



Wildfire Protection/Biomass Program for Placer County

Vision

Maintain a Healthy Forest to Cultivate Healthy Communities

Mission Statements

Placer County will be proactive in reducing the threat of catastrophic wildfires

Placer County will provide collaborative leadership in the field of Biomass Utilization





Placer County Wildfire Protection/Biomass Concerns

- Current Tools not adequate to address scope of the problem
 - More tons (BDT) on the ground that can currently be treated annually by traditional methods (2% – 10% treated)
 - Growth of forest (4% added each year)
 - Even with more treatment, what can we do with the biomass ?
- Need to Increase Biomass utilization
 - Desire to Add potential new tools
 - Change in Land Management Treatments (support USFS)
 - Bio-energy (heat, electricity, fuel)
 - Bio-based products
 - Challenges
 - Air Quality regulations
 - Economics



Placer County Promotes Biomass Utilization

**Comprehensive Vision – Board of Supervisors
Discretionary County & federal funding on-going**

Local/State/Federal Government collaboration

Rapid growth/high property values

Large Forested areas (549,000 acres)

Major fires since 2001 (Gap, Ponderosa, Star, Ralston – 30,000 acres)

Poor Air Quality (Ozone Non-Attainment Area)

**Developing Strategic Plan for research, program definition, partnerships,
technology demonstrations, funding solutions**

Plans aligned with President's and Governor's Energy Policy



Woody Biomass Presentations for Placer County

- **Tahoe Forum**
- **Federal Woody Biomass Working Group**
- **US Assistant Secretary of Interior – Lynn Scarlet**
- **California Energy Commissioner – Jim Boyd**
- **California Secretary of Resources – Mike Chrisman**
- **Yolo County**
- **Federal Wildland Fire Leadership Council**
- ❑ **Tahoe Regional Planning Agency (Oct)**
- ❑ **California EPA/Senator Feinstein COS (Nov)**
- ❑ **Federal EPA (Dec)**
- ❑ **California State Senator Dave Cox (Dec)**
- ❑ **Regional Council of Rural Counties (07)**



Current Placer County Wildfire Protection/Biomass Projects

- ✓ Wildfire Protection/Biomass Strategic Plan (Dec 2006)
- ✓ Fire Mitigation Coordinator (On-Board)
- ✓ Annual Defensible Space Inspections Program (Ongoing)
- ✓ Shaded Fuel Break Maintenance (1 new project in FH)
- ✓ Biomass Community Box Program (Spring 2007)
- ✓ CROP Analysis (On Contract)
- ✓ RAWs Project (Demo Fall 2007 – purchase summer 2007)



2006 Tahoe Basin Biomass Removal Program Granlibakken & Chinquapin

Private & Federal Funding

The Nevada Fire Safe Council



Cost of clearing
& shredding slash: \$30,000



Firewood:
Free to the Public



2006 Tahoe Basin Biomass Removal Program Granlibakken & Chinquapin

Private & Federal Funding

The Nevada Fire Safe Council



Cost of transporting biomass \$3,000





2006 Tahoe Basin Biomass Removal Program Granlibakken & Chinquapin

Private & Federal Funding

The Nevada Fire Safe Council



Price of working together: \$0



2006 Tahoe Basin Biomass Removal Program



*Protecting Communities
&
Creating Clean Energy:*

Priceless





Projected Placer County Wildfire Protection/Biomass Projects

- **Wildfire Protection**
 - Full time Fire Mitigation Coordinator
 - Mechanical mastication funding
 - More Shaded fuel breaks
 - Increased Forest Thinning
 - Increased biomass removal programs/equipment

- **Biomass Utilization**
 - Air quality regulation/measures development
 - Heating/electrical County facility in Tahoe
 - Bio fuel fermentation (UC Davis) research at Cabin Creek
 - Biomass to alcohol program at Valley MRF site
 - Viable High School heating facility



