

Vegetation Treatment Program Program EIR

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April 14, 2011

Vegetation Treatment Program (VTP) Purpose and Goals

CAL FIRE is conducting a programmatic EIR to evaluate potential impacts associated with wildland fuels reduction and other types of vegetation management.

Goals of the program are to modify vegetation through prescribed management to reduce costs and losses (material, human, and environmental) from wildland fire, and to enhance health and resilience of range, forest, and watershed lands.

Specific Objectives

- Modify wildland fuels and fire behavior to reduce catastrophic wildfire
 - Alleviate economic impacts of wildfire
 - Improve air quality
 - Increase carbon sequestration
 - Provide biofuels
 - Prevent environmental damage such as soil erosion, slope failure, mass wasting, and water quality degradation
- Enhance and protect wildlife habitat and plant community diversity through periodic vegetation treatment methods
- Control invasive weeds to enhance rangeland productivity

CAL FIRE Programs

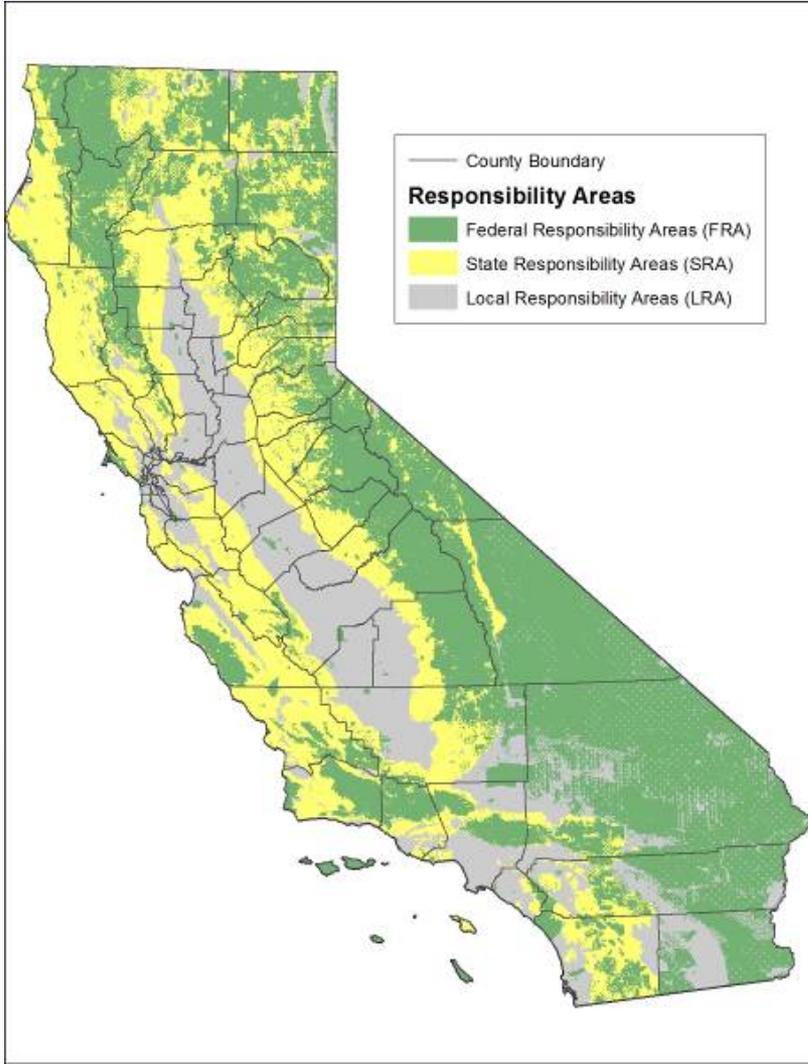
- Vegetation Management Program
- Pre-Fire Management Program
- California Forest Improvement Program (CFIP)
- Proposition 40 (Fuel Hazard Reduction)
- Federally Funded Hazardous Fuel Treatment Grants
- Range Improvement Program
- Partnership Projects - state agencies and local government entities
- Board of Forestry and Fire Protection (adopting or implementing new regulation)

Forest Land Base: Public and Private Lands

OWNERSHIP	ACRES (in thousands)	PERCENT
BLM	1,640	5%
USFS	15,921	48%
NPS	1,312	4%
OTHER FEDERAL	298	1%
STATE	711	2%
PRIVATE	13,131	39%
LOCAL	374	1%
TOTAL	33,387	100%



Program Location



The VTP program operates predominantly on State Responsibility Area (SRA) lands.

