



FEMA-UCSF

**Mount Sutro
South Ridge & Edgewood Avenue**

Vegetation Management Projects

FEMA Pre-Disaster Mitigation Program Overview

- Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation (PDM) Program provides funds to states, communities, universities and others for pre-disaster mitigation planning and cost-effective mitigation projects.
- Goal of this program is to reduce overall risks from natural disasters to the population and to structures, while also reducing reliance on funding for actual disasters.

Application Submission and Review Process

- PDM grants are evaluated and awarded on a competitive basis.
- Applications are submitted to each state's Office of Emergency Services for initial evaluation and prioritization.
- Priority applications are forwarded to FEMA for national level review.
- Applications selected at national review may require environmental review.

Core Application Elements

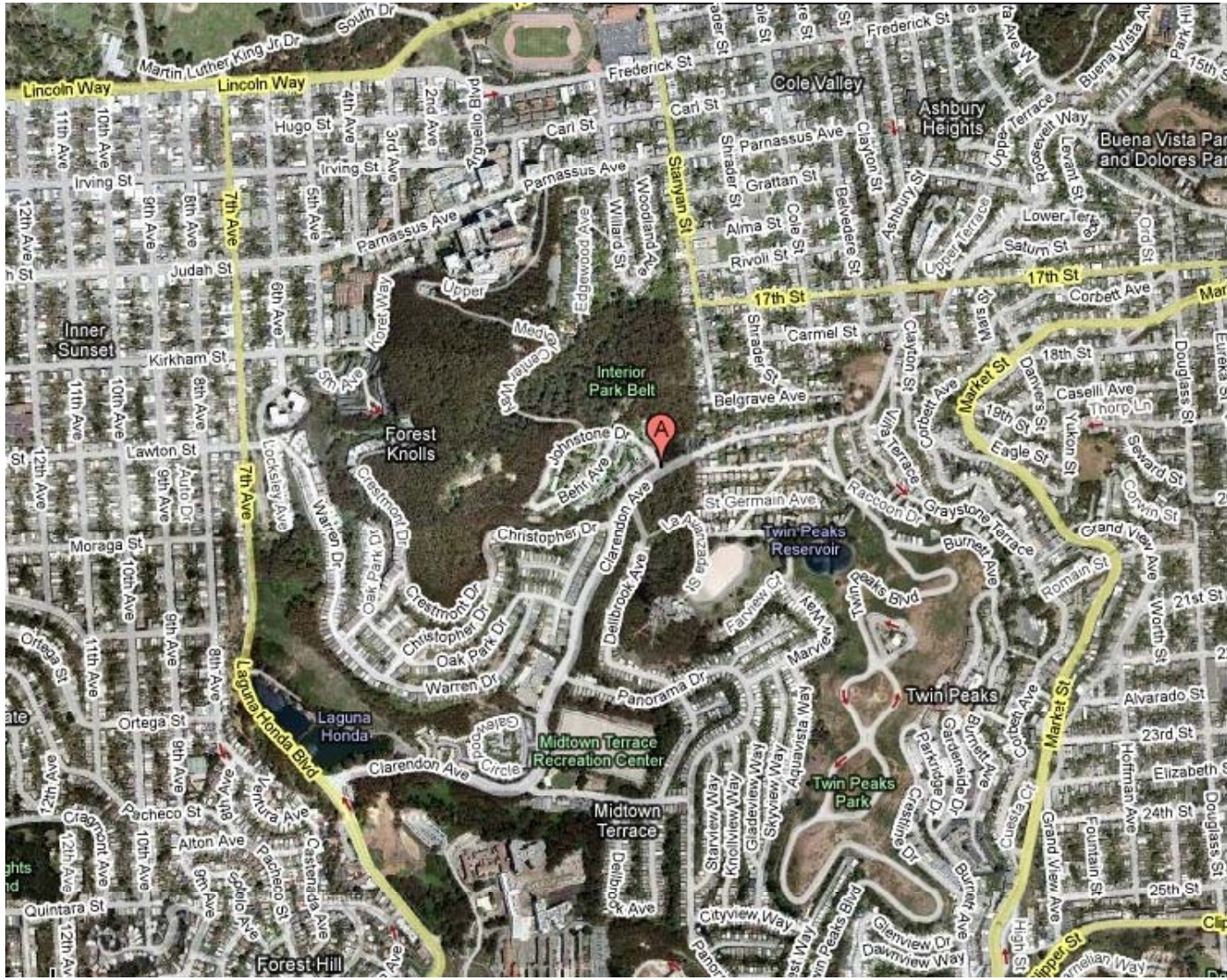
Narrative explanation:

