

## Appendix E

### Suggested Implementation Schedule of Recommendations

After review of the 90 Recommendations made by the Commission, the following time-lines are suggested for Recommendation implementation. This schedule is based on the best estimate of what is possible and needed to effectively address the extreme wildfire

#### IMPLEMENTATION ACTION ITEMS

##### Recommendations for *Immediate* Implementation

Rec #	Summary Description of Recommendation(s)
1, 2, 3, 5	Environmental, management, and research policy statements
6	Initiate literature review - Tahoe Science Consortium
7	Initiate Fuels Monitoring and Assessment Program
8	Develop third party monitoring
9, 10, 12	Emergency Declaration and wildfire risk
11, 14	Commission extended to monitor implementation, recommended members
13	Distribution list for final report
15, 54, 55	Ten year plan implemented, annual update, cooperative projects
17A	Interim solution (2008 fire season) to equipment in SEZs
17B	Agencies initiate development of standard equipment BMPs
17G	Up to 14" trees permit exempt (adopted by TRPA)
17L	Initiate research/monitoring lessons into project design, monitoring
19	TRPA – Fire Chief's 9-points adopted
20	TRPA – Establish fire input on Board/APC
21, 22	TRPA – Fire policy reporting duties
32	LRWQCB Executive Director letter to TRPA clarifying MOU
34	LRWQCB expand category 1A waiver, urban publicly-owned lots
35	TRPA – expand MOUs publicly-owned parcels maintenance
37	Basin agencies adopt single Defensible Space guidelines
38, 39, 41	Defensible Space outreach, public education initiated
40, 44, 45, 46, 47	Introduction of local ordinances, pursue grants/loans
48	CAL FIRE - Fire Prevention Inspectors.
50	Angora burn area restoration
54	Support of Multi-Jurisdictional Ten Year plan
55	Coordinated fuels projects SNPLMA grants
69	Agencies adopt fire hazard priority for equipment use
70	LRWQCB interpretation of SEZs pile burning
72	Monitoring permit conditions and duties revisions
73	TRPA – revised small urban lots definition
74	CA and NV adopt priorities: life, property, environment
75, 76	CAL FIRE 2008 fire season staffing and feasibility study
77	USFS/Local joint fire station staffing
78	NV C-130 National Guard proposal
79, 81	Fire agencies agreements, dispatch communications, operating plan
82, 83	Initiate Federal legislative action plan
87	Initiate actions, local agencies revenue sources, replace interim funding
88	CA and NV statutory research for local funding support
89	Basin agencies adopt first priority action fuels treatments, priorities
90	TRPA supplemental budget request

### Recommendations to Implement by October, 2008

Rec #	Summary Description of Recommendation(s)
16	TRPA/LRWQCB Fuels Policy Update
17C, D	SEZs definition, mapping
17F	Single environmental process
17H	Over the snow waiver category 1B, 1C adopted
17I	TRPA/LRWQCB amendments, 1A waiver hand thinning
17J	TRPA/LRWQCB/USFS amend plan, ordinances over 30% slopes
17K	TRPA/LRWQCB amendments pile burning, chip materials, SEZs
18	TRPA ordinance and procedures reviewed and modified as needed
24, 25	TRPA/LRWQCB MOUs with USFS updates completed
26, 27, 28	TRPA/LRWQCB MOU
29	CAL FIRE report on LRWQCB/TRPA MOU
31	USFS Region 5, PSW Research - soil standards and protocols
49	Initiate Basin-wide water infrastructure deficiency study
51	USFS urban lots, revised steep slopes standard
52, 53	TRPA fuels project regulatory changes and conservation plan
56	Biomass feasibility study and operational proposals
57	Firewood uses in Basin
58, 59, 60, 61, 62, 63, 64, 65, 66	Prescribed burn and air quality guidelines
67	TRPA/LRWQCB temporary roads regulatory changes
68	TRPA - 208 amendment
84	Local and State Defensible Space long-term funding
85	Joint Powers Authority between Lake Tahoe Basin Fire Chiefs completed
86	TRPA/Fire Agencies database and GIS programs

