Integrating Wildfire Management with Conservation Objectives

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Projects

WILD FIRE MANAGEMENT IN PROTECTED HABITATS:
SANTA CLARA VALLEY, CALIFORNIA

Guidelines for Reducing Fire Hazard and Minimizing Environmental Impacts of Fuel Reduction Projects and Fire Suppression

EXECUTIVE SUMMARY

Prepared for Santa Clara Valley Habitat Agency
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WILD FIRE MANAGEMENT IN PLACER COUNTY CONSERVATION RESERVES

Guidelines for Reducing Fire Hazard and Minimizing Environmental Impacts of Fuel Reduction Projects and Fire Suppression

Prepared for Placer County Planning Department
October 2009

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Objectives and Application

- Provide compendium of practices to balance fuel reduction and habitat/species conservation.
- Ensure consistency with HCP/NCCP avoidance and minimization measures.
- Initially apply to HCP/NCCP conservation reserves.
- May apply to other activities covered under the HCP/NCCP.
  - Vegetation management in subdivisions
  - Community wildfire protection projects
  - Parks and open space outside reserve system
- Encourage adoption by entities conducting fuel treatments e.g., Firesafe Councils, RCDs, etc. Incorporate into Community Wildfire Protection Plans.

Protected Habitats and Species: Santa Clara Valley

- Most species are associated with serpentine grasslands, wetlands and ponds.
- Plan proposes acquisition of 4000 acres of serpentine grassland, 12,900 acres of oak woodland and 13,300 acres of annual grassland.

Habitats and Species: Santa Clara Valley (cont.)

Habitat	Associated Species
Annual Grassland	Tiger salamander, red-legged frog, western pond turtle if ponds are present; western burrowing owl, San Joaquin kit fox
Serpentine Grassland	Bay checkerspot butterfly, Tiburon Indian paintbrush, coyote ceanothus, Santa Clara Valley dudleya, fragrant fritillary, smooth lessingia, Metcalf Canyon jewelflower, most beautiful jewelflower
Oak Woodland	Tiger salamander, red-legged frog, western pond turtle if ponds are present; Loma Prieta hoita
Chaparral and Serpentine Chaparral	Coyote ceanothus, most beautiful jewelflower
Northern Coastal Scrub and Diablan Sage Scrub	Coyote ceanothus
Riverine and Riparian Forest	Foothill yellow-legged frog, red-legged frog, western pond turtle, least Bell's vireo
Wetlands	Tri-colored blackbird, Mt. Hamilton thistle, tiger salamander, red-legged frog, western pond turtle if ponding duration and depth is sufficient
Ponds	Tiger salamander, red-legged frog, western pond turtle, tri-colored blackbird

