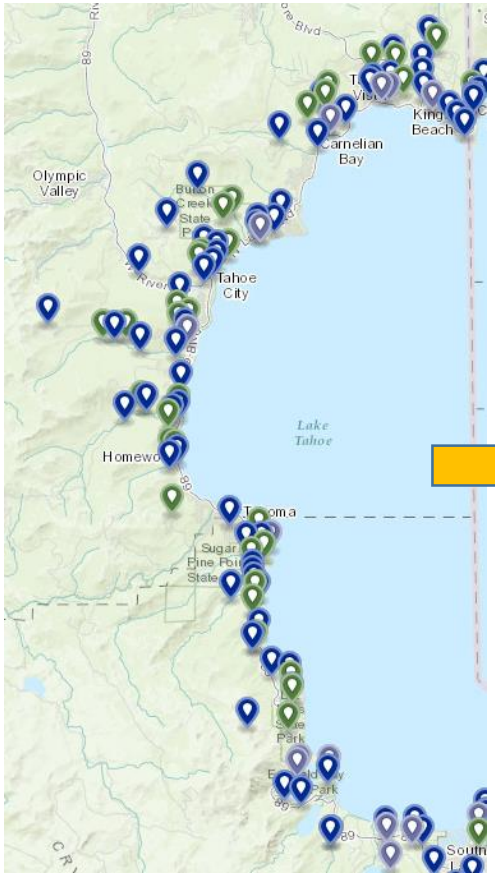
A new look at Forest Restoration and Vegetation Thresholds in the Tahoe Basin

Christina Restaino, Tahoe Regional Planning Agency

Need to identify solutions to large-scale forest health issues

Lake Tahoe West Restoration Partnership

Project-by-project focus



Landscape-scale focus

But, what are we managing for?

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What are we doing with Tahoe West?

1. Defining resilience in Tahoe ecosystems → leads us to desired conditions *Landscape Resilience Assessment*

2. Establishing how far we are from desired conditions *Landscape Resilience Assessment*

3. Developing a management strategy to achieve desired conditions *Landscape Restoration Strategy*

4. Planning and Implementing Projects that achieve our strategy *Project Planning*

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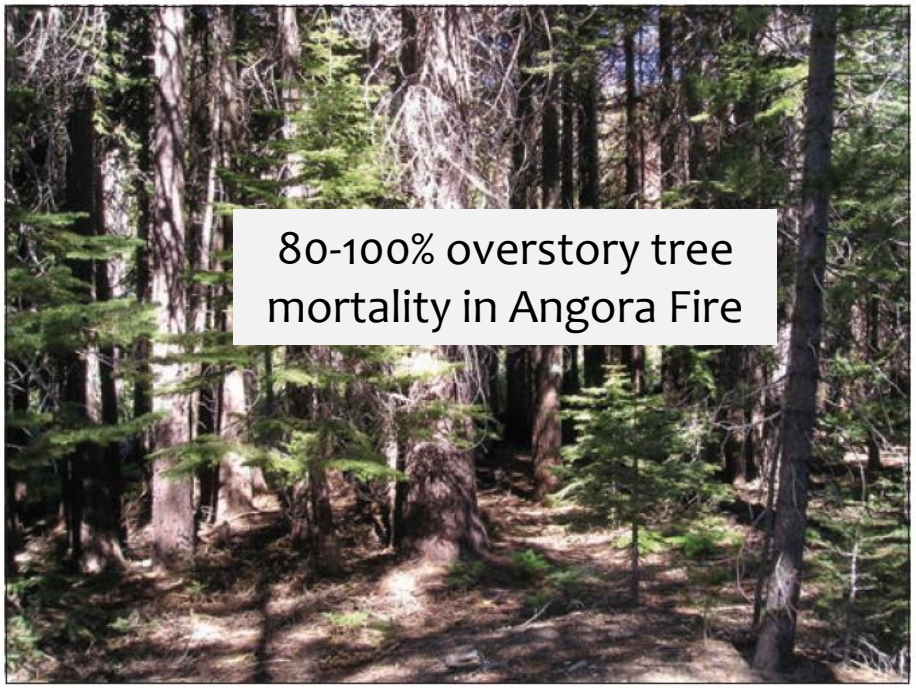
Example of Resilience in a Forest Ecosystem

Fuel treatments between 1996 and 2005, including thinning and prescribed fire

No fuel treatments, fire suppressed

A

B



A

B

Assessment

What is the difference between these two forests?