### Recommendations to Implement by June, 2009

Rec #	Summary Description of Recommendation(s)
4	CA and NV biomass economic incentives proposals
6	Tahoe Science Consortium literature review completed
7	Complete Fuels Monitoring and Assessment Program
8	Implement third party monitoring
17B, E	Equipment handbook completed, exemptions adopted
17L	Adopt revised science, project design, monitoring requirements
23	CA and NV Legislatures - TRPA budget review policies
30	CA and NV State Forester progress report - permit streamlining
33, 36, 43	Introduce CA legislation, Public Resource Code (PRC) amendments
40, 44, 45, 46, 47	Local Defensible Space ordinances adopted
42	Defensible Space tree marking guidelines
49	Completion of Basin-wide water infrastructure deficiency study
71	Complete Basin <i>Handbook of Forestry Practices</i>
75, 76, 77, 78	Completion of CAL FIRE Level of Service feasibility study
87	Completion of local agencies revenue sources, replace interim funding
88	CA and NV statutory research for local funding support

**RECOMMENDED ACTIONS SPECIFIC TO THE TAHOE REGIONAL PLANNING AGENCY**

**Recommendations for Immediate Implementation**

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
6	Leadership initiating science review
7	Initiate Fuels Monitoring and Assessment Program
8	Develop third party monitoring
17A	Interim equipment in SEZs solution
17B	Initiate handbook
17G	14" trees, adopted
17L	Leadership initiating research/monitoring lessons into design
19	Fire Chiefs 9-points adopted
20	Establish fire input on Board/APC
21, 22	Fire policy reporting duties
35	Expand MOUs publicly-owned parcels maintenance
37	Adopt single Defensible Space guidelines
50	Angora burn area restoration
69	Adopt fire hazard priority for equipment use
72	Monitoring permit conditions and duties revisions
73	Revised small urban lot definition
82, 83	Assist, Federal legislative action plan
89	Adopt first priority action fuels treatments, priorities
90	Submit supplemental budget

**Recommendations to Implement by October, 2008**

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
16	Updated fuels policies
17C, D	SEZ definitions, mapping
17F	Single environmental process
17I	Hand thinning 1A waiver
17J	30% slopes amendment
17K	SEZs pile burning, chipped materials
18	Ordinance, procedures review, amendments
24	USFS MOU
26, 27, 28	LRWQCB MOU
52, 53	Vegetation removal, conservation plan
56	Biomass feasibility study and operational proposals
67	Temporary road access changes
68	208 amendments

**Recommendations to Implement by June, 2009**

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
6	Tahoe Science Consortium literature review completed
7	Complete Fuels Monitoring and Assessment Program
8	Implement third party monitoring
17B, F	Equipment handbook, exemptions adopted
17L	Adopted revised science, project design, monitoring requirements

## RECOMMENDED ACTIONS SPECIFIC TO THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

### Recommendations for *Immediate Implementation*

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
17A	Interim solution (2008 fire season) to equipment in SEZs
17B	Participate in handbook development process
17L	Participate in revised science, project design, monitoring
32	Executive Director letter to TRPA clarifying MOU
34	Expanded category 1A waiver, publicly-owned lot
37	Defensible Space guidelines
69	Adopt fire hazard priority for equipment use
69	Adopt fire hazard priority, equipment use
69	Adopt fire hazard priority, equipment use
72	Monitoring permit conditions and duties revisions
89	Adopt first priority action fuels treatments, priorities

### Recommendations to Implement by October, 2008

<b>Rec #</b>	<b>Summary Description of Recommendations(s)</b>
16	Updated fuels policies
17C, D	SEZs definitions, mapping
17F	Single environmental process
17H	Over the snow waiver
17I	Hand thinning 1A waiver
17J	30% slopes amendment
17K	SEZs pile burning, chipped materials
25	USFS MOU
26, 27, 28	TRPA MOU
56	Biomass feasibility study and operational proposals
67	Temporary road access changes

### Recommendations to Implement by June, 2009

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
	<i>Based on TRPA MOU, no further actions should be necessary</i>

## RECOMMENDED ACTIONS SPECIFIC TO USDA FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT

### Recommendations for *Immediate Implementation*

<b>Rec #</b>	<b>Summary Description of Recommendations(s)</b>
15, 54, 55	Ten year plan implemented, annual update, cooperative projects
79, 80, 81	Fire agencies agreements, dispatch communications, operating plan