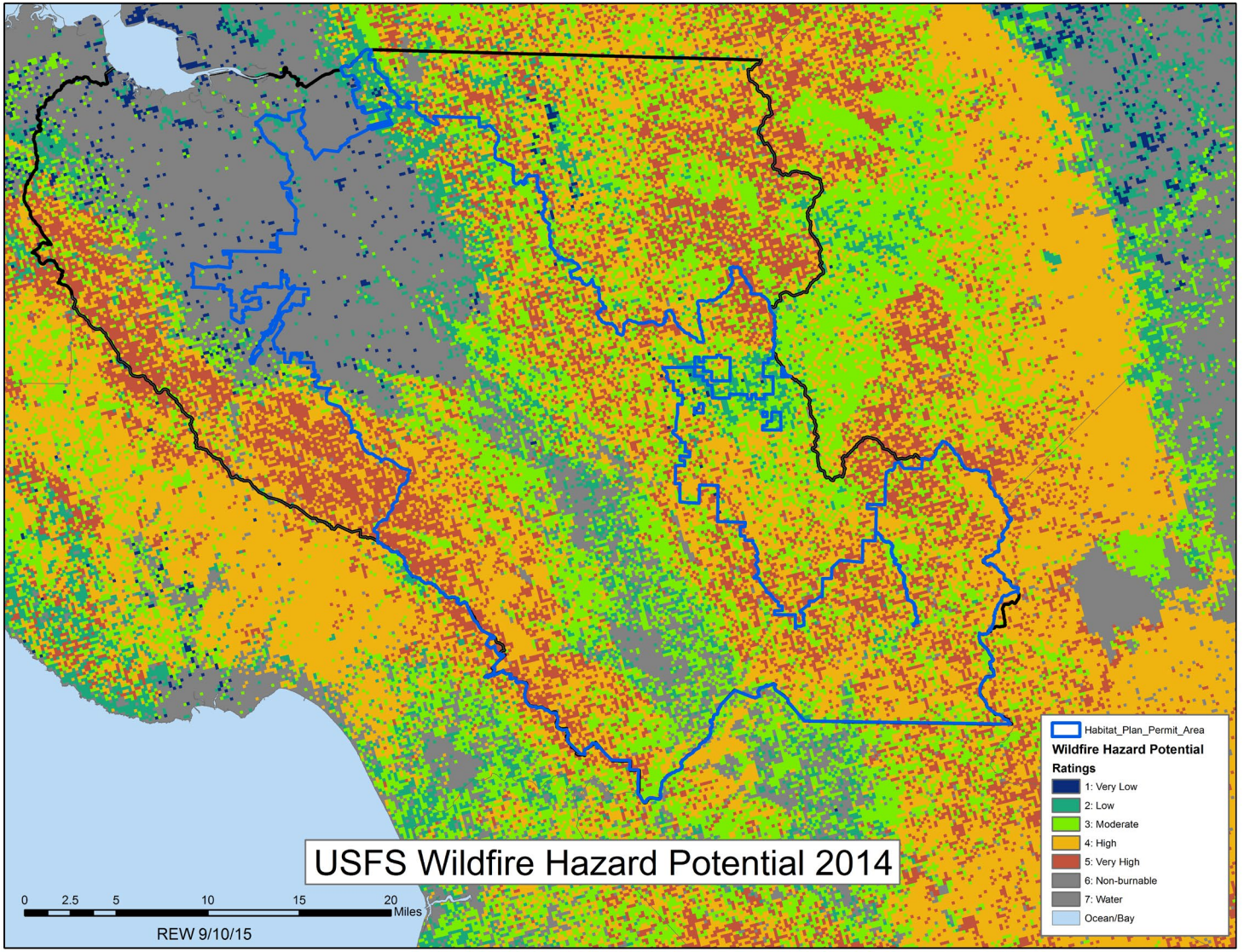
Protected Habitats and Species: Placer County

- Six habitats and 14 covered species are included in the proposed Plan.
- A reserve system including 17,000 acres of vernal pool grassland, 10,000 acres of oak woodland and 8,000 acres of agricultural and other natural communities is proposed.

Protected Habitats and Species: Placer County (cont.)

Habitat	Associated Species
Vernal Pool Grassland	Swainson's Hawk, Western Burrowing Owl, Tricolored Blackbird, Vernal Pool Fairy Shrimp, Vernal Pool Tadpole Shrimp, Conservancy Fairy Shrimp
Grassland	Swainson's Hawk, Western Burrowing Owl, Tricolored Blackbird, Giant Garter Snake, Western Pond Turtle, California Red-legged Frog
Aquatic/Wetland	California Black Rail, Tricolored Blackbird, Giant Garter Snake, Western Pond Turtle, California Red-legged Frog
Riverine/Riparian	Swainson's Hawk, Western Pond Turtle, Foothill Yellow-legged Frog, California Red-legged Frog, Central Valley Steelhead, Central Valley Fall/Late Fall Run Chinook Salmon, Valley Elderberry Longhorn Beetle
Valley Oak Woodland/Oak Woodland	Swainson's Hawk, Western Burrowing Owl, Western Pond Turtle, California Red-legged Frog, Valley Elderberry Longhorn Beetle
Agriculture	Swainson's Hawk, Western Burrowing Owl, Tricolored Blackbird