Cedar fire 10/25/2003

Example: Catastrophic Results of Fire

Worst fire in recent California history

3 days of unhealthy-hazardous air quality

392,000
acres burned

Over
\$900,000,000
in damage



16
confirmed
dead

2574 homes
and 2700
structures
destroyed



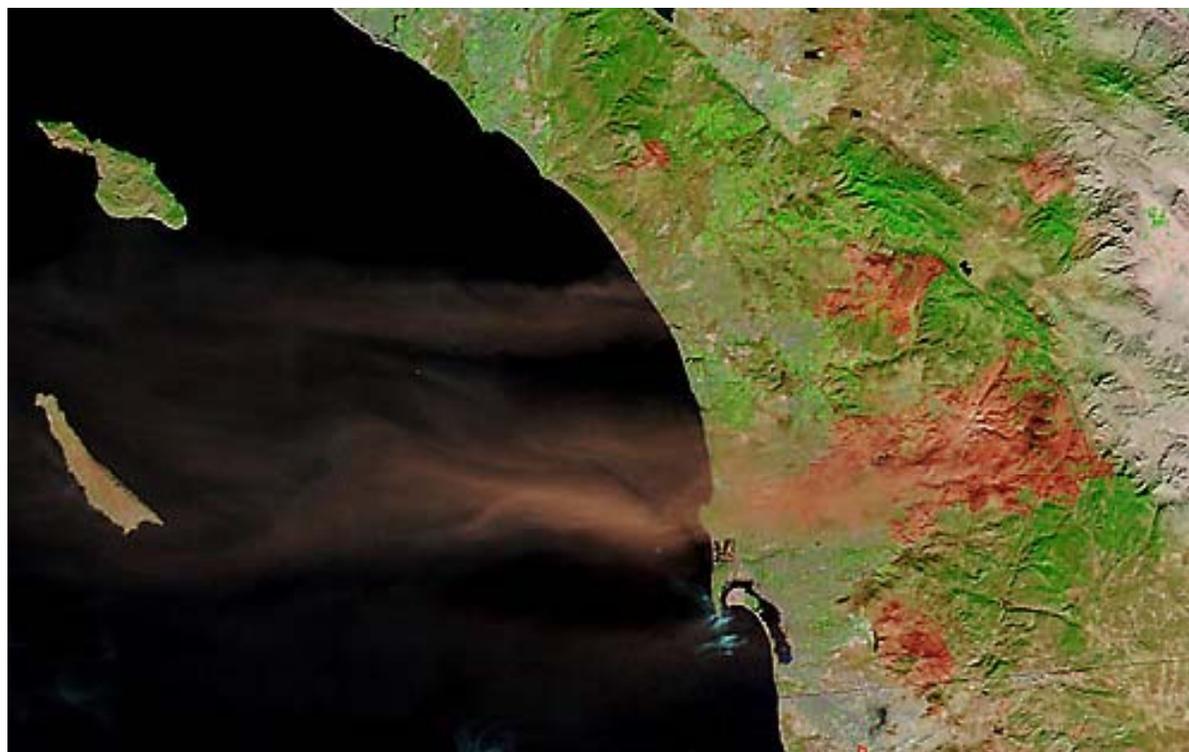
PM 2.5 Filters Showing Cedar Fire Impacts





