



# Angora Fire Restoration Activities

## June 24, 2007

*Presented by:*

**Judy Clot**

**Forest Health Enhancement Program**

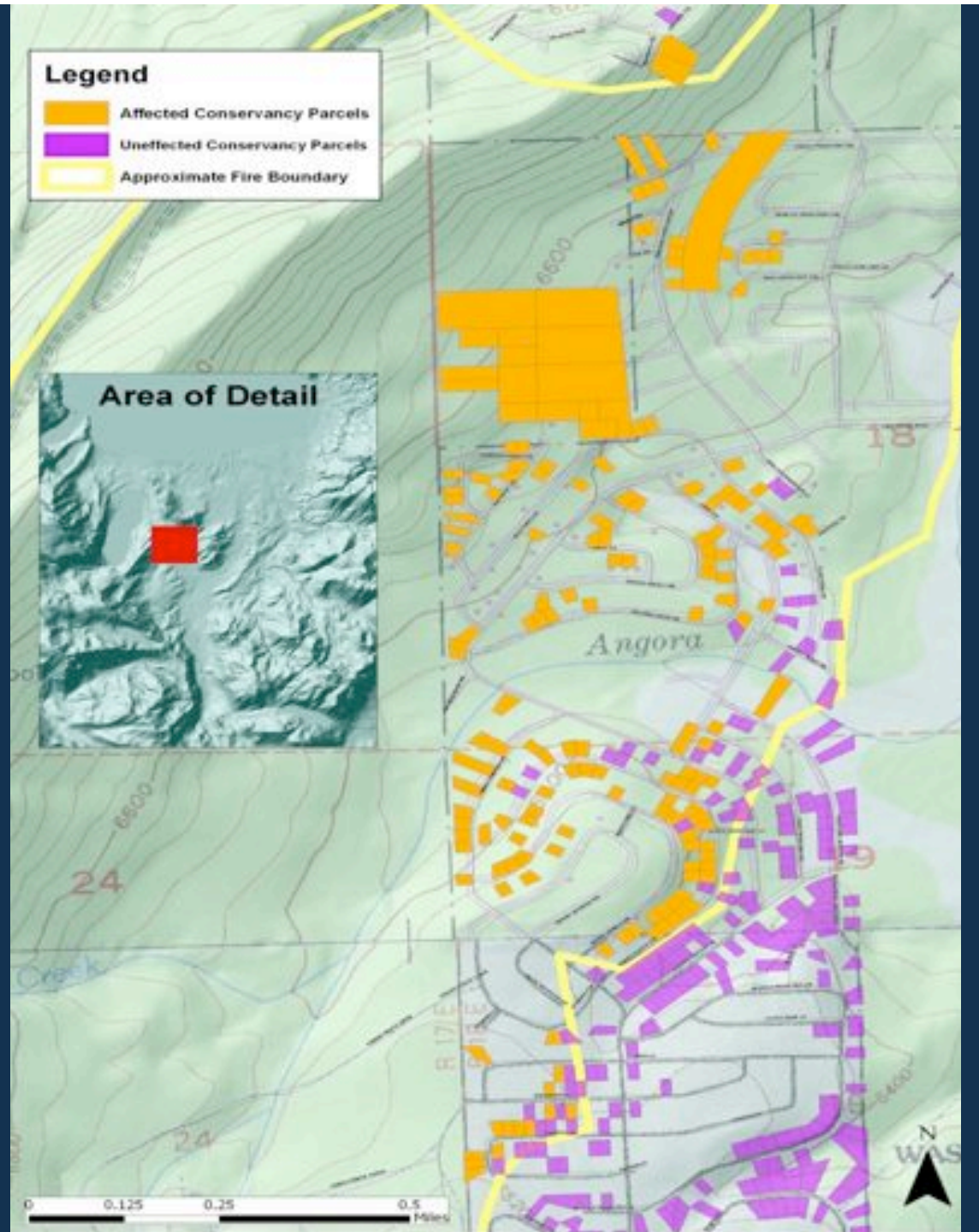


# *California Tahoe Conservancy*

- Independent California State Agency within the Resources Agency
- Governed by a 7 member board with 3 local members
- Conservancy's Mission:  
*"The California Tahoe Conservancy's mission is to preserve, protect, restore, enhance and sustain the unique and significant natural resources and recreational opportunities of the Lake Tahoe Basin."*

# *Conservancy Properties Affected by the Angora Fire*

- Approx 3,100 Acres
- Approx 85 acres (175 parcels) of Conservancy Land Affected
- Over 254 Homes Destroyed



# *Conservancy Rapid Response and Damage Assessment*

- Protect Infrastructure
- Remove Hazardous Conditions
- Evaluated Impacts
  - Soils
  - Water quality
  - Forest structure
  - Wildlife habitats
- Define Immediate & Long Term Restoration Needs



# ***Assessment Identifies Restoration Needs***



## **High risk areas include:**

- steep slopes
- severely burned areas
- watercourses

These high risk areas require immediate and aggressive restoration including erosion control and revegetation.