Assessing Existing Fire Hazard: Landscape Scale



Assessing Site-Specific Hazards:

Fuel Loads, Topography, Probability of Ignition, Access to Fire Fighters

Exposure of Human Assets:

Proximity to Development, Access

Goals of Treatments

- Provide defensible space within reserves and extending onto adjacent properties if necessary.
- Prevent fire from spreading from one habitat type to another or from a reserve to neighboring properties.
- Reduce fuels in habitats with excessive accumulations or to achieve restoration objectives.
- Avoid adverse impacts on covered species or other environmental conditions.

Defensible Space

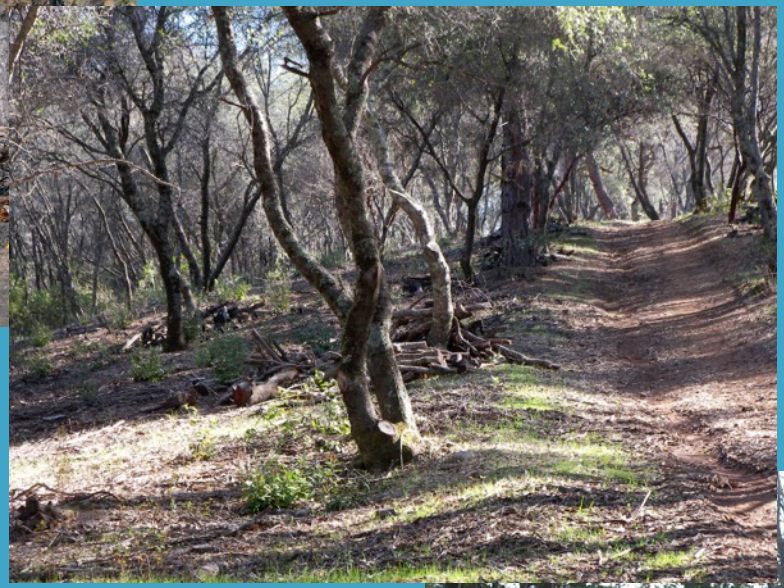
Before

After

Goals are to reduce probability of structure ignition and create a safe area for fire-fighters to work. Defensible space may extend from a conservation reserve onto adjacent property.

