

**Public Workshop
Forest Plan Revision
November 12, 2008**

**Balancing Forest Health with
Water, Soil, and Air Quality**



US Forest Service, Lake Tahoe
Basin Management Unit (LTBMU)

Forest Plan Revision Timeline

Lake Tahoe Basin
Management Unit

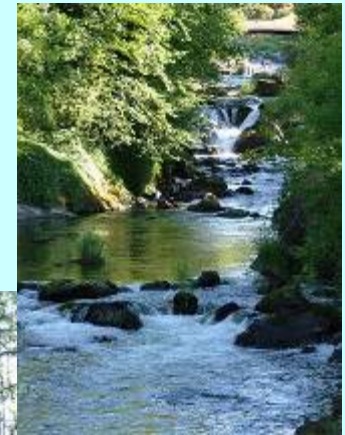


September Public Workshops

Key Topics of Interest

Forest Health & Management

- Fuels Reduction & Wildlife Habitat
- Fuels Reduction & Water, Soil, and Air Quality



Recreation Management

Other Comments: Noise management, cultural heritage, stewardship & education, and communication



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Three Topic Specific Workshops

- Balancing Forest Health, Fuels Reduction, and Wildlife Habitat
November 3rd
- Balancing Forest Health with Water, Soil, and Air Quality Issues
November 12th – Today!
- Recreation Management
December 1st (North Lake Tahoe)



November 3rd Workshop

Presentation and Breakout Session Activity

- Described and discussed proposed ***desired conditions*** relating to forest health, fuels reduction, and wildlife habitat
- Described and discussed proposed ***strategies*** for achieving the above desired conditions
 - Considered the need for additional strategies
 - Discussed potential tradeoffs in attempting to reach the desired conditions



Tonight's Workshop Objectives

- Describe LTBMU's proposed ***desired conditions*** for forest health and water, soil, and air quality
- Invite public input on proposed ***strategies*** to balance forest health with water, soil, and air quality needs
- Inform the public of future public workshop topics and schedule



Agenda

- 6:00 Welcome and Introductions
- 6:10 Review Workshop Objectives and Agenda
- 6:20 Present Summary of Key Issues Pertaining to Forest Structure & Health
- 6:50 Invite Public Input on Balancing Forest Health and Water, Soil and Air Quality
 - Breakout session discussions
- 7:50 Recap Next Steps
- 8:00 Adjourn



Participation Guidelines to Support a Productive Workshop

- Focus is on sharing information; no decisions will be made at this workshop.
- Please speak to the focus and objectives of this workshop.
- Everyone will participate and keep the process on track.
- Participants will respect each other's personal integrity, values, and legitimacy of interests.
- Please turn cell phones off or to vibrate mode.



Clarifying Questions?



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Presentation Outline

- Background
 - Pre-settlement conditions
 - Changes to the forest
 - Current conditions
 - Desired conditions
- Strategies to achieve desired conditions



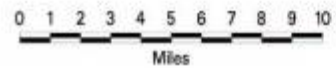
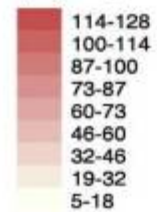
Pre-settlement Conditions

- Climate
 - Constantly changing
 - Little Ice-Age
- Indigenous peoples
 - Washoe and predecessors
 - Used and managed natural resources
- Disturbance regimes
 - Wildland fire
 - Insects and pathogens
 - Wind, avalanches, ice storms, etc.



**Modeled
Historic
Fire Return
Intervals**

Mean Fire
Return Interval
(in years)