How many trees do they have of different sizes?

Which tree species are most common?

Which wildlife prefer forest A versus forest B?

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A

B

Strategies

How do we get Forest B to look like Forest A?

What do we gain and what do we lose in terms of wildlife habitat and water quality?

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How do we develop a strategy that optimizes resilience of all of these different ecosystem services and values?

Develop management scenarios to achieve desired conditions

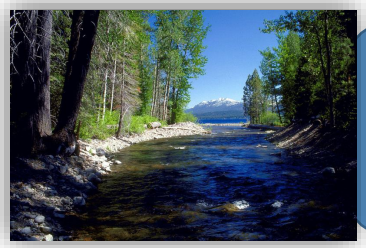
Business-as-usual

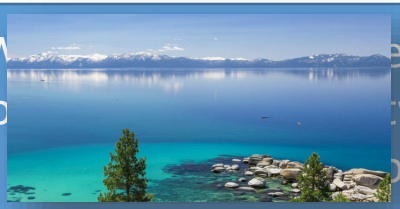
More forest thinning treatments

Model management scenarios

More prescribed and managed fire

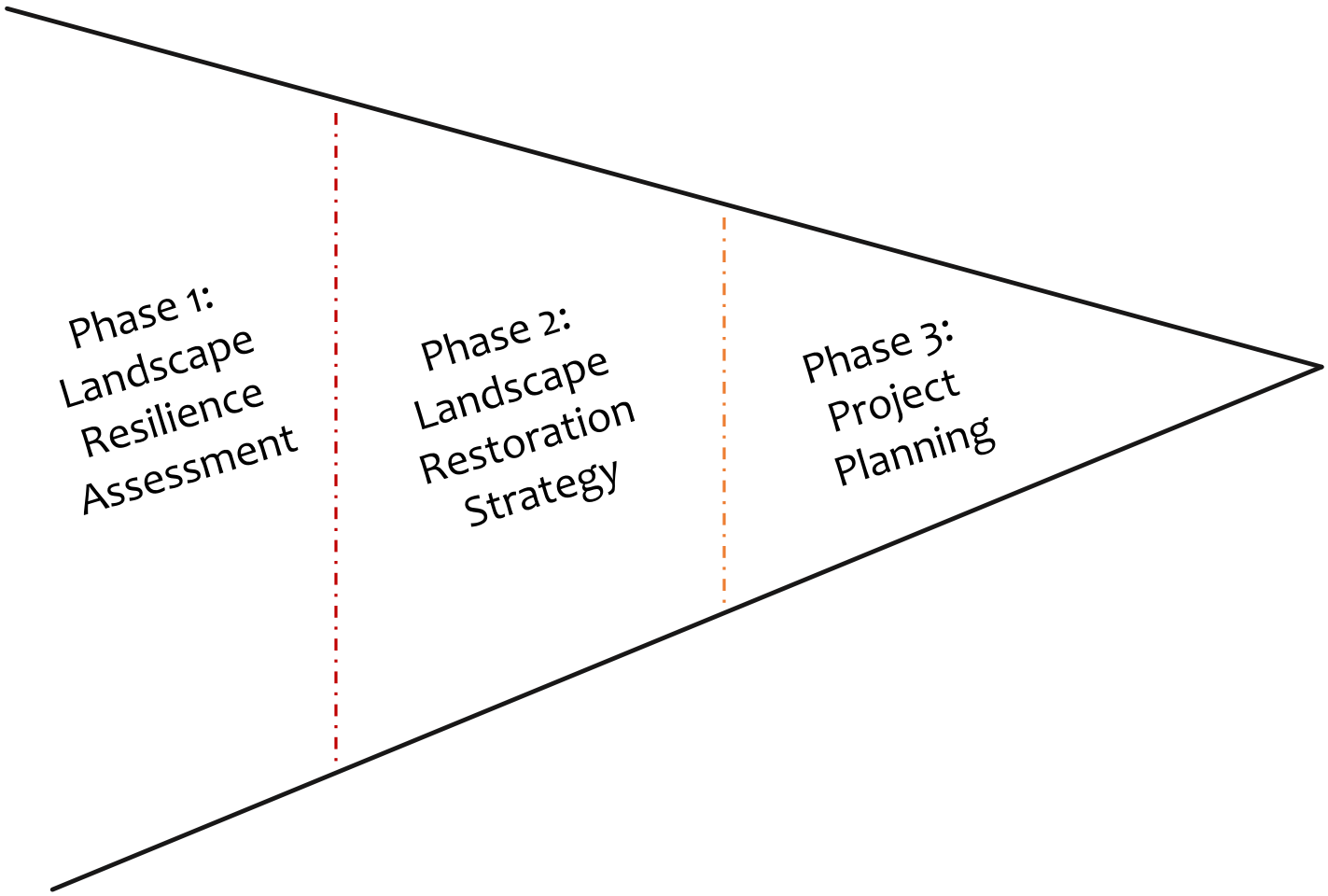
Evaluate how management scenarios affect resilience of ecosystem indicators