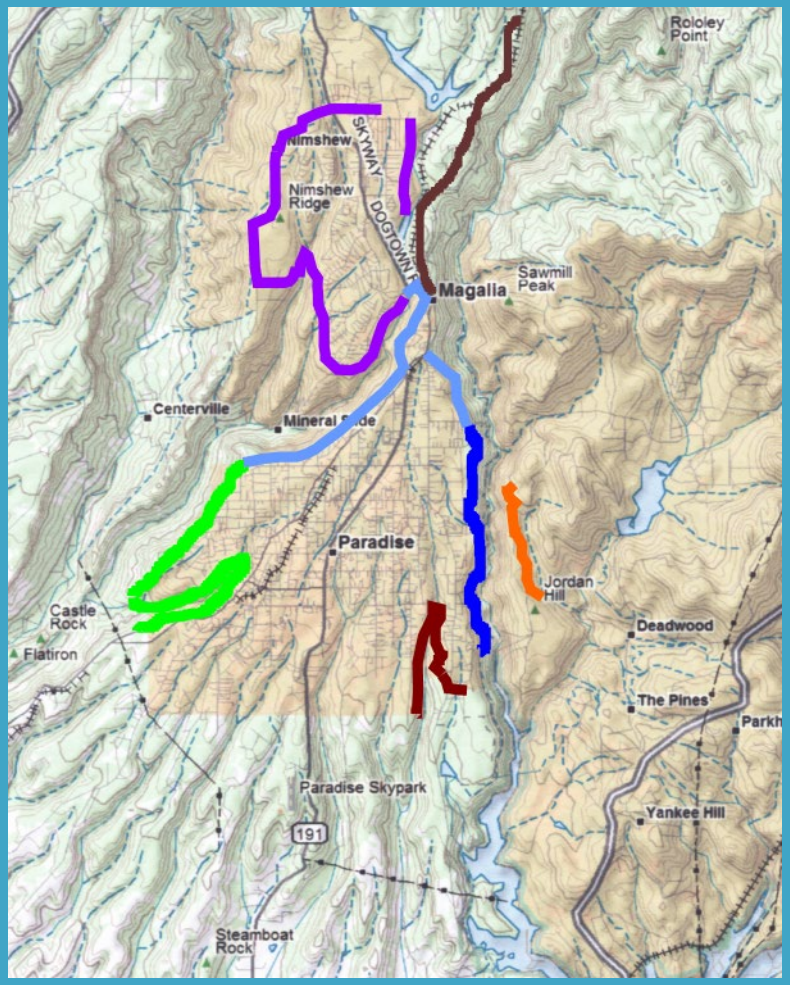
Shaded Fuel Breaks

Fuel Breaks



Goals are to interrupt fire spread, change fire behavior (crown to ground fire) and provide a staging area to fight the fire.

Fuel Break Positioning



- Along ridge lines.
- Along roads.
- At land use boundaries e.g., interface of conservation reserves and urbanized areas.
- Width normally varies from 100-200 feet.

Guidelines for Shaded Fuel Breaks

- Retain larger trees (normally understory trees removed up to a specified diameter limit while retaining ones that are not ladder fuels).
- Prune trees to a height of 8-10 feet above the ground.
- Separate crowns of residual trees.
- Remove or treat in place slash and small dead and down material.
- Retain trees with obvious wildlife use and snags greater than 18 inches DBH that are not adjacent to a road or structure.
- Retain some shrub cover, particularly species that provide wildlife food or cover.
- Shrub cover should be left in patches that are separated from trees (not within their drip lines).

Treatment Methods

Protected Habitats	Treatment Objective(s)	Treatment Method(s)	Timing and Frequencies
Vernal Pool Grassland	Reduce fine fuels	Prescribed grazing (preferred), prescribed fire and/or mowing outside of pool boundaries	As required depending on other management objectives e.g., reducing invasive species
Grassland, Serpentine Grassland	Reduce fine fuels Prevent spread of fire to other habitats	Prescribed fire and/or grazing	Yearly, prior to annual grasses' seed release
Riverine/Riparian	Prevent spread of fire to or from habitat Reduce potential for crown fire	Grazing, mechanical or manual removal of excessive fuels at interface between riparian and upland vegetation; manual removal of ladder fuels within riparian corridor but outside bankful limits of stream	Implement in late fall or winter in woodlands, at five year intervals or as needed; treat grassland as described above
Valley Oak Woodland, Oak Woodland	Reduce potential for crown fire	Mechanical or manual removal of selected understory and overstory plants	Implement in late fall or winter at five year intervals or as needed
Chaparral, Serpentine Chaparral, Northern Coastal Scrub, Diablan Sage Scrub	Reduce accumulated senescent plant material	Mechanical or manual selective clearing and pruning.	Implement in late fall or winter at five year intervals or as needed.

Conditions on Treatments

Avoidance and minimization measures are applied at the habitat level and species level for covered wildlife and plants. Example: Placer County Conservation Plan.

Species	Fuel Treatment			
	Machine Thinning	Manual Thinning	Prescribed Fire	Targeted Grazing
Swainson's Hawk	Surveys required during nesting season (February 1-August 15) within one quarter mile of project if trees are present. No activities allowed within one quarter mile if nests are occupied.		No applicable conditions.	
California Black Rail	Surveys required during nesting season (March 1-August 15) if project is within 250 feet of marsh >0.2 acre in size. No activities permitted within 250 feet of occupied habitat.		No applicable conditions.	