- Community context
- **Hazard history and vulnerability**
- Relationship to State Hazard Mitigation Plan
- Scope of work
- Capacity to complete project in 36 month or less timeline
- Budget
- **Cost effectiveness (event frequency, severity of potential damage, types of property at risk)**
- Environmental and historical preservation analysis
- **Evaluation (organization's capacity to implement project; leveraging involvement of others; community participation)**
- Quantitative Benefit-Cost Analysis based on budget and potential loss information
- All narrative and quantitative figures must be **supported by scientific literature, project technical analysis** and organization-based documentation and photos

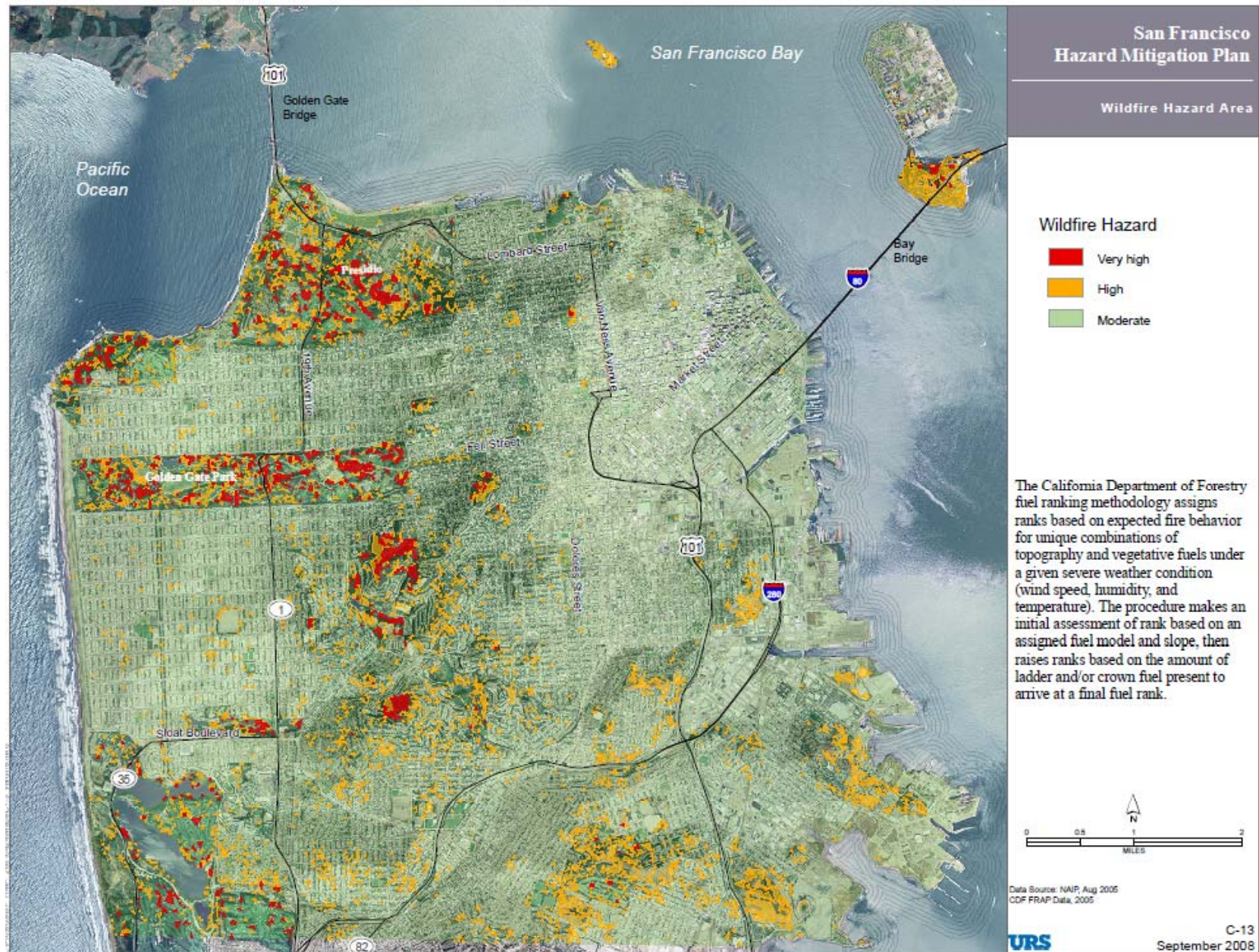
UCSF Project Grants

- FEMA preliminary approval for two PDM grants in Mount Sutro Reserve
- Federal Share \$337,560 (75%) UCSF Share \$112,520 (25%) for total of \$450,080 for both projects, including environmental assessment, project management, surveying, vegetation removal, stump treatment and tree planting
- **Primary Objectives:**
 - Substantially reduce the amount of fuel and the potential for a fast-moving, high intensity fire
 - Better ensure citizen safety and property protection
- **Secondary Objectives:**
 - Improve the health of trees that remain
 - Provide easier fire truck access for initial direct attack in the event of a fire
 - Increase biodiversity and age diversity in the stand to better resist insect infestation, prevent mass die-off, reduce the potential for fire and attract wildlife
 - Convert some of the forest to more fire resistant tree species
 - Create a more attractive environmental setting for hikers