strategies to achieve resilience

Lake Tahoe West Progression



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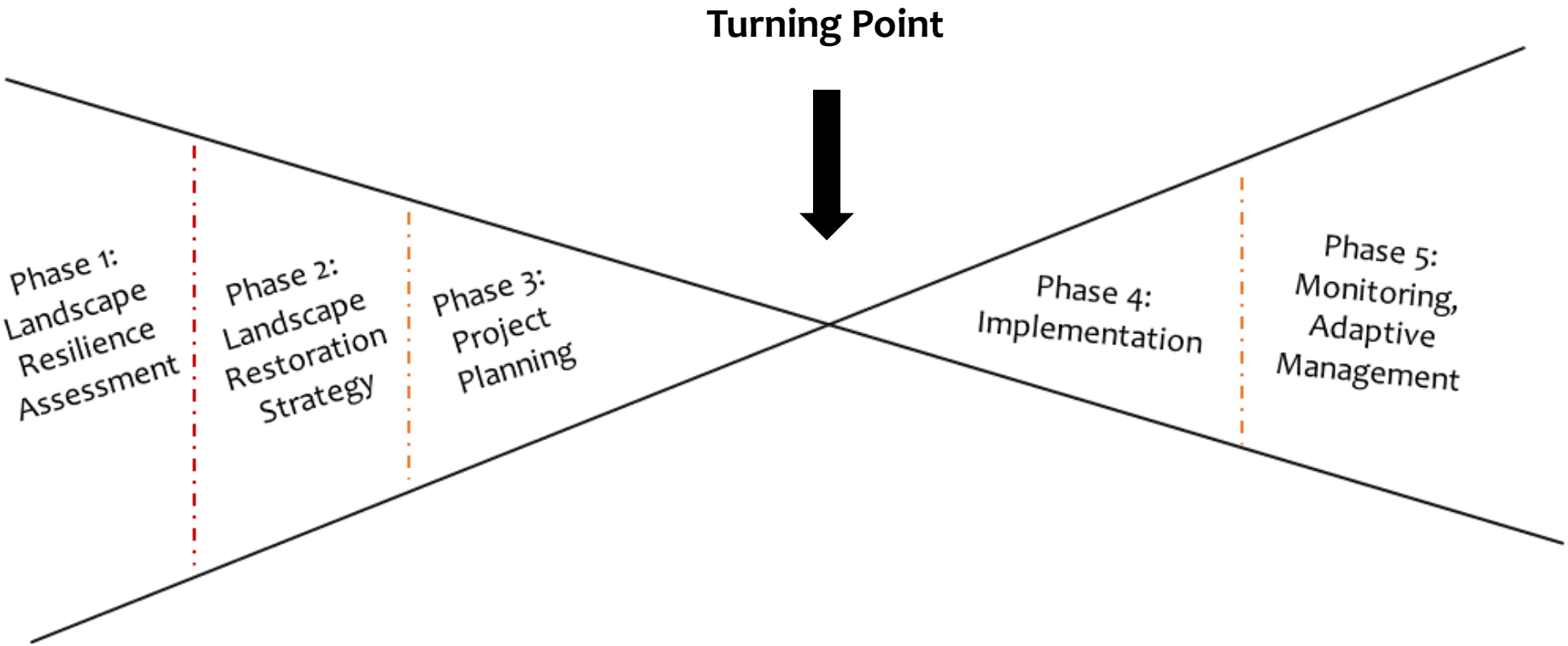
Lake Tahoe West Progression