Avoidance and Minimization Example: Santa Clara Valley

Plant Species	Machine Thinning	Manual Thinning	Prescribed Fire, Targeted Grazing, Herbicides
Tiburon Indian Paintbrush	N/A	N/A	If in serpentine bunchgrass grassland and/or if serpentine rock outcrops are present buffers required around recorded occurrences. Not sensitive to controlled grazing.
Coyote Ceanothus	If in serpentine bunchgrass grassland, mixed serpentine chaparral, northern coastal scrub and Diablan sage scrub with serpentine soils buffers required around recorded occurrences. Not impacted by grazing.		
Mt. Hamilton Thistle	N/A	N/A	If serpentine seeps present. Buffers required around recorded occurrences. Very sensitive to grazing.
Santa Clara Valley Dudleya	N/A	N/A	Surveys required if serpentine rock outcrops are present buffers required around recorded occurrences. Sensitive to grazing during peak blooming (April-July).
Fragrant Fritillary	N/A	N/A	If in serpentine bunchgrass grassland buffers required around recorded occurrences. Exclude from grazing February-April.
Loma Prieta Hoita	If mixed oak and coast live oak woodland and forest with serpentine soils buffers required around recorded occurrences. Very sensitive to grazing.		
Smooth Lessingia	N/A	N/A	If in serpentine bunchgrass grassland and serpentine outcrops are present buffers required around recorded occurrences. Not sensitive to controlled grazing.
Metcalf Canyon Jewelflower	N/A	N/A	If in serpentine bunchgrass grassland and if serpentine outcrops are present buffers required around recorded occurrences. Early spring controlled grazing reduces likelihood of impacts.
Most Beautiful Jewelflower	N/A	N/A	If in serpentine bunchgrass grassland and if serpentine rock outcrops are present and in mixed serpentine chaparral buffers required around recorded occurrences. Early spring controlled grazing reduces likelihood of impacts.

Treatment Planning

- Management plans for conservation reserves will include a wildfire management component.
- Priorities for treatment will be based on risk to resources and human assets, costs and funding availability.
- There is a great opportunity to coordinate Habitat Agency planning with community wildfire protection.

Best Management Practices

- To ensure that treatments have no significant impacts the Guidelines include BMPs applicable to:
  - Stream protection
  - Wetland protection
  - Topographic and geologic constraints
  - Cultural resources
  - Wildlife (general)
  - Exotic species
- These are in addition to the minimization and avoidance conditions.
- Fuel treatments are commonly subject to CEQA.

Grazing and Prescribed Fire

- The majority of treatments will be either grazing or prescribed burning in grasslands, serpentine grasslands and other habitats.
- Partner agencies and enrollees have substantial experience with both methods.
- We are recommending that work groups be created to develop appropriate prescriptions.

Wildfire Suppression:

What Happens When a Fire Occurs Within a Reserve?

- The Guidelines recommend that “minimum impact suppression tactics” be applied to fires that occur within conservation reserves to avoid and/or minimize resource damages.
- Implementation of MIST requires coordination between suppression forces and reserve managers.
- Some agencies have achieved this coordination with past incidents.
- At the very least, conservation agency resource managers should be included in incident response teams to address avoidance and post-fire remediation.

Some Next Steps

- Guidelines for grazing in conservation reserves should be developed.
- Projects proposed by others in covered habitats should adhere to the Guidelines.
- Consideration might be given to fee offsets for folks doing treatments according to the Guidelines.
- The Guidelines should be incorporated into Community Wildfire Protection Plans (already the case in Santa Clara).

Questions and Discussion

Check out the webinar recordings and resources at the following website:

https://tinyurl.com/y7ttn3t3