VTP History and Timeline

- 1981 – State begins contracting with landowners for prescribed burning (SB 1704)
CALFIRE initiates Chaparral Management Program
- 1996 – CALFIRE issues CA Fire Plan with emphasis on pre-fire management
- 2000 – CALFIRE certifies a revised programmatic Environmental Impact Report
- 2002 – Court decertifies EIR due to procedural herbicide issue
- 2005 – SB 1804 broadens the range of vegetation treatment practices.
Revision of 2002 decertified EIR begins.
- 2005-10 – New VTP EIR is drafted and put on hold due to fiscal constraints.
- 2010 New State Strategic Fire Plan; emphasizes use of fuel treatments.
- 2011-12 – Revised CALFIRE VTP EIR will be completed.

Types of Vegetation Treatments

- **Prescribed fire** (under burn, broadcast burn, pile burn...)
- **Mechanical** (chaining, tilling, mowing, roller chopping, masticating, brush raking, skidding and removal, chipping, piling ...)
- **Manual** (hand pull and grub, thin, prune, hand pile, lop and scatter...)
- **Prescribed herbivory** (grazing by cattle, sheep, or goats)
- **Herbicides** (ground applications only; limited to no more than 10% of annual acres treated)

Vegetation Treatments (Prescribed Burning)



Prescribed fire includes broadcast burning and pile burning.



Burning requires plan approval by ARB.

Vegetation Treatments (Mechanical Methods)



Methods involve hand or machine thinning of trees or brush; piling or chipping of woody vegetation.

Hand treated material, followed by piling or chipping is most common; mastication is used on a smaller number of projects.

A small number of projects provide material for bio-energy.

Vegetation Treatments (Fuel Breaks)

Fuel breaks involve thinning to reduce the potential for crown fire. The understory vegetation is commonly removed as well.

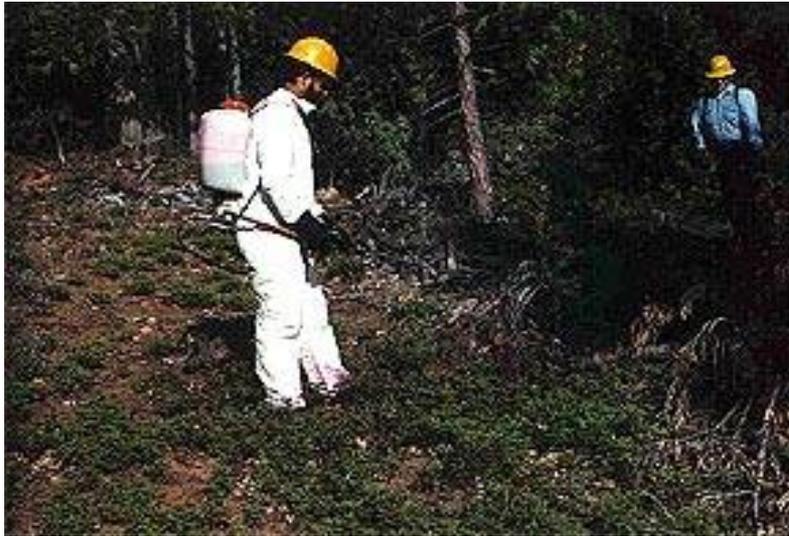


Vegetation Treatments (Herbivory)

Herbivory can include grazing from goats, horses, cows, and sheep.



Vegetation Treatments (Herbicides)



Herbicides are primarily used for maintenance of areas that have been cleared of heavy vegetative fuels. They are limited to ground based applications.