### Recommendations to Implement by October, 2008

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
24, 25	MOUs with TRPA/LRWQCB
31	USFS Region 5, PSW Research - soil standards and protocols
51	USFS urban lots, revised steep slopes standard
58, 59, 60, 61, 62, 63, 64, 65, 66	Prescribed burn and air quality guidelines

## RECOMMENDED ACTIONS SPECIFIC TO LOCAL GOVERNMENTS

### Recommendations for *Immediate Implementation*

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
15, 54, 55	Ten year plan implemented, annual update, cooperative projects
38, 39, 41	Defensible Space outreach, public education initiated
40, 44, 24, 46, 47	Introduction of local ordinances, pursue grant programs
79, 80, 81	Fire agencies agreements, dispatch communications, operating plan
82, 83	Assist, Federal legislative action plan
87	Initiate actions, local agencies revenue sources, replace interim funding

### Recommendations to Implement by October, 2008

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
40, 44, 45, 46, 47	Local defensible space and ordinances proposed.
49	Initiate Basin-wide water infrastructure deficiency study
56	Biomass feasibility study, access regulatory changes
58, 59, 60, 61, 62,	Prescribed burn and air quality guidelines
63, 64, 65, 66	

### Recommendations to Implement by June, 2009

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
49	Completion of basin-wide water infrastructure deficiency study
87	Completion of local agencies revenue sources, replace interim funding

## RECOMMENDED ACTIONS FOR EXECUTIVE, LEGISLATIVE, AND/OR BUDGET

### Recommendations to Implement by June 1, 2008, or as soon as feasible

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
1, 2, 3, 5	Environmental, management, research policy statements
9, 10, 12	Emergency Declaration and wildfire risk
11, 14	Commission extended to monitor implementation, recommended members
13	Distribution list for final report
50	Angora burn area restoration
75, 76	CAL FIRE 2008 fire season staffing and feasibility study
77	USFS/Local joint fire station staffing
78	NV C-130 National Guard proposal
82, 83	Initiate Federal Legislative action plan

### Recommendations to Implement after January 1, 2009, or as soon as feasible

<b>Rec #</b>	<b>Summary Description of Recommendation(s)</b>
2, 22, 23	TRPA added duties, budget review policies
33, 36, 43	Introduce CA legislation, Public Resource Code (PRC) amendments
58, 59, 60, 61, 62,	Prescribed burn and air quality guidelines
63, 64, 65, 66	
75, 76	Completed CAL FIRE - fire season staffing and feasibility study
77	USFS/Local joint fire station staffing
78	NV C-130 National Guard proposal
82, 83	Federal Legislative action plan
88	CA and NV statutory research, identify options, legislative needs

# Appendix F

## Costs Summary

The table below is excerpted from the *Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy – 10 Year Plan* ([http://www.fs.fed.us/r5/lbmu/documents/fuel-reduction-projects/10-year-plan/LTB\\_FUELS\\_PLAN\\_12\\_13\\_2007.pdf](http://www.fs.fed.us/r5/lbmu/documents/fuel-reduction-projects/10-year-plan/LTB_FUELS_PLAN_12_13_2007.pdf)). It describes the acres that are currently planned for fuels treatment and the estimated project costs.

### Lake Tahoe Basin Fuel Reduction and Wildfire Prevention Strategy<sup>1</sup>

Cost Item		Acres	Cost
<b>CWPPs<sup>2</sup></b> <b>(acres by jurisdiction)</b>	Federal	6,552	\$ 25,280,736
	California	2,293	\$ 19,957,600 *
	Nevada	75	\$ 289,386
	Local	1,150	\$ 4,437,248
	Private	2,408	\$ 9,291,211
<b>CWPP Subtotal</b>		<b>12,478</b>	<b>\$ 59,256,180 *</b>
<b>Community Defense Programs</b>			\$ 9,983,000
<b>Program Leadership/Staffing</b>			\$ 43,088,587
<b>LTBMU Other Acres</b>		33,260	\$ 96,972,685
<b>Nevada Other Acres</b>		3,100	\$ 9,028,750
<b>Maintenance</b>		18,100	\$ 10,283,842
<b>Total</b>			<b>\$228,613,042 *</b>
*Reflects revised cost estimate for CTC not in original report			

**Private Homeowner Parcels** – There are approximately 40,000 homes in the Tahoe Basin with an average one-time cost to fully comply with defensible space requirements at \$1,500 per parcel. A percentage of these parcels have already created defensible space while others remain to be completed. An additional building/homeowner expense would be the conversion of wood shake roofs to non-combustible roof materials.