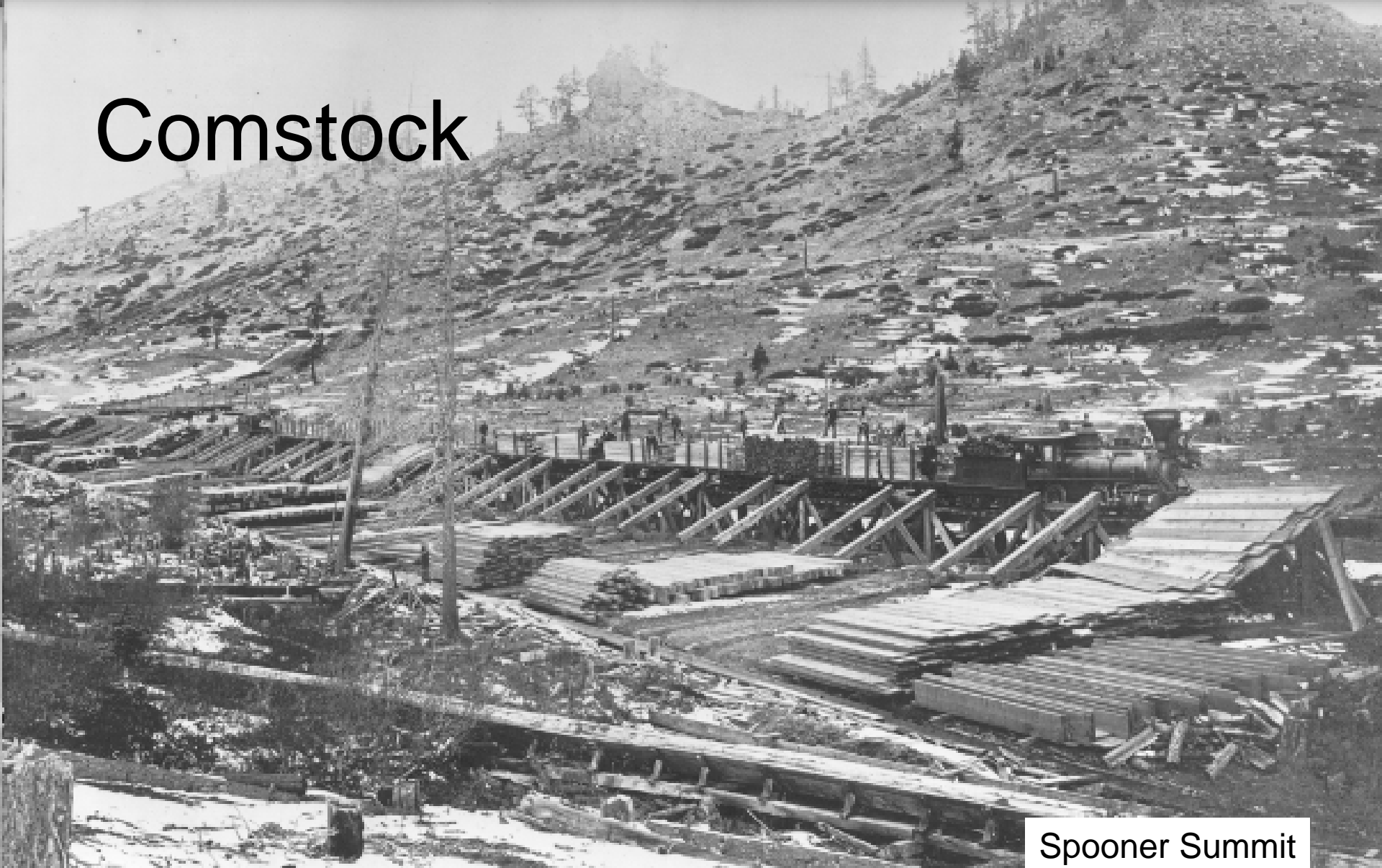
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Changes to the Forest

- Comstock Era – 1860s to early 1900s
- Settlement of Lake Tahoe
- Growth of even-aged forest
- Fire suppression