Proposed Program (draft)

TABLE 2-4 PROPOSED PROGRAM ANNUAL TREATMENT ACREAGE BY BIOREGION AND TREATMENT TYPE

Bioregion	Total Landscape Acres in Bioregion	Proposed Annual Program						
		Distribution of Treatments	Annual Acres Proposed for Treatment	Prescribed Fire	Mechanical	Hand	Herbicides	Prescribed Herbivory
North Coast/Klamath	8,158,000	13.0%	25,350	13,423	4,550	2,503	2,275	2,600
Modoc	3,616,900	2.3%	4,465	1,549	525	289	263	1,840
Sacramento Valley	1,524,300	16.0%	31,200	16,520	5,600	3,080	2,800	3,200
Sierra	6,605,500	22.0%	42,900	22,715	7,700	4,235	3,850	4,400
Bay Area	3,346,500	8.0%	15,600	8,260	2,800	1,540	1,400	1,600
San Joaquin	1,799,800	6.0%	11,700	6,195	2,100	1,155	1,050	1,200
Central Coast	4,989,200	19.5%	38,000	20,650	7,000	3,850	3,500	3,000
Mojave	3,112,800	0.5%	975	516	175	96	88	100
South Coast	2,737,600	9.0%	17,550	9,293	3,150	1,733	1,575	1,800
Colorado Desert	2,067,800	3.7%	7,260	4,130	1,400	770	700	260
Total	37,958,200	100.0%	195,000	103,250	35,000	19,250	17,500	20,000
Distribution of Treatments			100%	53%	18%	10%	9%	10%

Alternatives (draft)

TABLE 3-11 COMPARISON OF PROPOSED PROGRAM AND ALTERNATIVES

Element	Proposed Program	Alternative 1 Status Quo	Alternative 2 No Herbicide Treatments	Alternative 3 Minimize Water Quality Impacts	Alternative 4 Minimize Air Quality Impacts
Approx. Total Landscape	38,000,000 ac	34,824,500	38,000,000 ac	38,000,000 ac	38,000,000 ac
Landscape Treatable with Prescribed Fire	12,234,800 ac	15,138,200 ac	16,426,200ac	9,569,300 ac	1,593,000 ac
Landscape Treatable with Mechanical Treatments	10,211,600 ac	2,365,400 ac	10,211,600 ac	4,262,300 ac	10,211,600 ac
Yearly Acreage Treated	195,000 ac	47,000 ac	195,000 ac	195,000 ac	80,400 ac
Projected 10 Year Treatment Acreage	1 MM to 2.5 MM ac	~ 470 M ac	1 MM to 2.5 MM ac	1 MM to 2.5 MM ac	~ 840 M ac
Percent Prescribed Fire	53%	63%	56%	56%	8%
Percent Hand Treatments	18%	21%	22%	19%	25%
Percent Mechanical	10%	12%	12%	11%	38%
Percent Herbicides	9%	4%	0%	4%	5%
Percent Rx Herbivory	10%	0%	10%	10%	25%

Issues of Concern

August 2005 Scoping – The Board held a series of scoping sessions (4) to identify issues of concern that included:

Tools and methods

- Consider costs and losses from prescribed fire
- Prescribed fire is necessary. Must consider maintaining mature and overmature portions of the chaparral ecotype.
- Consider the environmental impacts of various treatment methods
- Include integrated pest management (IPM)

Impacts

- Beneficial impacts need to be addressed
- Extensive treatment post-wildfire can impact wildlife diversity
- Potential for erosion/sedimentation following vegetation treatments
- Impacts from use of chemicals must be addressed
- Air quality (compare emissions of wildfire vs. prescribed fire)

Issues of Concern (continued)

Impacts (continued)

- Impacts of treatment on wetlands & other sensitive areas
- Impacts on sensitive species and species of special concern
- Impacts of project waste products on water quality (chemical, erosion)
- Must minimize potential for invasive species and noxious weeds
- Cumulative impacts may occur at the landscape level (including climate)

Coverage

- Should cover all land ownership except federal.
- Should cover all wildland vegetation types.

