forest Lands in California (Pacific Southwest Region 208 Plan) (USDA Forest Service Pacific Southwest Region 1988b) .



**Figure 2-3**  
**Stream Environment Zones and Proposed Treatment Stands and Watershed Boundaries**

- No pile burning or fire line construction would take place within SEZs or within 50 feet of riparian indicators.
- Materials and equipment would be staged in existing disturbed areas where available (i.e., where soils are already compacted and vegetation has been cleared).
- The project would meet RCOs for management of RCAs. Perennial stream RCAs would extend 300 feet from either bank edge. Seasonal (ephemeral and intermittent) stream RCAs would extend 150 feet from either bank. Meadow RCAs would extend 150 feet from the meadow edge. If existing fuel conditions indicate a need for a non-soil-disturbing treatment within an RCA, fuel hazard reduction treatments would be identified for areas outside SEZs.

## Vegetation, Fire, and Fuels

Measures in this category involve silvicultural practices designed to maintain and improve forest health through vegetation and fuel management procedures.

**FOR-1: Comply with LRMP direction.** In compliance with LRMP direction as amended by the SNFPA, trees more than 30 inches in diameter would not be thinned.

**FOR-2: Minimize invasion of noxious weeds.** Noxious weed invasion would be minimized by retaining chips, slash, or mulch as soil cover. Equipment would be cleaned prior to moving on site. Where necessary, use of weed-free hay/straw would be used.

**FOR-3: Utilize low-pressure equipment to minimize soil disturbance.** Mechanical treatments would utilize low pressure equipment to minimize soil disturbance. Mechanical treatments would be implemented in areas with slopes less than 30%.

## Visual Resources

Silvicultural treatments have been designed to meet the visual quality objectives (VQOs) established in the LRMP (USDA Forest Service 1988). The following measures would be implemented to assure maintenance of the scenic quality ratings established by the TRPA environmental thresholds for scenic travel routes within the project area (Tahoe Regional Planning Agency 1982, 1989).

**VIS-1: Retain vegetation as natural screening.** Clumps of trees and other vegetation would be retained to provide natural screening of artificial structures (e.g., buildings, transformer boxes, power lines, water tanks).

**VIS-2: Cut trees at ground level.** In high-use areas, trees would be cut flush with the ground to reduce views of stumps.

**VIS-3: Chip thinned materials at vista points.** At high-use vista points thinned materials would be chipped rather than piled and burned.

**VIS-4: Use natural materials to block unauthorized roads or trails.** Any re-blocking of roads with boulders or logs would be done in a manner that results in a naturally appearing landscape.

## Monitoring

A monitoring plan would be implemented with permanent plots established in the project area to address pre- and posttreatment amounts of basal area; fuel ladder height to crown; downed fuel loading; and species, size class, and canopy cover. Low-intensity prescribed fire, when implemented, will be monitored for effectiveness both in protecting soil and water resources and in meeting burn plan objectives. The monitoring plan would also address BMP effectiveness and attainment of the soil quality standards in the Forest Plan for a representative sample of the treated stands. Information will be summarized after each visit and evaluated for adaptive management needs.

An environmental check sheet created from this assessment will accompany each project contract or burn plan implemented in accordance with this EA, documenting special concerns or desired conditions and monitoring needs identified by the USFS Interdisciplinary Team.