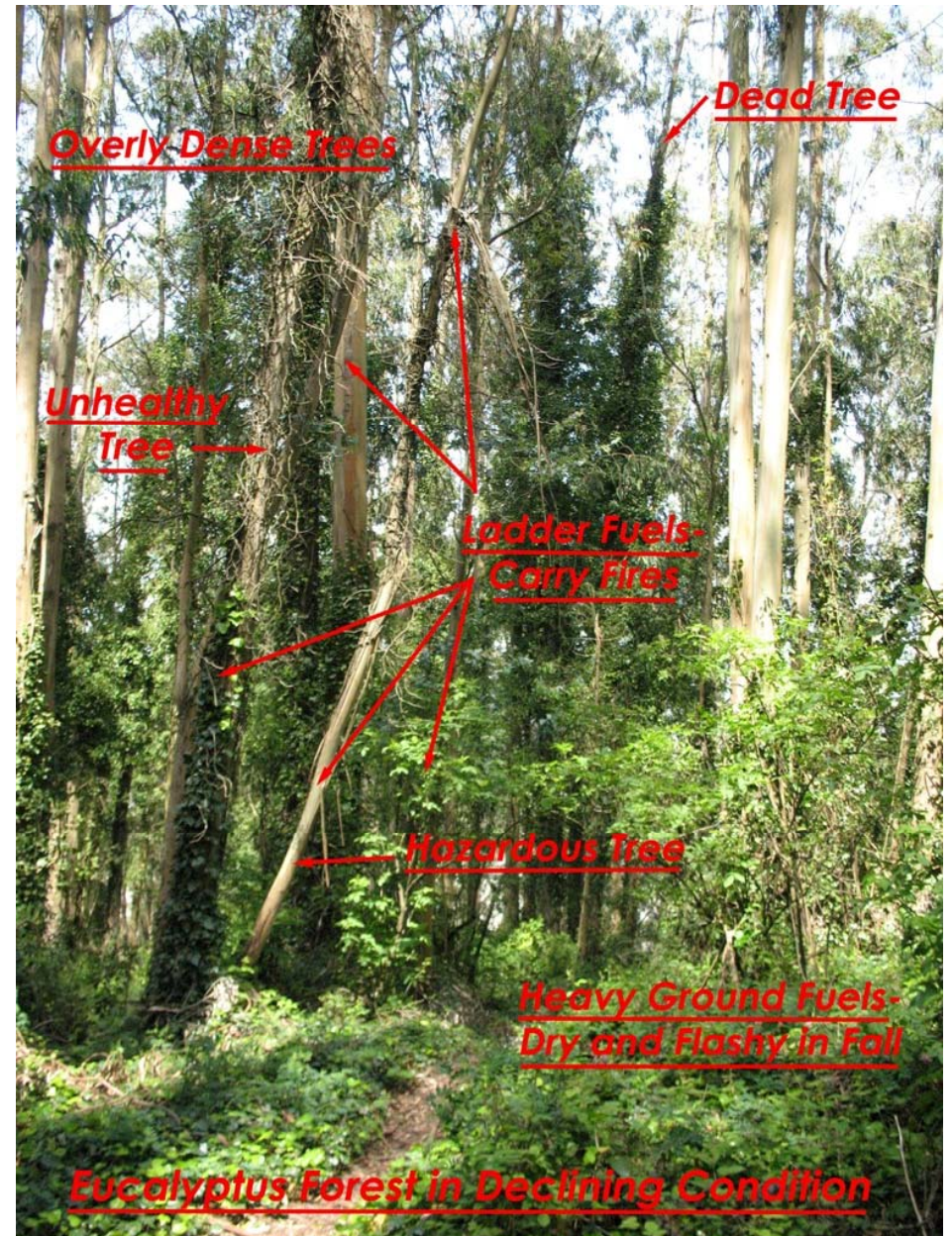