Alternatives (2005)

- Include no project alternative
- Cover all fuel types
- A non-chemical alternative
- Reduced impacts alternative

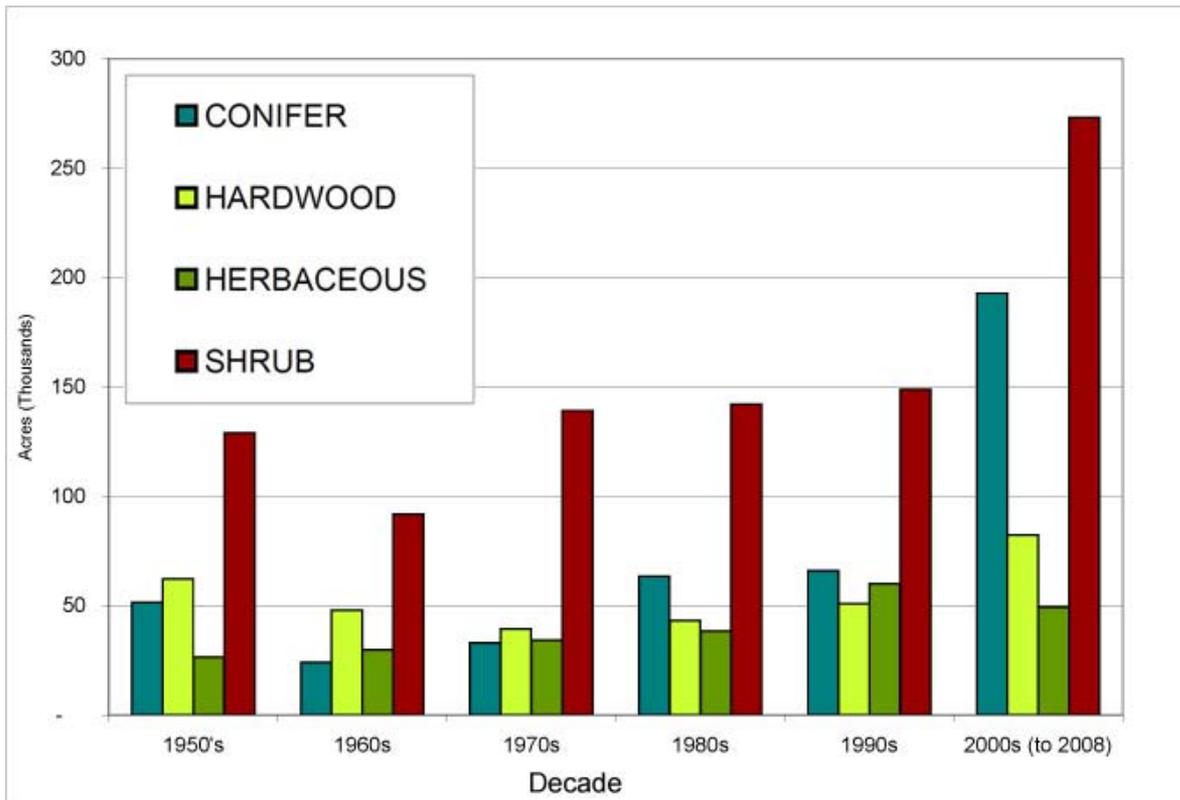
Environmental Setting – Vegetation Modification

Acres treated on private and public lands

	TOTAL ACRES	AVG. ANNUAL ACRES
CALFIRE VMP	195,722	19,572
CALFIRE CFIP	8,407	1,201
AVG. ANNUAL (VMP, CFIP)	204,129	20,773
USFS 2000-2006	849,497	121,357
BLM,NPS, BIA, FWS 2003-2006	300,155	75,039
TIMBER HARVESTING 1995-2005	1,528,198	152,820
AVG. ANNUAL (ALL SOURCES)	2,881,979	369,988

Environmental Setting – Wildfire

Wildfire trends – acres burned by life form.



Data suggests an increasing trend in acres burned statewide.