**Local Government** – There is a cost associated with the delivery of public education and defensible space inspection services. Local funding will need to be provided to fire agencies to deliver these necessary services.

<sup>1</sup> *The TRPA Plan projected cost* (Holl 2007)

<sup>2</sup> CWPP: *Community Wildfire Protection Plans* as defined by the Healthy Forests Restoration Act, 2003

## Explanation of Expense Items for Finding 46 and Recommendation 84

The purpose of this document is to detail the funding estimates in Finding 46 and Recommendation 84. The amounts are estimates and actual costs may be different.

### **Fuel Break Parcel and Project Database (One time) \$500,000**

The fuel break and parcel level database costs are based on a bid for development as provided by the Tahoe Integrated Information Management System (TIIMS) staff at TRPA.

The TRPA's TIIMS system will be utilized to warehouse and display all project data for the Basin. Each land manager will provide geospatial data to TIIMS and the data will be displayed through a web interface. In this way the public will have information on where projects have been completed, are in progress, or planned.

The defensible space database will be developed by the database manager at TRPA and was considered in the cost estimate for the fuels reduction database provided by TRPA staff. This database will be used to track defensible space treatments, parcels where enforcement action may be necessary, and could provide information on defensible homes to firefighters responding to a catastrophic fire.

### **Defensible Space Risk Database (One time) \$500,000**

The defensible space risk database costs are based on a bid for development as provided by private contractor and TRPA staff. The risk analysis system will utilize the data captured during defensible space inspections for a web based system to evaluate the hazard to a specific parcel. The web based system will also give homeowners specific instructions on what actions they can take to reduce the hazard to their property.

### **Fuels Reduction Project Staff \$450,000**

The fire agencies have identified the need for staff to manage fuels reduction projects on municipal and private properties identified for treatment in the *10-Year Fuels Reduction Strategy for the Lake Tahoe Basin*. There is a need for a mix of disciplines ranging from manager/director to Registered Professional Forester, GIS Manager, and support staff. It is estimated that the entire employment package will cost \$400,000 per year and that a part-time contract executive director will cost \$50,000 per year.

### **Additional Science for Sensitive Land Treatments \$150,000**

Current regulations in the Lake Tahoe Basin do not provide for quantitative standards for soil compaction and soil hydraulic function. The Tahoe Science Consortium and an independent contractor estimate that a robust study to develop quantitative standards would require approximately \$150,000 per year. The study would result in a published document for use by implementers.

### **Fuels Reduction of State, Local and Private Lands \$5 million**

The Community Wildfire Protection Plans (CWPPs) for the Lake Tahoe Basin provide goals for fuels reduction on a yearly basis. The CWPPs envision the treatment of approximately 2,000 acres per year on state, local and private property at an estimated cost of \$3,385 per acre. There is current funding available to treat approximately 500 acres per year. The Round 9 SNPLMA application for fuels reduction and defensible space requested \$8.6 million. The application has been reduced to less than \$3.5 million. This level of funding makes it impossible to maintain the work schedule in the 10-Year Fuels Reduction Strategy for the Lake Tahoe Basin or the CWPPs.

**Defensible Space Inspectors** **\$300,000**

The fire agencies for the Lake Tahoe Basin are currently working to increase their defensible space inspection staffing. The fire agencies have identified a need for a minimum of 10 seasonal inspectors to complete eight inspections per day for 100 field days. This level of effort would complete the defensible space inspections in five years for the entire Basin. This estimate includes personnel costs, equipment, and operational costs.

**Defensible Space Project Coordination** **\$350,000**

The Fire Safe Council currently employs three full-time staff, two project coordinators and an administrative assistant, and is currently working to hire a full-time coordinator for the north shore of Lake Tahoe. The project coordinators manage community organizations that build momentum in communities. Then when the community is ready, the coordinators take multiple properties out to bid and greatly reduce the cost of the defensible space treatments. Because cost is a primary impediment to completing defensible space, this effort increases compliance. Each project coordinator is paid \$60,000 per year with a 25 percent burden for benefits, payroll taxes, unemployment insurance, and workers compensation. The administrative staff is paid \$40,000 per year with the same burden as described above. Travel costs are approximately \$500 per month, per coordinator. Office rents and utilities are approximately \$3,000 per month. The current year budget for computer equipment and supplies is \$10,000 and is typical of prior years.