Comstock



Spoooner Summit



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Settlement



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Fire Suppression

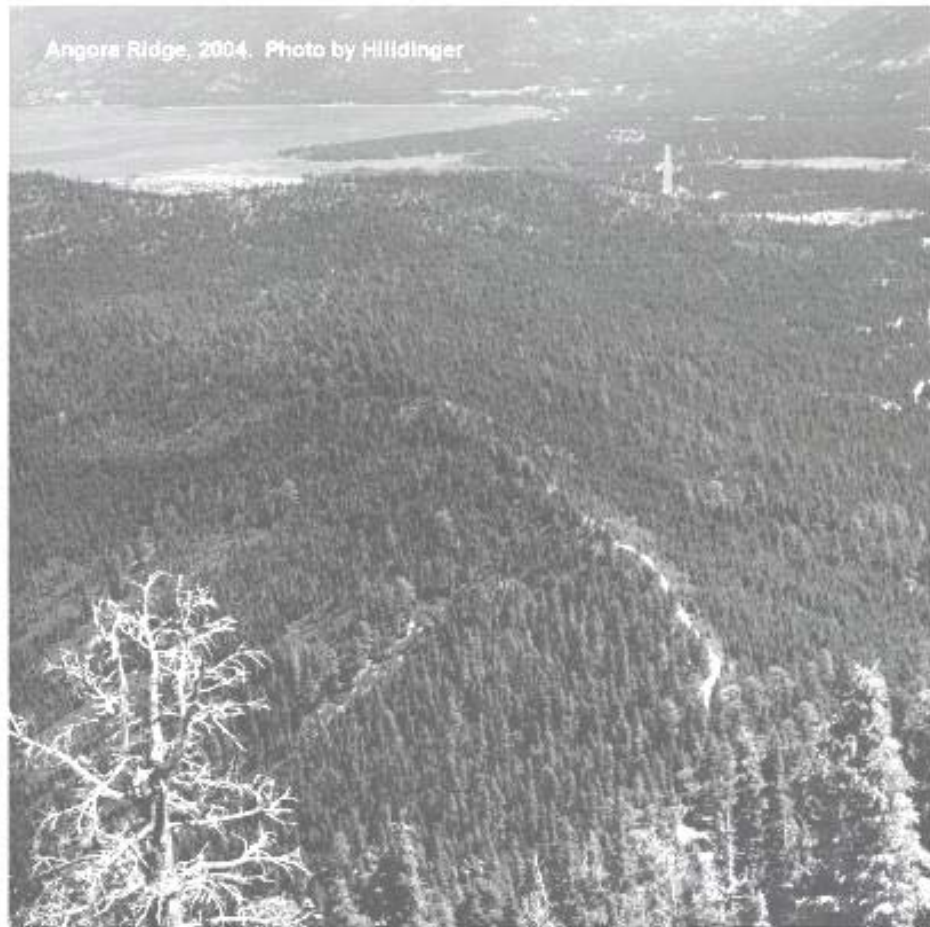
1928

2004

Angora Ridge, 1928. Photo by Taylor



Angora Ridge, 2004. Photo by Hillinger



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Current Conditions

- Vegetation
 - Structure, composition, & density
 - Loss of habitat variability
- Processes
 - Fires
 - Bark beetles
 - Competition and drought related mortality
- Deviation from healthy forest conditions





Angora Fire



Gondola Fire



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High Meadows



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Forest Health

Desired Conditions

- Natural processes or surrogates occur within the natural range of variation
- Range of wildlife habitats
- Resilient to disturbances
- Fuel conditions pose low wildfire risk to communities





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Desired Conditions
Jeffrey Pine Type

The Challenge:

Implement management actions to meet Forest Health Desired Conditions **and** meet Desired Conditions for Physical Resources (Water, Soil and Air Quality)including Stream Environment Zones (SEZs)



Desired Conditions

Physical Resources and SEZs

- **Water quality** benefits humans and the environment
- **Air quality** benefits humans and the environment
- **Effective erosion control** minimizes sediment and nutrient transport
- **Healthy soils** help control runoff and maintain SEZ vegetation
- **Stream channel processes** operate in harmony with their setting (dynamic equilibrium)



Potential Tradeoffs Associated With Forest Health Treatments

- Soil compaction, soil disturbance, soil sterilization
- Increase in surface runoff, erosion, sediment and nutrient transport
- Increase in smoke
- Damage to riparian vegetation, or stream channel banks



Forest Health Management Strategies to sustain soil and water quality, and SEZs

- 1) Use techniques appropriate for fuel loads and resiliency/sensitivity of landscape (soil moisture, slope, distance to water)
- 2) Employ additional soil and water Best Management Practices (BMPs)



Current Forest Thinning Techniques

- Hand thinning
- End lining
- Cut to length - forwarder harvester
- Whole tree - tractor/skidder





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Cut-To-Length (CTL) Harvester
On mat of slash

Current Slash Disposal Techniques

- Chipping/mastication
- Pile burning
- Mechanical removal of slash
- Underburning
- Biomass utilization





Chipping and hauling of cut material



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Fuels Reduction BMPs

- Maintain equipment buffer next to stream channels
- Do not use mechanical equipment on wet soils
- Maintain stream shade - no measurable increase in stream temperature
- Restore temporary roads and stream crossings
- Ensure landings and equipment trails are disconnected from water bodies (location and drainage controls)



More BMPS....

- Burn when wet (pile burns)
- Limit size of burn piles
- Maintain adequate spacing between piles
- Control flame lengths (underburns)



Soil and Water Quality Objectives

- No increase in background levels of annual sediment and nutrient loading from forest uplands on USFS lands as measured/modeled for TMDL
- Achieve 95% implementation and 90% effectiveness ratings for soil and water protection BMPs

(see Monitoring Reports on LTBMU Website).



SEZ Objectives

Maintain physical and biological components of SEZs (and stream channels)

No long term degradation to:

- Riparian vegetation structure and composition
(some projects will result in improvement)
- Geomorphic and floodplain function



Air Quality Strategies and Objectives

Strategies:

- Burn on approved burn days.
- Control dust on roads and landings

Objective:

- Do not exceed state air quality standards for visibility and human health



Clarifying Questions?



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Breakout Session

Organizing Questions

- What are your thoughts on the desired conditions for soil, water, air, and SEZs?
- What are your thoughts on the strategies and objectives to protect soil, water, air, and SEZs while achieving forest health desired conditions?
 - Are there others the Forest Service should consider?
 - What challenges and tradeoffs do you see in attempting to utilize these strategies?



Breakout Session

Process Flow:

- Introduction
- Break out into groups
- Discuss organizing questions (everyone participates)
- Summarize overarching themes or key points made (5 min)
- Return to plenary
- Reports back (10 min)



Next Steps



Upcoming Public Workshop

December 1st

Topic: Recreation Management

North Lake Tahoe (Sierra Nevada College, Incline Village)



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Forest Plan Revision Timeline

Lake Tahoe Basin
Management Unit



Additional Comments Are Invited!

Please provide suggestions, comments, and ideas by **Friday, December 5th**, to the Lake Tahoe Basin Management Unit (LTBMU) planning team:

**LTBMU Forest Plan Revision Team
35 College Drive
South Lake Tahoe, CA 96150**

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Website: www.fs.fed.us/r5/ltbmu



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