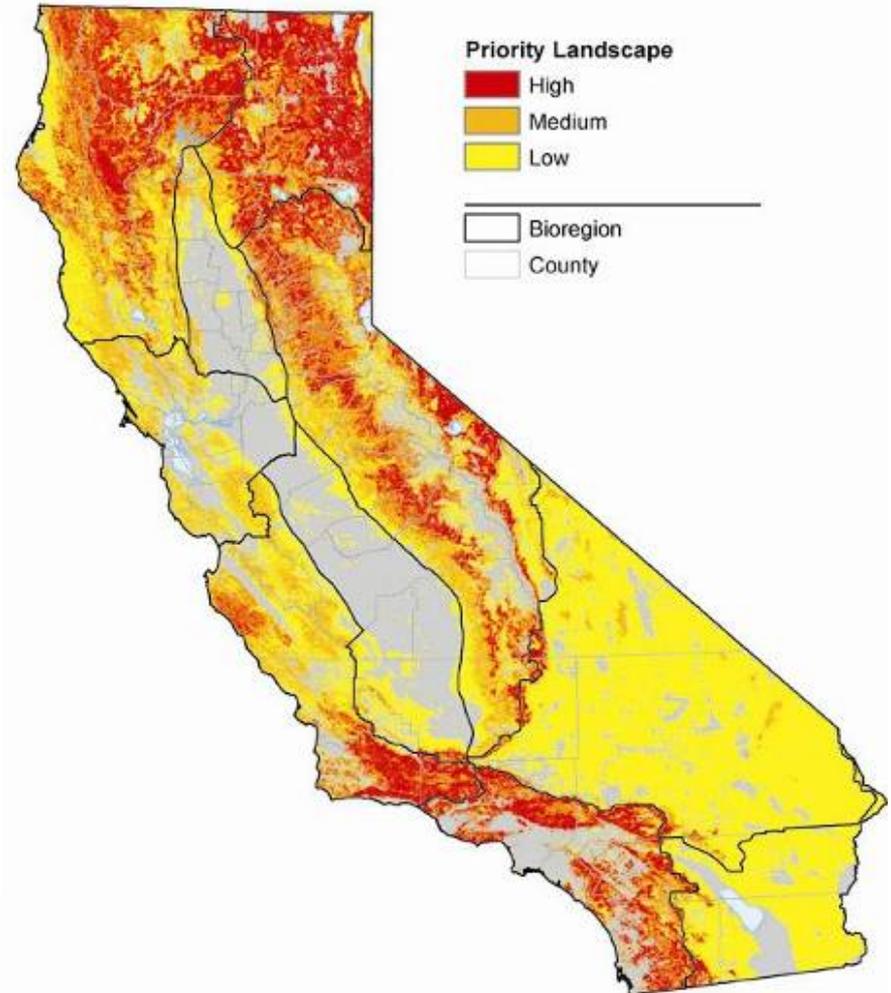
Particular increase in conifer is noticed.

Environmental Setting – Wildfire

Uncharacteristically dense stands with high fuel loads are more susceptible to high severity fire.

Over 20 million acres in the State deviate from historic conditions (condition class 3) and are high priority areas for restoration.

Forest types most at risk include Ponderosa Pine, Sierra Mixed Conifer, Douglas Fir and Mixed Chaparral.