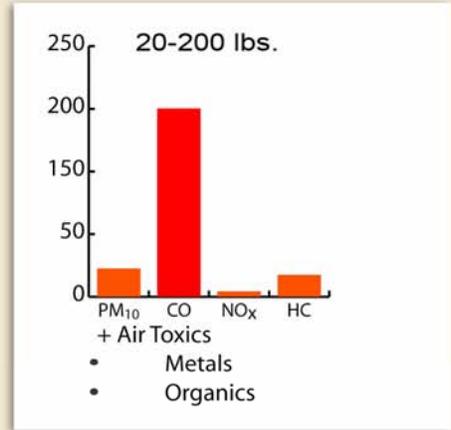
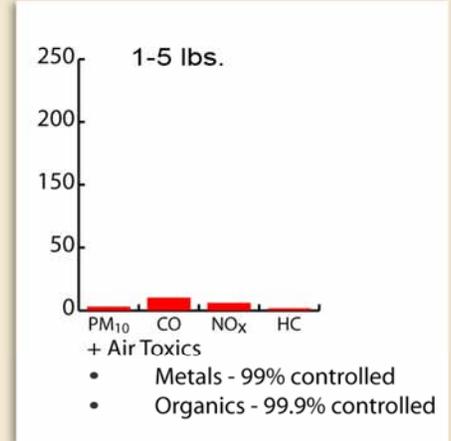
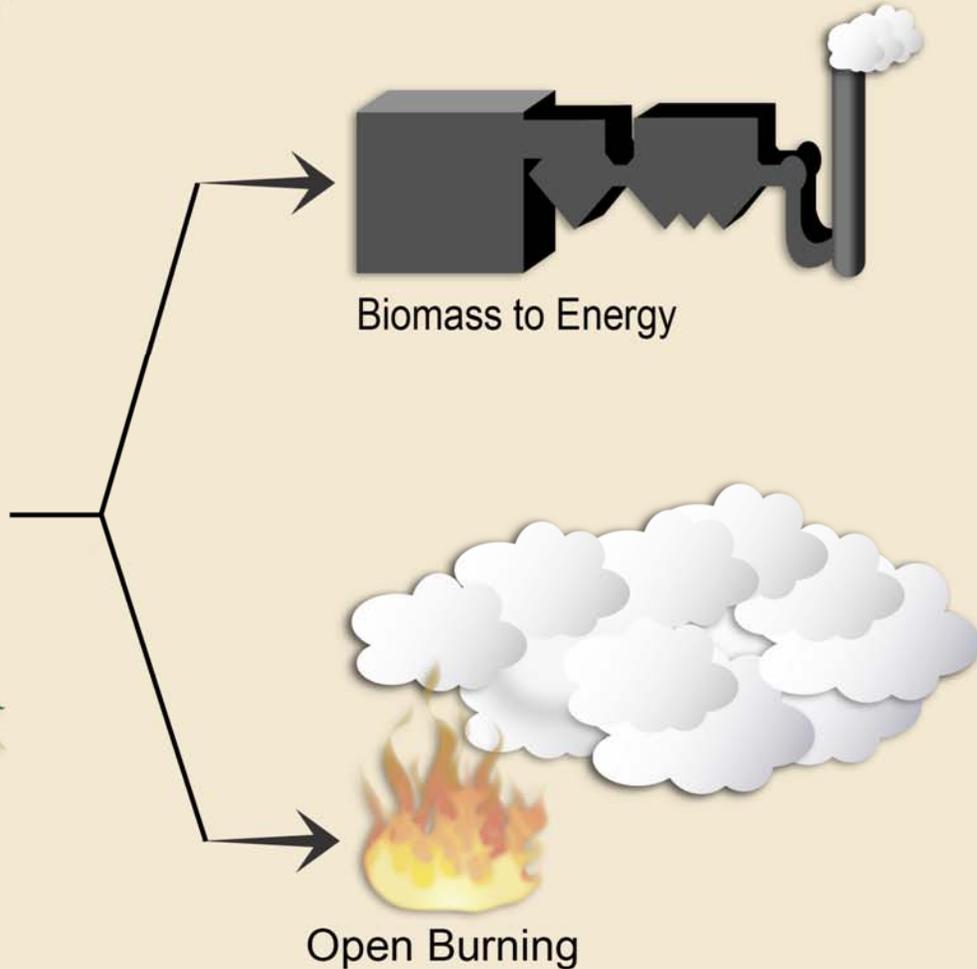
Cedar Fire: *Dust in the Wind*

A red plume of dust and ash from the San Diego County wildfires is visible blowing over the Pacific Ocean and San Clemente Island in this Nov. 27, 2003 false-color image from NASA's Terra satellite. In this image, newly burned areas appear red while vegetation is green, water is black, and clouds are light blue.





Air Quality Comparison (Relative Emissions)



Note: Other emissions not included are: Transport and firefighting related; localized emissions import from fuel processing plant; fugitive dust after burns; emissions from forest decay.



Biomass Emission / Economic Process Model

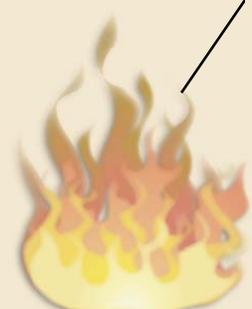
Prescribed In-Forest Burn



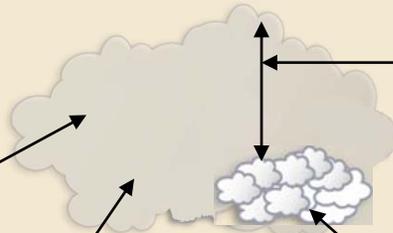
Air Pollution / Emissions from open burning



Biomass/Forest Fuel Loads



Catastrophic Wildfire



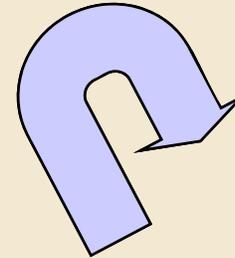
Emissions from fuel-processing plant

Relative Emissions Reduction

Possible Offsets/Credits?
(Real, Quantifiable, Surplus, Enforceable, Permanent)

Benefits of Biomass Use

- ✓ Energy production
- ✓ Reduces air emissions
- ✓ Displaces need for fossil fuel usage
- ✓ Reduces Greenhouse gas burden
- ✓ Reduces landfill burden
- ✓ Probable Water Quality Enhancements
- ✓ Likely forest health improvements & recreation preservation
- ✓ Reduce Public Health Burdens from Smoke
- ✓ Probable lower future fire suppression costs