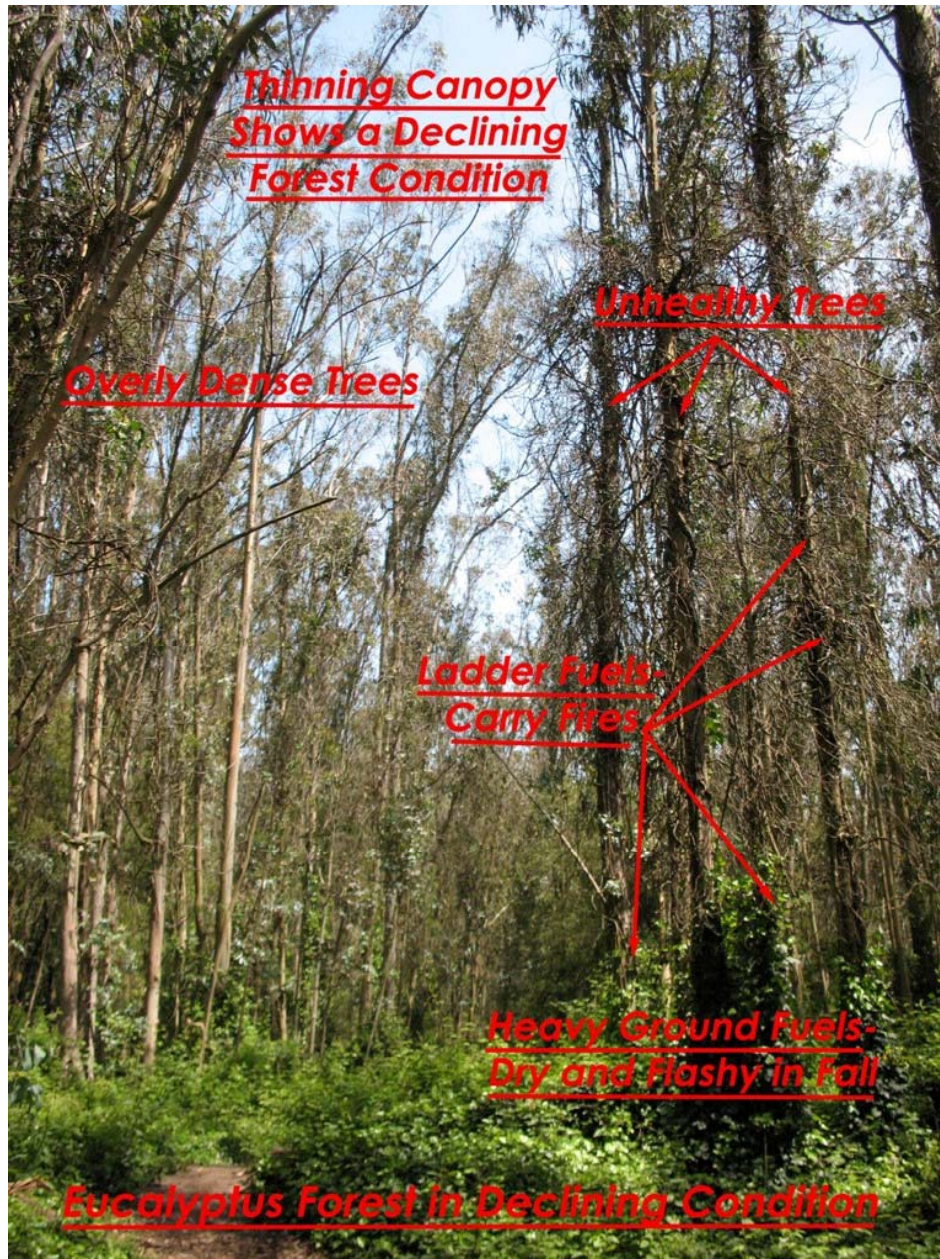
General Location of Projects