**Fuels and Defensible Space Database Management** **\$282,000**

The defensible space, forestry and risk hazard web programs will cost approximately \$282,000 per year to maintain. This was calculated by the TIIMS coordinators at the TRPA. There are two primary components to this cost. First, home ownership data is collected from five county tax assessors annually. The data must then be "normalized" or made compatible. This is a full time job. Second, web site maintenance, hardware maintenance, a T-1 line dedicated to the website and professional programmers compose the balance of the bid.

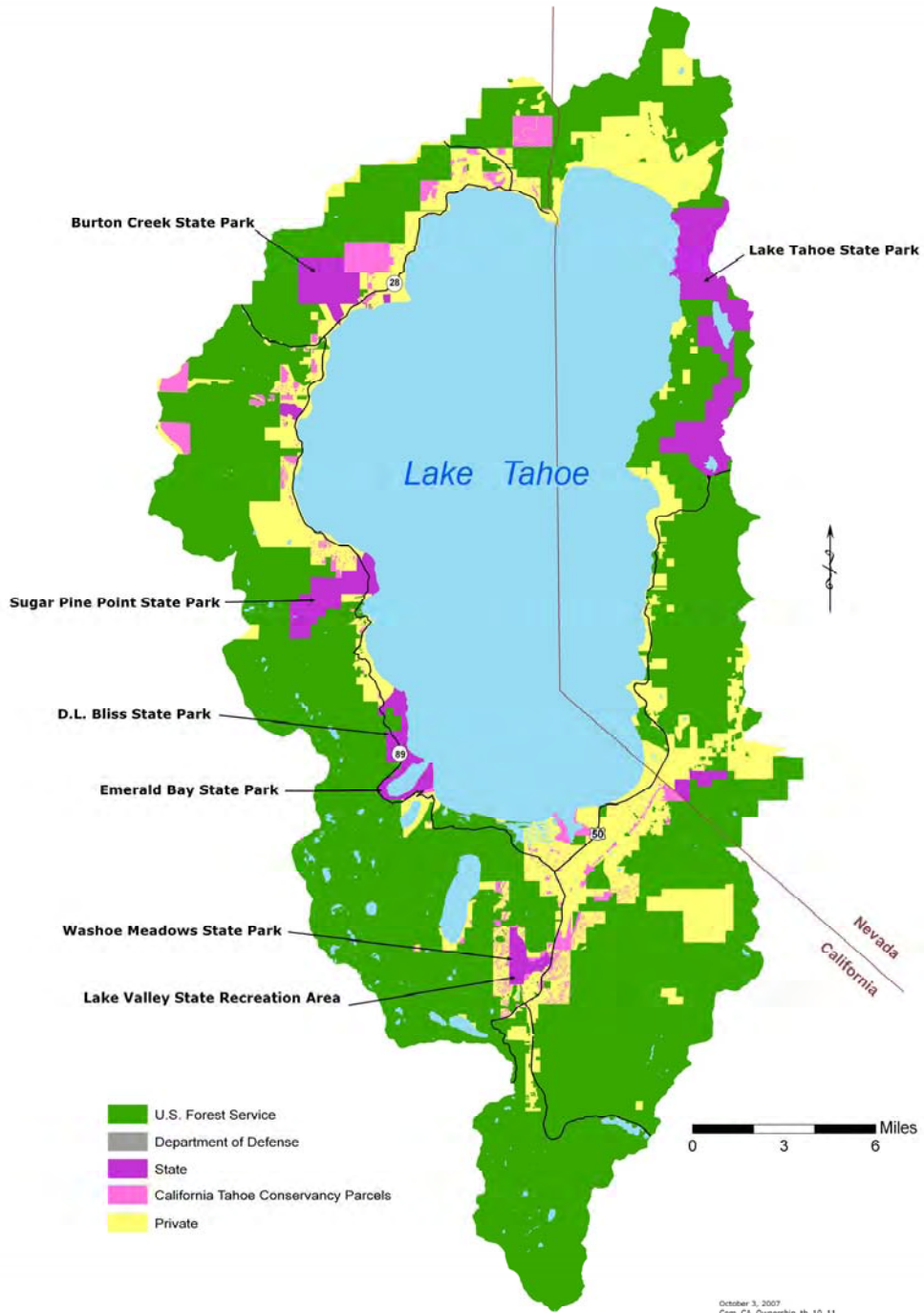
**Public Outreach** **\$250,000**

The rules on what homeowners can do to complete defensible space on their property have significantly changed. Currently second home ownership in the Basin is estimated at 75 percent and therefore only direct mail campaigns are truly effective. During the summer a minimum of six educational events are held each year to show homeowners exactly what needs to be done on a property. The direct mail campaign will cost approximately five dollars per residential property. Printing costs, supplies and advertising are estimated at \$15,000 per year for the six educational events. Labor costs to complete fuels treatments during the events are estimated to be \$12,000 per year representing a ten person hand-crew for a day per event.