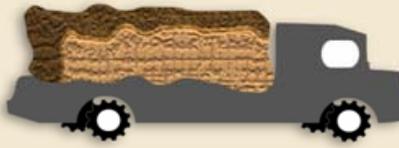
Biomass processing plant



- ✓ Bio Refinery
- ✓ CoGen
- ✓ Gasifier
- ✓ Lumbermill
- ✓ Other

Products

- ✓ Energy Products
- ✓ Fuel (liquid, gas)
- ✓ Electricity
- ✓ Heat
- ✓ Lumber Products



Biomass harvest



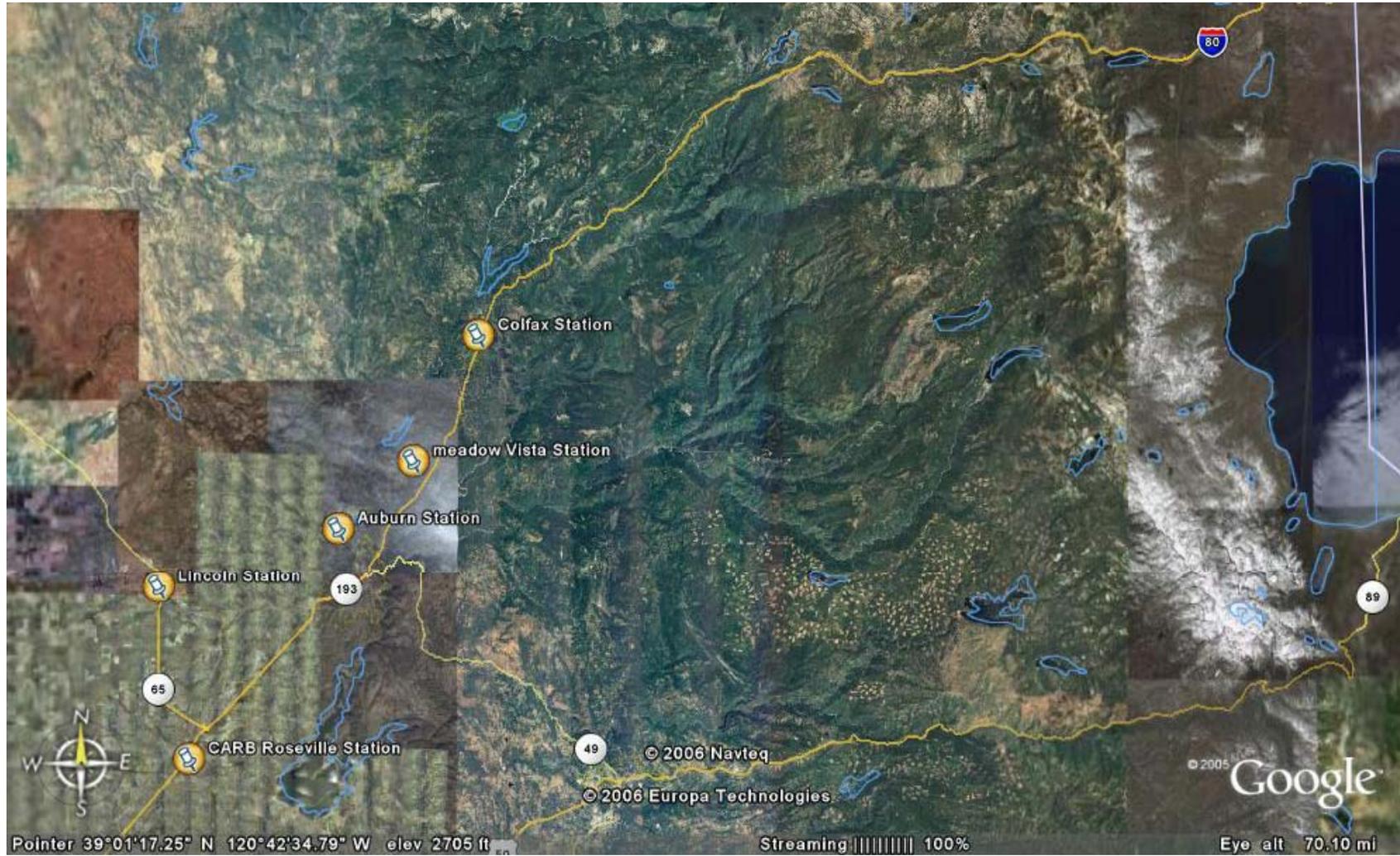


Ralston Fire Effects



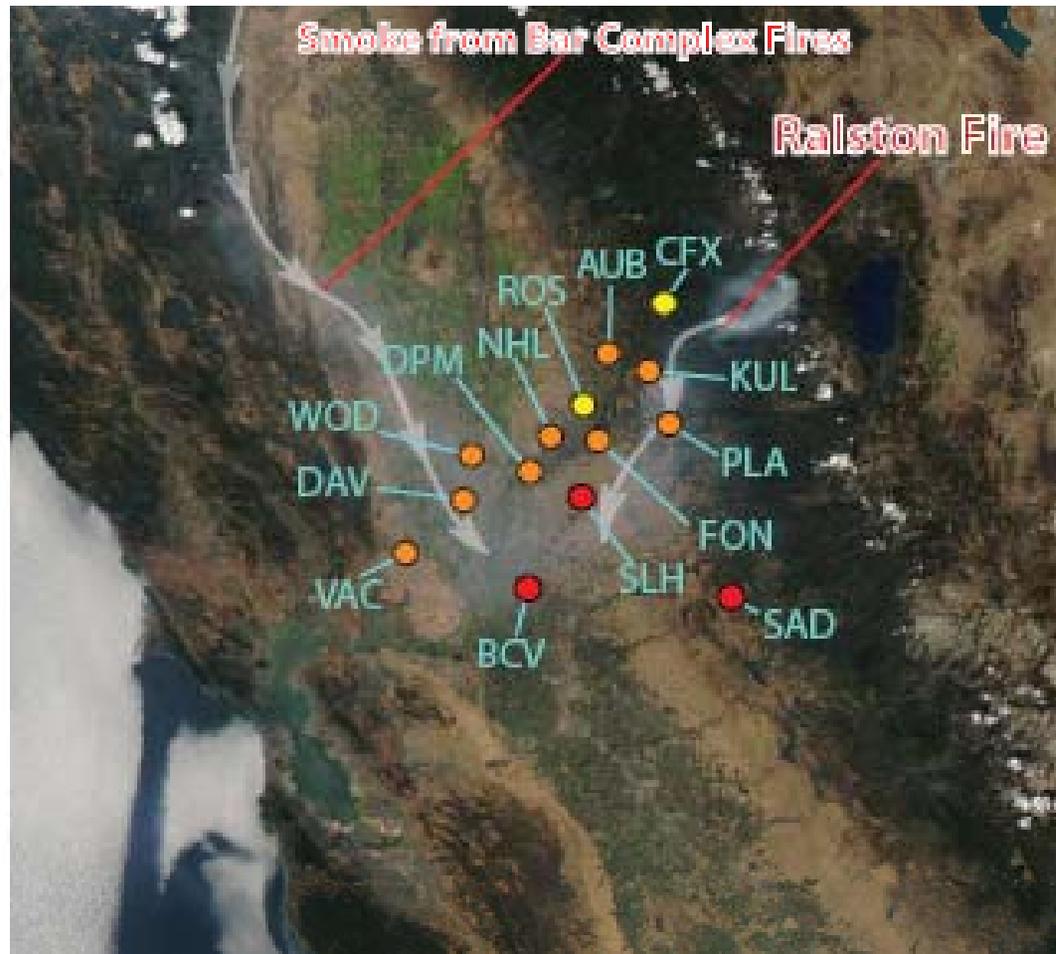


PM Monitoring Stations





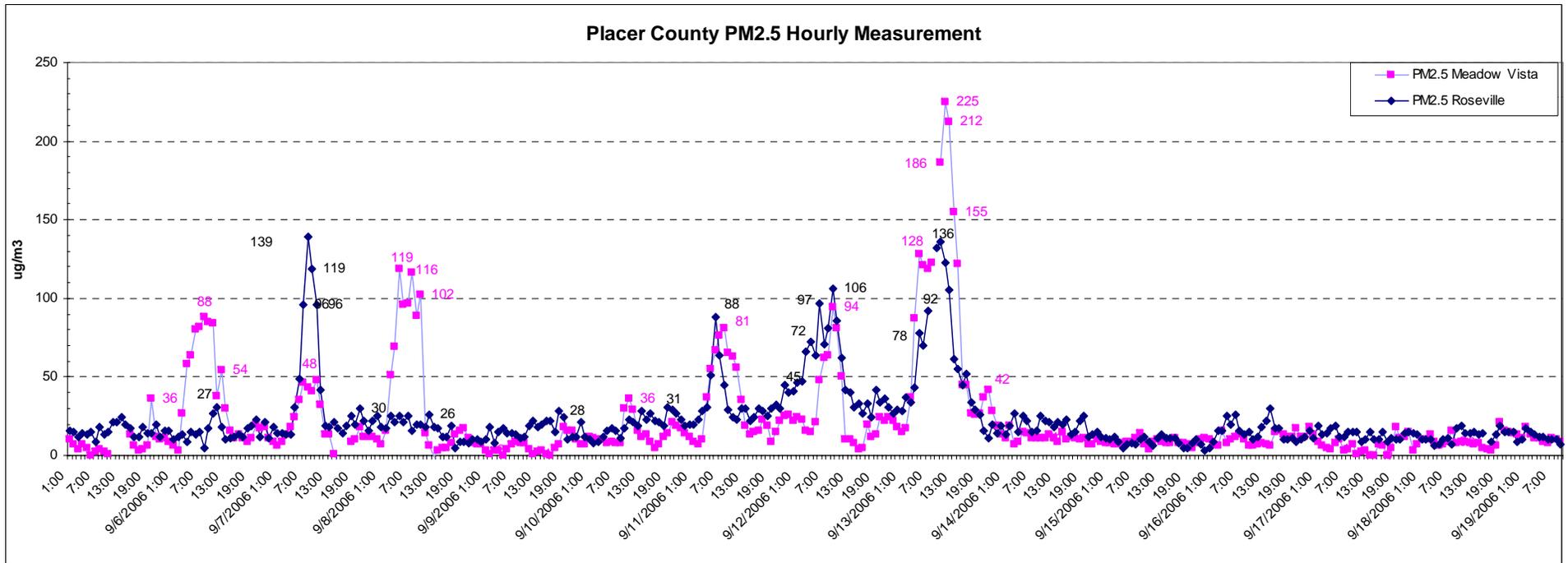
Fire Smoke Affecting Valley Air Quality on Sep. 12, 2006