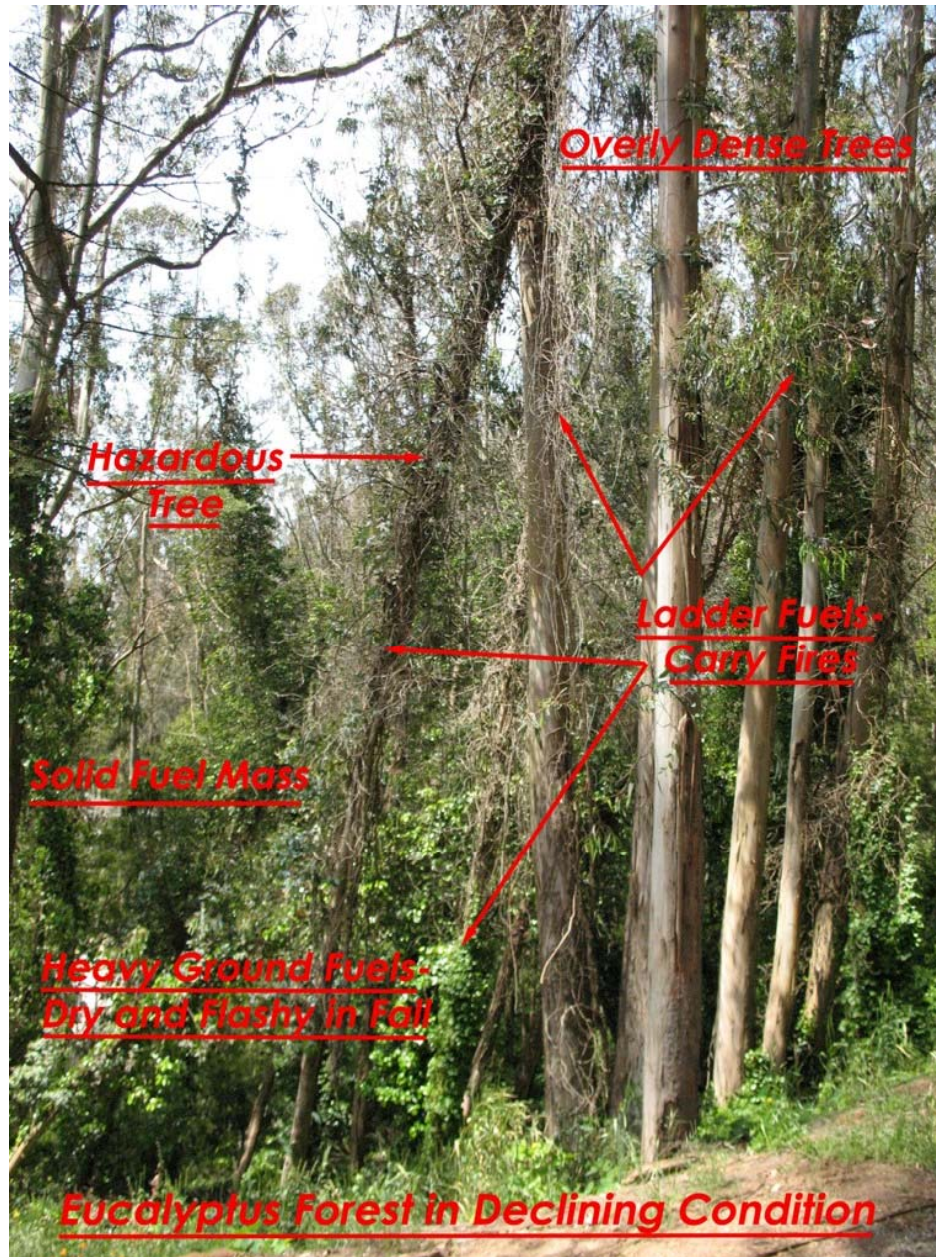
City-Wide Wildfire Hazards



Project Area Wildfire Hazards



Project Area Wildfire Hazards



South Ridge Project Area

- 8 acres (13%) in southwest area of 61-acre Mount Sutro Open Space Reserve
- Adjacent to and upwind of Aldea housing and private neighborhoods
- Identified as **top priority area** in 2001 Management Plan
- Most accessible and least visible off-site





**SOUTH RIDGE
PROJECT AREA**

37°45'24.97" N 122°27'30.01" W

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© 2009 Tidel Atlas

Google

Eye alt 2199 ft

Edgewood Avenue Project Area

- 6 acres (10%) in northeast area of 61-acre Reserve
- Adjacent to and upwind of Neighborhoods to east of campus
- Adjacent to campus development, including hospital
- Identified as another **top priority area** in 2001 Management Plan