# *Angora Fire Restoration Objectives*

- Minimize Hazards to the Public
- Accelerate Development of a Healthy Forest Stand
- Reduce Long Term Fuel Accumulations on Forested Conservancy Lands
- Reestablish Species Diversity and Composition Richness
- Restore Wildlife Habitat and Species Diversity
- Improve Water Quality
- Involve Community in Restoration Activities

## *Minimize Hazards to the Public*

- Hazard Tree Removal Completed on 65 Acres of Conservancy Land
- An Additional 20 Acres of Routine Fuels Treatments are Planned for Completion by Spring 2008





## Forest Restoration Management Plan

**Management techniques  
can be used to achieve a  
variety of objectives.**

### Active Management

*Many of these treatments  
mimic the natural process,  
but encourage the rate of  
recovery for specific  
species.*

### Passive Management

*This type of management  
is the conscious decision  
to take a hands-off  
approach.*



# Gondola Fire 2002



## Moderate Management Approach

### Erosion Control Measure:

- \*contour logs
- \*willow waddles
- \*herbaceous seeding
- \*seedling planting



## **Guidelines:**

1. Manage forest resources in a manner consistent with the need to enhance the health of forest resources.
2. Implement forest resource enhancement activities in a timely and comprehensive manner through the use of both public and private resources.
3. Implement forest resource management activities in a cost-effective manner.

## **Planning:**

1. Management plans are site specific:
  - Uneven aged or thinning for fuel hazard reduction
  - Hand thinning or mechanical treatments
  - Fire Restoration Plan to establish a forest stand and wildlife habitat



## Regeneration Prescription

1. Manage severely burned parcels by removing burned trees that threaten life/property or cause a future fire hazard.
2. Retain components that provide habitat benefits such as snags and down wood.
3. Retain seed and wildlife trees.
4. Retain tops of trees for contour logs for erosion control.
5. Masticate and chip slash and cover 80% of bare soil.
6. Plant seedlings of desired species and density.
7. Use mesic and xeric grass seed for erosion control.
8. Within the SEZ use additional erosion control measures.

# Salvage Operations & Fuel Removal



## *Research shows:*

- Without active reforestation conifers will have difficulty regenerating amid rapid growing shrubs
- Severely burned areas can develop into brush fields for decades and centuries post fire
- Post fire salvage logging and tree planting can speed the rate of recovery

# *Mastication*



# *Restoring Wildlife Habitat and Species Diversity*



- Provide Important Habitat for a Number of Native Wildlife Species
- Enhance Forest to Provide Forest Habitat Structure
- Re-establish Riparian Habitats

# *Protecting Water Quality*

- Stabilize Soils in Place
- Protect Infrastructure & Private Property from Sediment & Debris
- Protect Stream Environmental Zones from Increased Erosion



# *Water Quality Restoration Accomplishments*



- 19 Parcels Protected with Emergency Soil Stabilization Measures
- 30+ Acres Seeded with an herbaceous seed mix
- 34+ Acres Seeded and Mulched
- 300+ Contour and Coir Logs Installed
- Effectiveness Monitoring Program Developed and Implemented



# *Community Restoration: Forest Stewardship Day*

Over 350+  
Members  
of Community in  
Attendance to  
Restore Mule  
Deer Burned  
Area



# *Community in Action: Forest Stewardship Day*



Members of  
Public Educated  
About Restoration  
Methods



# *Forest Stewardship Days 2007*

- Opportunity for Public to Assist in Angora Fire Restoration Effort
- Over 1,800 Trees and Shrubs Planted



# *Summary of Restoration Accomplishments*

- Hazard Tree Removal and Stabilization Completed
- Timely and Coordinated Implementation of a Number of Activities, by Both Conservancy Staff and Crews
- Installation of Emergency Resource Protection Measures (e.g., Sand Bags, Erosion Control Fencing)
- Coordination of Restoration Efforts with Basin Agencies
- Implementation of Preliminary Soil Stabilization Measures (e.g., Seeding, Mulching, Water Quality Protection Structures)
- Removal of Hazard Trees and Other Threats to Public Health and Safety

# *Summary of Restoration Accomplishments*

- Analysis of Flood and Debris Flow Preventative Structures to Protect Public and Private Property
- Providing Funding through Grants and Issuing License Agreements with Local Agencies to Provide for Restoration Efforts
- Coordination of the County's Debris Removal Operations and Monitoring Efforts
- Implementation of Public Outreach Programs
- Participation in the League to Save Lake Tahoe's Forest Stewardship Day held on the Conservancy's 30+ Acre Mule Deer Property

## ***Acknowledgement of Partners***

- University of California Cooperative Extension
- United States Forest Service – LTBMU
- El Dorado County
- City of South Lake Tahoe
- California Department of Forestry and Fire Protection (CAL FIRE)
- National Resource Conservation Service
- Army Corps of Engineers
- League to Save Lake Tahoe
- California Conservation Corps
- Lake Valley Fire Protection District

# *Questions and Contact Info*

California Tahoe Conservancy

Judy Clot

[jclot@tahoecons.ca.gov](mailto:jclot@tahoecons.ca.gov)

[www.tahoecons.ca.gov](http://www.tahoecons.ca.gov)