Key Message - Wildfire

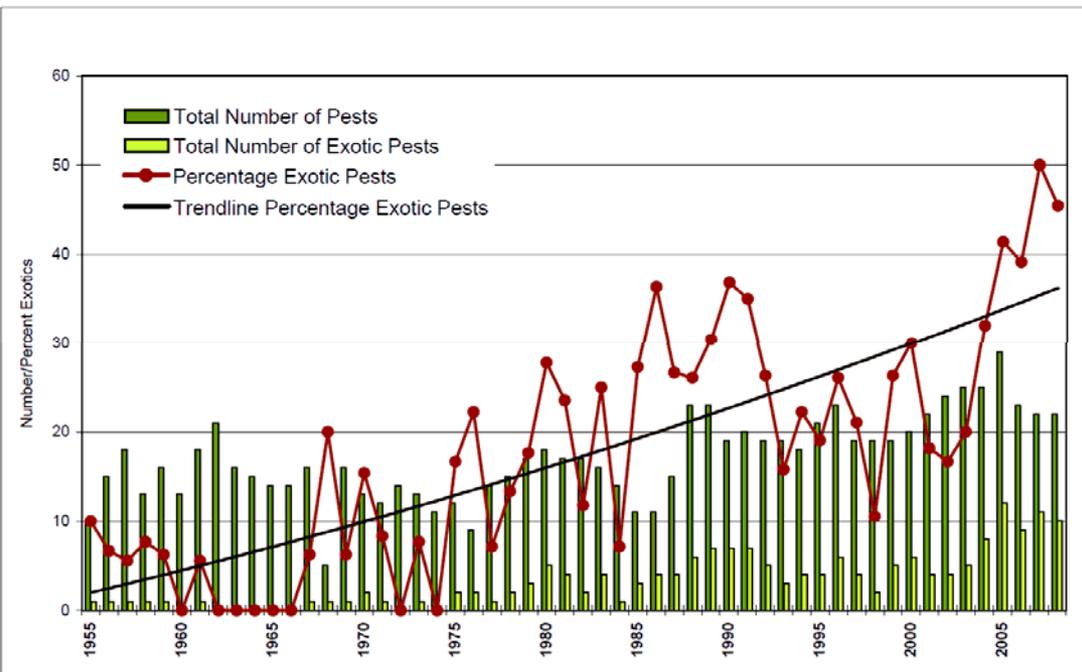
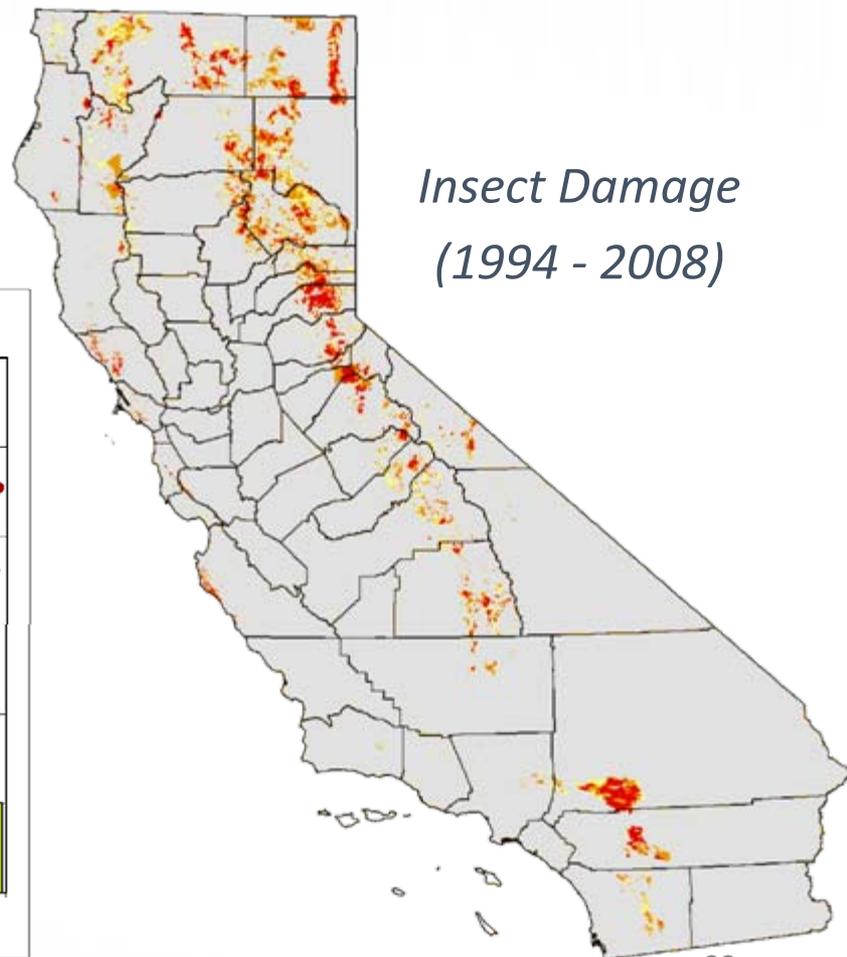
Trends indicate increasing acres burned in uncontrolled, catastrophic fires statewide, particularly in conifers.