Satellite image taken 9/12/06 at 1:40pm PDT, courtesy of NASA.
AQI is calculated from the highest 8-hour average ozone concentration, based on preliminary data.

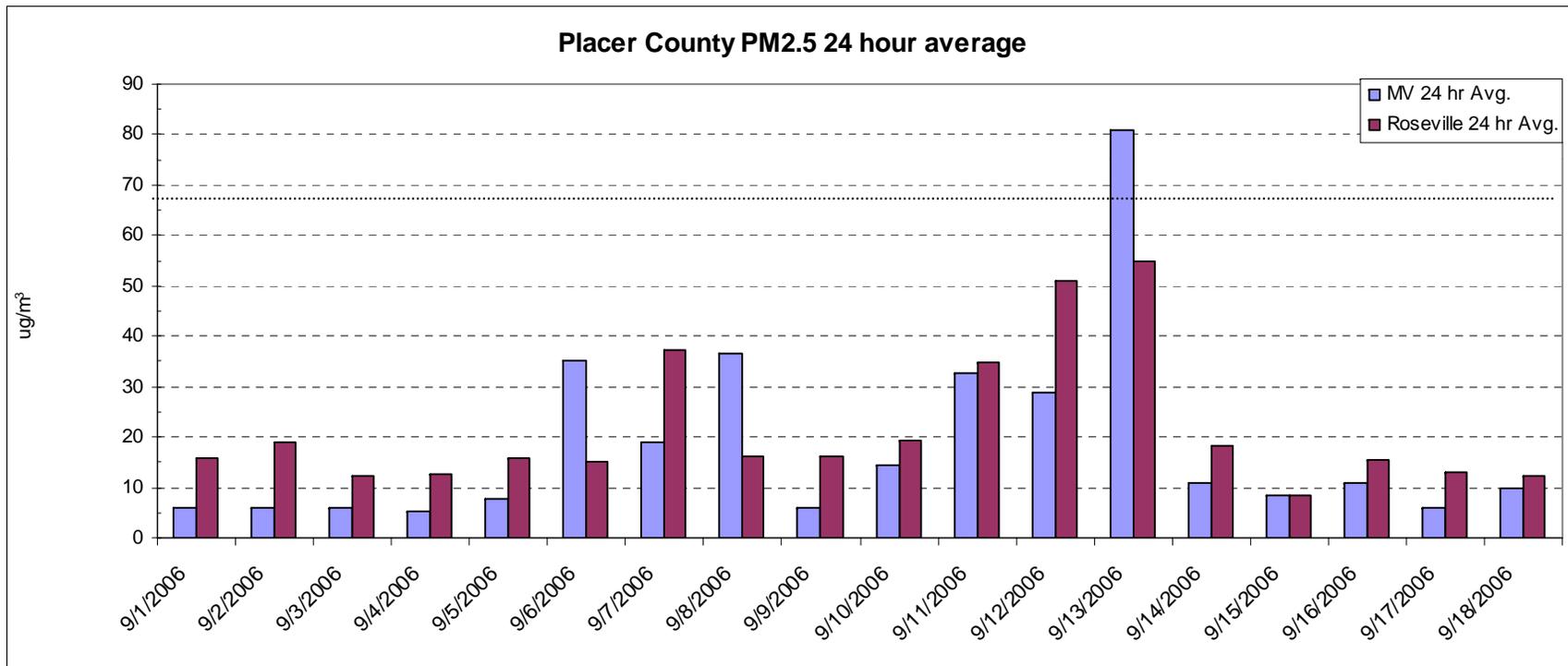


PM2.5 hourly measurements (BAM)