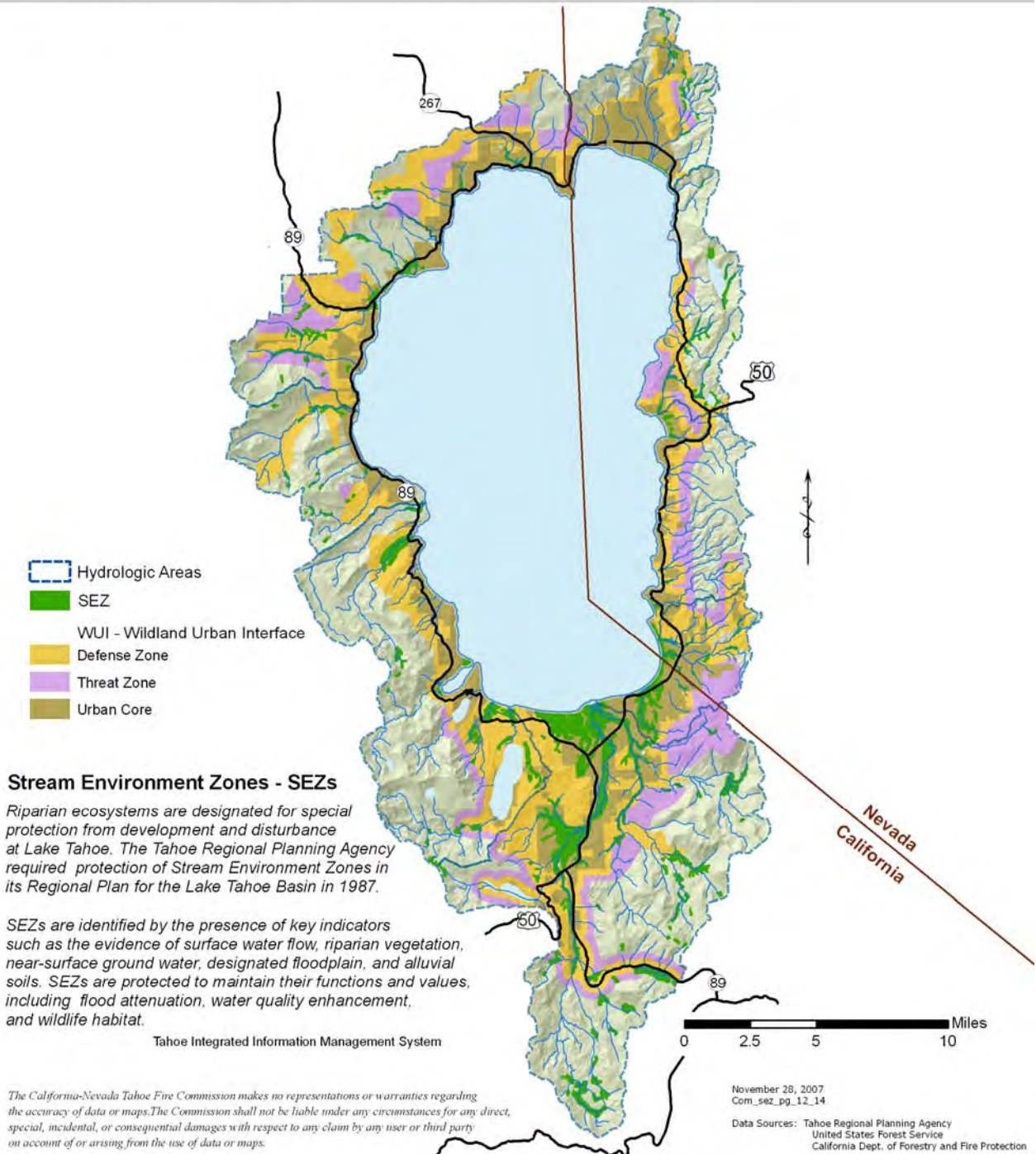
# Appendix G

## Maps

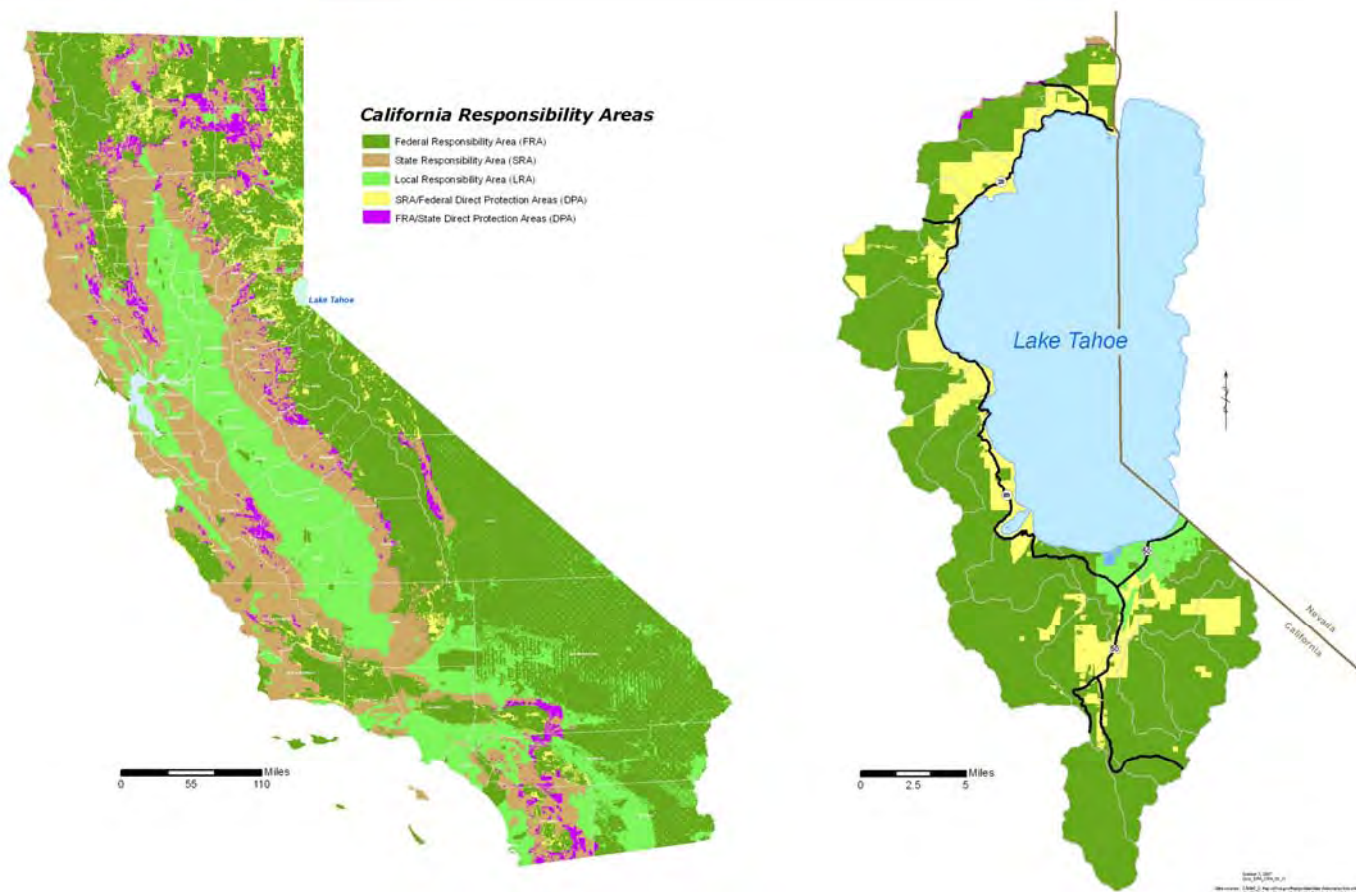
### Lake Tahoe Basin Ownership



# SEZ - Stream Environment Zones



## Fire Protection in California



### Prevention and Suppression

The California Dept. of Forestry and Fire Protection has the legal and financial responsibility to provide fire prevention and suppression on all State Responsibility Area (SRA) lands—which are determined by population density, land use and ownership.

The prevention and suppression of fires in areas not designated State Responsibility Areas are the financial responsibility of local or federal agencies. SRA designations undergo a thorough 5-year review cycle, along with annual updates for incorporations.

The Dept. of Forestry and Fire Protection swaps protection areas with other providers to more efficiently provide protection over a contiguous land base. The resulting lands are called Direct Protection Areas (DPA).

Direct Protection Areas, by law or pursuant to the terms of a cooperative agreement, are provided wildland fire protection by state, local, or federal agencies. DPAs may include a mixture of State, Federal, and Local Responsibility Areas.