**EDGEWOOD AVENUE
PROJECT AREA**

©2008 Google

37°45'43.99" N 122°27'23.39" W

Jun 2007

Eye alt 1856 ft

Vegetation Removal Goal and Planning

- **Goal:** To remove up to approximately 90% of the biomass (small blue gum eucalyptus and blackberry) and selectively removing eucalyptus trees larger than 12" dbh to maintain a sparse canopy; removing limbs, vines and loose bark on remaining tree trunks up to 10'; and removing much of the dead material on the ground
- **Step 1:** Survey and action plan by Urban Forester with input from Wildlife Biologist, UCSF staff and Stewards of Mount Sutro
- **Step 2:** Vegetation to be saved will be tagged or fenced off at least 30 days in advance of work and community members notified
- Vegetation removal will occur between bird nesting season and rainy season

Vegetation Treatment Methods

- **Livestock Grazing:** Goats initially to clear brush, especially on slopes over 30%, along trails and around rock outcrops. One-acre cells for high-intensity, short-duration grazing of 1-2 weeks (approximately an acre/day).
- **Mechanical:** On slopes under 30%
 - Large brush and trees less than 12" dbh to be chipped and scattered on-site to depth not exceeding 9" or off-hauled if marketable
 - Larger trees to be cut by Feller-Buncher and flush-cut to ground with chainsaws, shredded by Brontosaurus, chipped or toppled
 - Trunks over 20" dbh to be left on ground to decay or off-hauled if marketable
 - Saplings and brush may also be removed by similar heavy equipment
 - Best management practices such as mulching, seeding, ditching, sediment catchments and bars, leaving small areas of vegetation and applying biodegradable erosion control blankets will be used if needed where soil is heavily disturbed and erosion could occur
 - Staging in project area clearing adjacent to Summit Road and Surge parking lot
 - Operating hours will be between 7 a.m. and 6 p.m.

Vegetation Treatment Methods

- **Hand Labor:** On slopes over 30%
 - To remove individual trees, brush and limbs, vines, loose bark, ground litter and blackberry roots
 - Along trails, around rock outcrops and where mechanical equipment is limited, goats have not been fully effective and native and non-native vegetation is intermixed
- **Chemical:** Selective use on eucalyptus tree stumps, cut vines and blackberry roots where needed for long-term effectiveness
 - Application of Garlon 4 or Round Up immediately after cutting by Chemical Applicator with a Qualified Applicator License or Certificate from the California Department of Agriculture
 - Signs to be posted in and around project area in advance of and during the work

Planting

- Up to total of approximately 225 native trees of various species in late fall/early winter
- Purpose is to replace with more fire resistant species and to increase biodiversity and wildlife habitat:
 - Coast live oak (*Quercus agrifolia*)
 - California buckeye (*Aesculus californica*)
 - Pacific wax myrtle (*Myrica californica*)
 - Pacific madrone (*Arbutus menziesii*)
 - Toyon (*Heteromeles arbutifolia*)
 - California coffeeberry (*Rhamnus californica*)




Schedule

2009 or 2010																
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A
Wildlif e Survey							■									
Veget at ion Survey							■									
Detailed Plan							■									
Goat Grazing								■								
Veget at ion Removal									■	■						
Herbicide Applicat ion									■	■						
Plant ing												■				
Maint enance													3 YEARS			

FEMA

Environmental and Historic Preservation Compliance

- FEMA, as Federal Lead Agency for this project, is required to formally comply with:
 - The National Historic Preservation Act (NHPA)
 - The National Environmental Policy Act (NEPA)
- FEMA coordinated with the **State Historic Preservation Officer** (SHPO) who determined that the South Ridge Project would have no adverse effects on the cultural landscape of the Sutro Forest; a similar assessment for the Edgewood Avenue Project is pending but the same conclusion is expected
- FEMA will be preparing a **Draft Environmental Assessment** (DEA) to evaluate and disclose the environmental impacts of the proposed projects and alternatives
- If public/agency input and DEA findings indicate the projects will result in no significant impacts, FEMA will prepare a **Final EA and Finding of No Significant Impact** (FONSI)
- Signing of FONSI by FEMA Environmental Officer marks completion of NEPA compliance and FEMA's environmental review process



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Mount Sutro Vegetation Management Projects

**Overall purpose is to significantly reduce
the highly flammable fuel load and
create a much more open forest
environment as it once was**