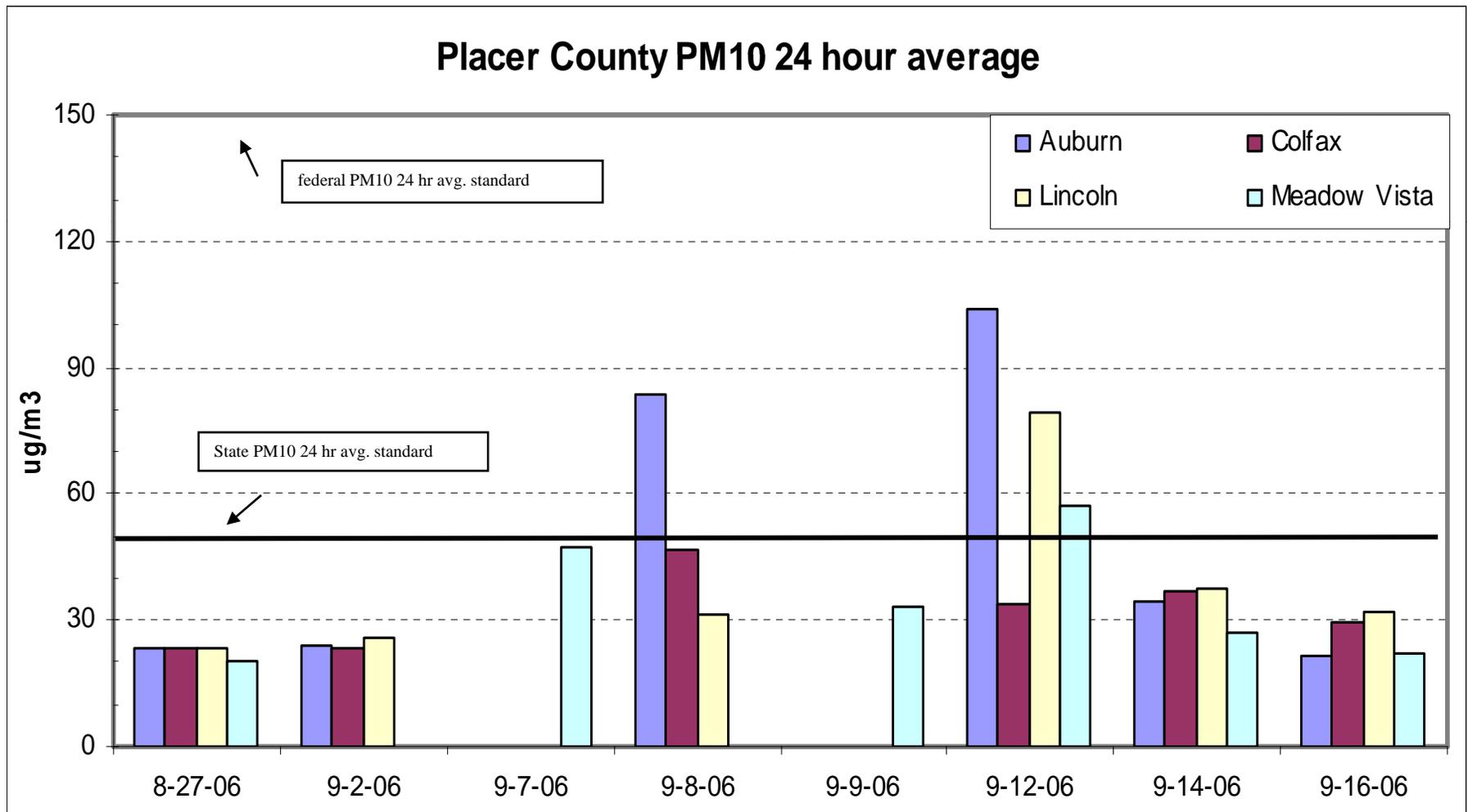


PM2.5 24 hr average (BAM)