## Lake Tahoe Basin Fire Protection Agencies

**North Tahoe FPD**  
 Station 51  
 300 North Lake Blvd.  
 Tahoe City, CA 96145  
 (530) 583-6913  
 www.ntfire.net

**North Lake Tahoe FPD**  
 Station 11  
 866 Oriole Way  
 Incline Village, NV 89451  
 (775) 831-0351  
 www.nltfpd.net

**Meeks Bay FPD**  
 Station 61  
 8041 Emerald Bay Road  
 Tahoe, CA 96142  
 (530) 525-7548  
 www.meeksbayfire.com

**Nevada Division of Forestry**  
 855 Eastlake Blvd.  
 Carson City, NV 89704  
 (775) 849-2500

**Tahoe - Douglas FPD**  
 Station 3  
 193 Elks Point Road  
 Zephyr Cove, NV 89448  
 (775) 588-3591  
 www.tahoe4fire.com

**Fallen Leaf FD**  
 Station 9  
 241 Fallen Leaf Road  
 South Lake Tahoe, CA 96158  
 (530) 542-1343

**South Lake Tahoe FD**  
 Station 3  
 2101 Lake Tahoe Blvd.  
 South Lake Tahoe, CA 96150  
 (530) 542-6160  
 www.slafd.org

**U.S. Forest Service**  
 Lake Tahoe Basin Management Unit  
 35 College Drive  
 South Lake Tahoe, CA 96150  
 (530) 543-2600

**Lake Valley FPD**  
 2211 Keetak Street  
 South Lake Tahoe, CA 96150  
 (530) 577-3737