Wildfire related impacts are likely to increase based on trends in investment in fire protection, increased fire severity, fire costs and losses, and climate change.

Statewide 2.35 million acres are considered high priority for restoration. Predominantly conifer forests in the northern part of the state and mixed chaparral in the southern portion.

Environmental Setting - Forest Health

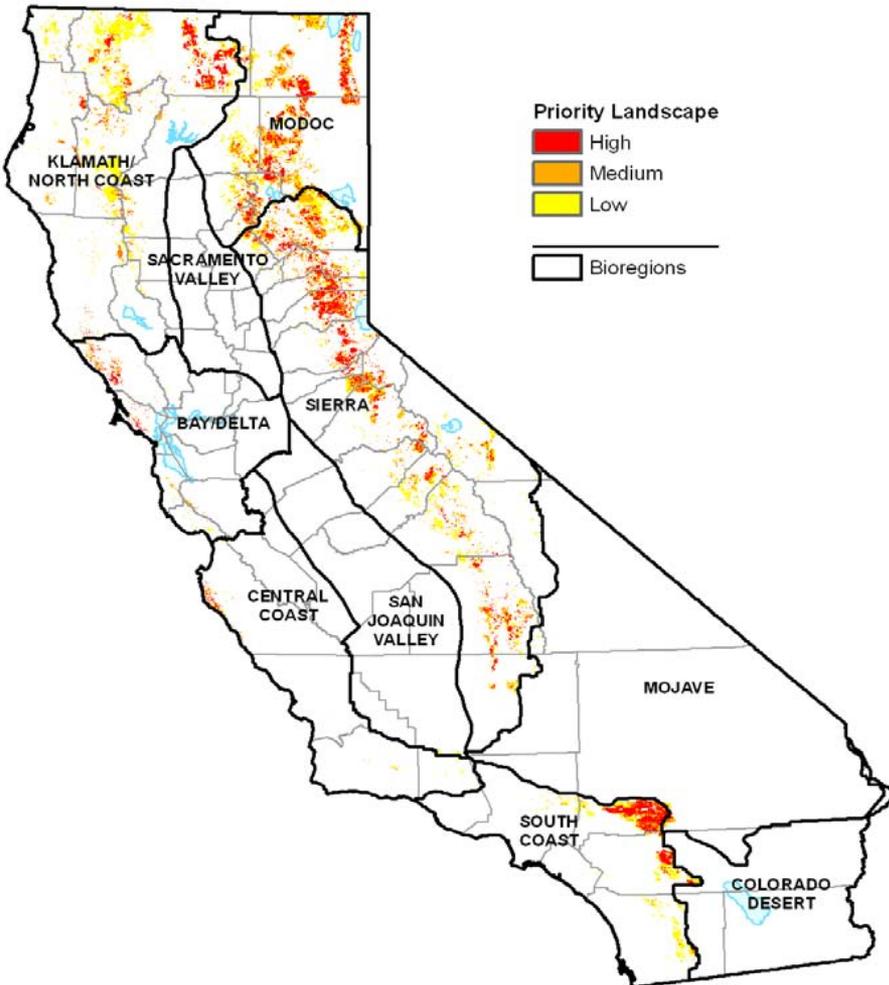
Outbreaks of bark beetles and other forest pests are usually preceded by prolonged drought conditions.



Restore Forest Pest-Impacted Ecosystems

Priority Areas for Restoration

- Stands with high damage
- Heavily damaged ecosystems
- Damaged portion of undamaged ecosystems at high risk (prevent spread)



Key Message – Forest Pests

Over six million acres of priority landscapes that are impacted by forest pests in California.

- 75% are on U.S. Forest Service (USFS) lands and 18 % are on privately owned lands.
- Sierran Mixed Conifer, Eastside Pine , Red Fir and White Fir are the habitat types with the most priority acres.
- Forest pest impacted communities were concentrated in the South Coast, Bay-Delta, and Sierra bioregions.
- Sudden Oak Death has increased tree mortality in coastal hardwoods.