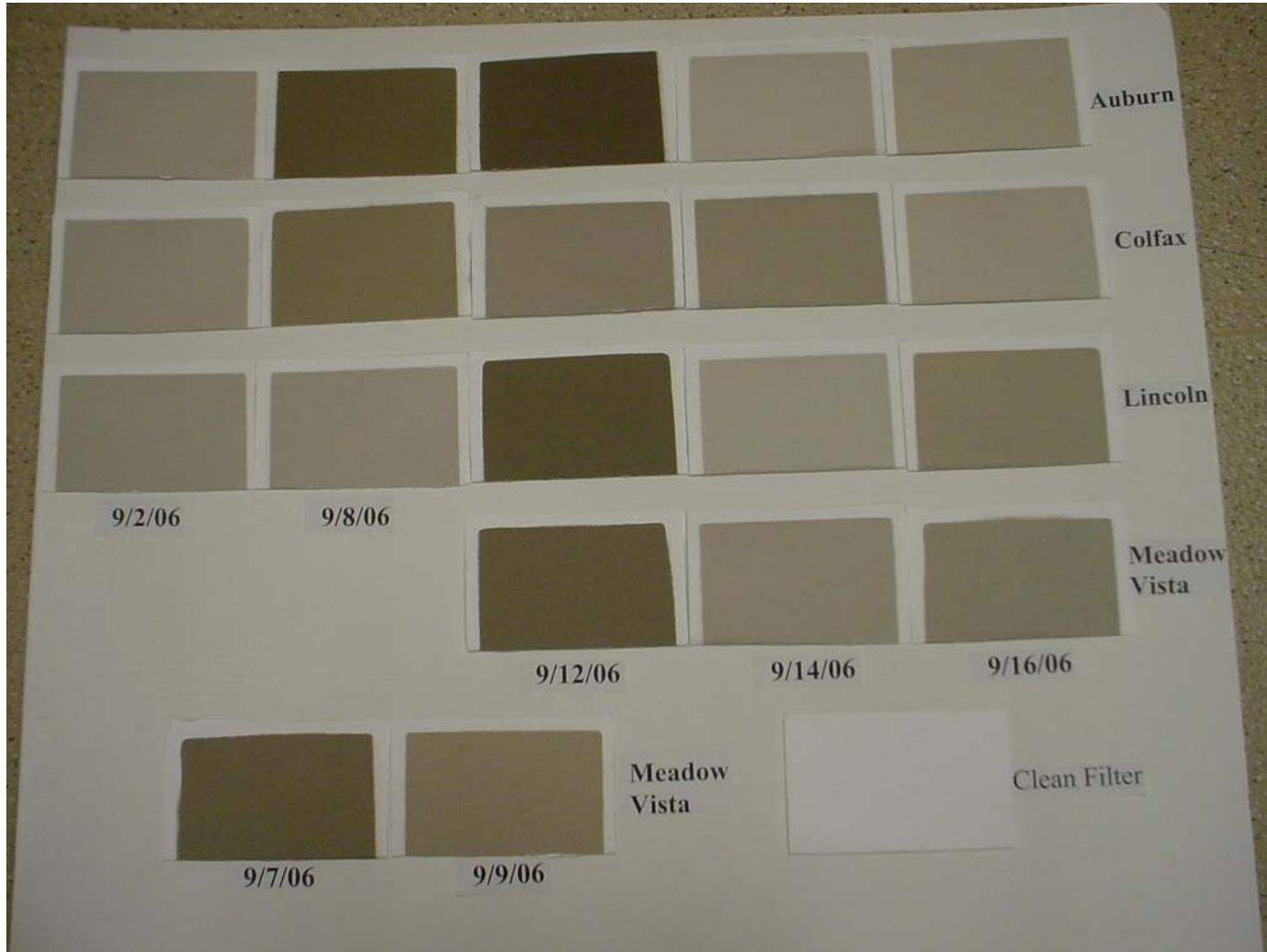


PM10 24 hr average (filter)





PM 10 Filters Comparison





***Secure Rural Schools & Community Self-Determination Act of 2000
Placer County***

FFY 2006-07 Activities and Estimated Costs

Total Cost: \$325,000



Secure Rural Schools & Community Self-Determination Act of 2000 Placer County

FFY 2006-07 Activities and Estimated Costs

- Fire Mitigation Coordinator **Cost:** \$50,000 (\$35,000 is carryover from FFY 05-06)
- Annual Defensible Space Inspections Program **Cost:** \$35,000
- Shaded Fuel Break Maintenance **Cost:** \$18,000
- Search and Rescue Operations **Cost:** \$20,000
- Wildfire Protection/Biomass Project Management **Cost:** \$100,000
- Wildfire Protection/Biomass Strategic Plan **Cost:** \$35,000
- Wildfire Protection/Biomass Development support **Cost:** \$20,000
- Tahoe Basin Biomass Removal Program **Cost:** \$21,000
- Biomass Community Box Program **Cost:** \$10,000
- Forestry Coordinator **Cost:** \$35,000
- RAWs Project **Cost:** \$16,000

Total Cost: \$325,000