**In an Emergency Dial 9-1-1**

# Appendix H

## ACRONYMS

APC	Advisory Planning Commission
BMP	Best Management Practice
CAL FIRE	California Department of Forestry and Fire Protection
CARB	California Air Resources Board
CCR	California Code of Regulations
CTC	California Tahoe Conservancy
CWPP	Community Wildfire Protection Plan
F&Rs	Findings and Recommendations
GASC	Geographic Area Coordination Center
GHG	Green House Gas
GIS	Geographical Information System
LTB	Lake Tahoe Basin
LTBMU	Lake Tahoe Basin Management Unit
LRWQCB	Lahontan Regional Water Quality Control Board
MAA	Management Agency Agreement
MAC	Multi-agency coordination
MOU	Memorandum of Understanding
NDEP	Nevada Division of Environmental Protection
NDF	Nevada Division of Forestry
NRS	Nevad Revised Statute
PM	Particulate Matter
PRC	California Public Resources Code
SEZ	Stream Environment Zone
SNPLMA	Southern Nevada Public Lands Management Act
TFFT	Tahoe Fire and Fuels Team
TIIMS	Tahoe Integrated Information Management System
TMDL	Total Maximum Daily Load
TRPA	Tahoe Regional Planning Agency
TSC	Tahoe Science Consortium
USDA	United States Department of Agriculture
WUI	Wildland-Urban Interface