Environmental Setting – Water Quality

Common pollutants in forest and rangeland watersheds.

see 2010 Forest and Range Assessment (Water Chapter):

<http://frap.cdf.ca.gov/assessment2010/pdfs/3.1water.pdf>

Stressor	Cause	Primary Response	Secondary Response
Sediment	Hillslope erosion; Land Disturbance; road erosion	Delivery of fine sediment to streams; delivery of sediment from mass wasting associated with the road prism.	Effect spawning gravels; channel morphology; Effect stream turbidity
Stream Temperature	Forest Management; Agriculture and other land uses	Stream shading; large woody debris	Changes in temperature affecting coldwater fish; change in aquatic habitat
Nutrients	Land Management; Wildfires	Increase concentration of nitrogen and phosphorus	Raise nutrient loadings in lakes & streams
Contaminants	Land Management	Water contamination from application of herbicides, pesticides, or fuel spills	Effects on riparian habitat and aquatic organisms

Environmental Setting – Wildlife

Overall – Limited data on wildlife response to fuel reduction treatments. The diversity of wildlife and habitat conditions across the state make it difficult to generalize about the expected response from treatments.

Habitat – Affect of changes in habitat is species dependent. Species favoring open habitats are likely to benefit more than those dependent on closed canopy conditions.

Invasive species – Both positive and negative impacts are possible as a result of disturbance and colonization.

Wildlife – Species most likely to be affected by fuel treatments are those that depend on structural features of the fuels being removed.

Botanical Resources – Depends on species and treatment. Species that have evolved in fire prone environments may benefit from prescribed burns.

Environmental Setting – Air Quality



Primary concern is smoke impacts from prescribe fire or pile burning. Air districts control emissions by limiting the number burn days permitted by CARB.

Pollutants of concern include: ozone, particulate matter (PM10 and PM2.5), and CO2 emissions.

Mountain Counties, North Coast, Sacramento Valley and San Joaquin Valley have reported the highest emissions from wildfire (1994 – 2005)²⁷

Environmental Setting – Herbicides

Herbicide use in forestry is a small percentage of overall application of herbicides statewide. Environmental concerns include:

- Toxicity to humans and wildlife
 - Drift detected beyond the application area
 - Potential exposure in plants used by Native Americans
- Modification of wildlife habitat
- Impairments to water quality (surface and groundwater)
- Environmental effects of surfactants
- Synergistic effects of herbicide mixtures

Environmental Setting – Climate Change

FACTOR	DESCRIPTION
Hydrologic	Changes in temperature, precipitation, and hydrologic processes (i.e. decreased snow pack, earlier spring runoff, lower summer base flows).
Fire	Changes in the extent and frequency of disturbances from wildfires, pests, and disease outbreaks.
Biologic	Conditions may favor the spread of invasive species.
Biologic	Tree species expected to move northward or to higher altitudes.
Biologic	Changes in reforestation and regeneration success.
Biologic	Changes in forest productivity affecting growth and carbon storage. The effect of additional CO ₂ on forest productivity is uncertain.
Economic	Economic impacts from increased fire damage and fire suppression costs.

Environmental Setting – Other Impacts Considered

- Cultural Resources
- Visual Resources
- Recreation
- Geology and Soils
- Hazardous Materials
- Noise
- Utilities and Energy

Cumulative Effects

Cumulative Effects - result from the additive impact of multiple projects occurring in close proximity (spatial and temporal). However, given the small annual acreage treated (35,000 – 190,000 acres) relative to the program area (37 million acres) it is not expected that projects will be concentrated in the same watershed.

Cumulative Effects (cont'd)

Disturbance index - developed to evaluate potential cumulative impacts across planning watersheds. The analysis considered impacts from VTP and similar projects on private and public lands. In watersheds that exceed a given disturbance threshold treatment projects will require more rigorous analysis and monitoring.

Mitigation of Potential Impacts

- Mitigations must be developed for each area of potential impacts outlined in the CEQA checklist (Appendix G).
- Each project will have a checklist from which mitigations provided in the VTPEIR will be selected
- When necessary, individual projects may be altered to address impacts not covered by the checklist.
- If the project cannot be altered, and potential impacts remain, the project will receive independent review to design specific mitigations.

For Additional Information

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