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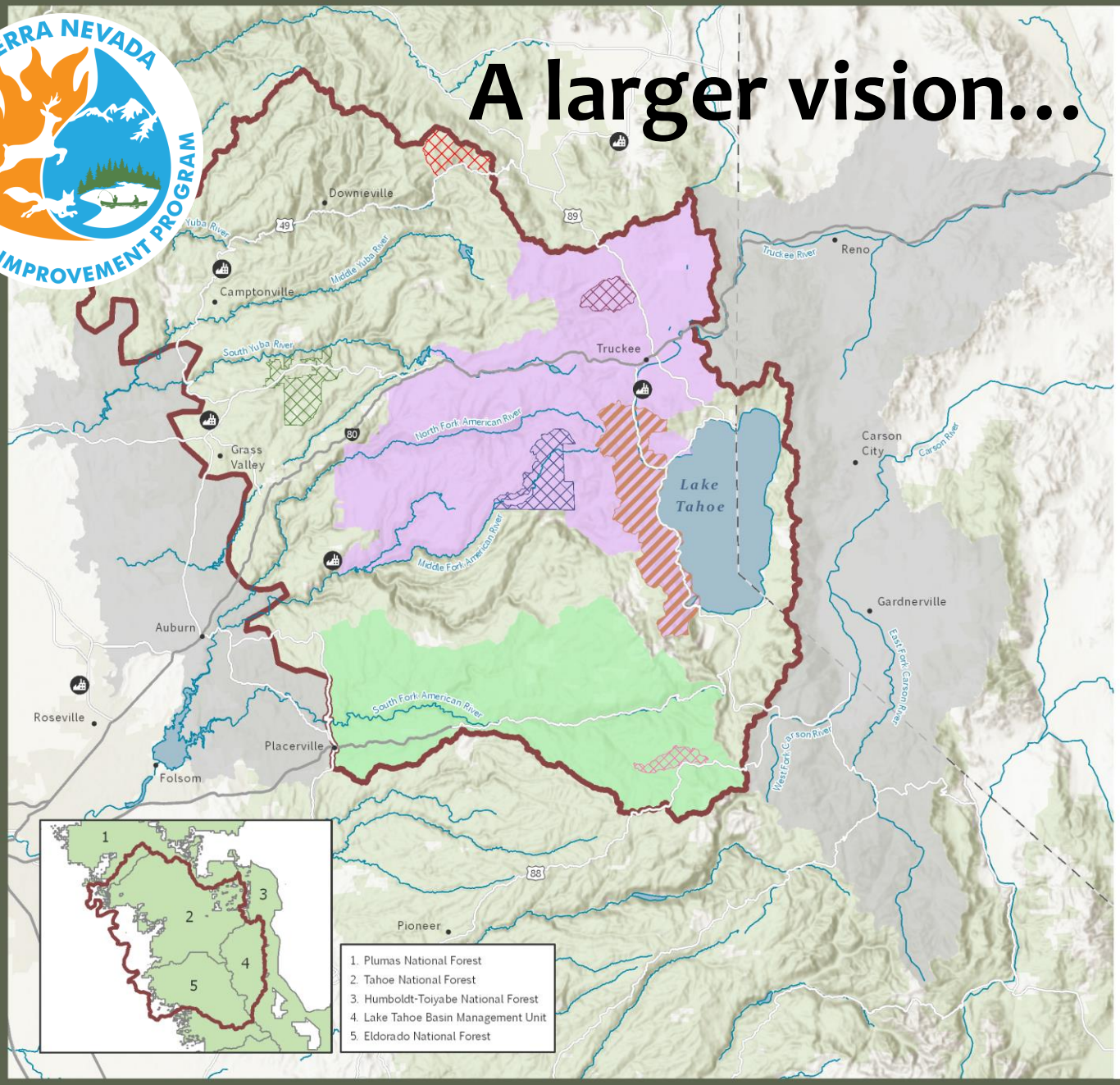
A larger vision…



ENVIRONMENTAL
IMPROVEMENT PROGRAM

LAKE TAHOE EIP

CONSERVATION. CLEARLY.

Watersheds, Habitat & Water Quality

Forest Management

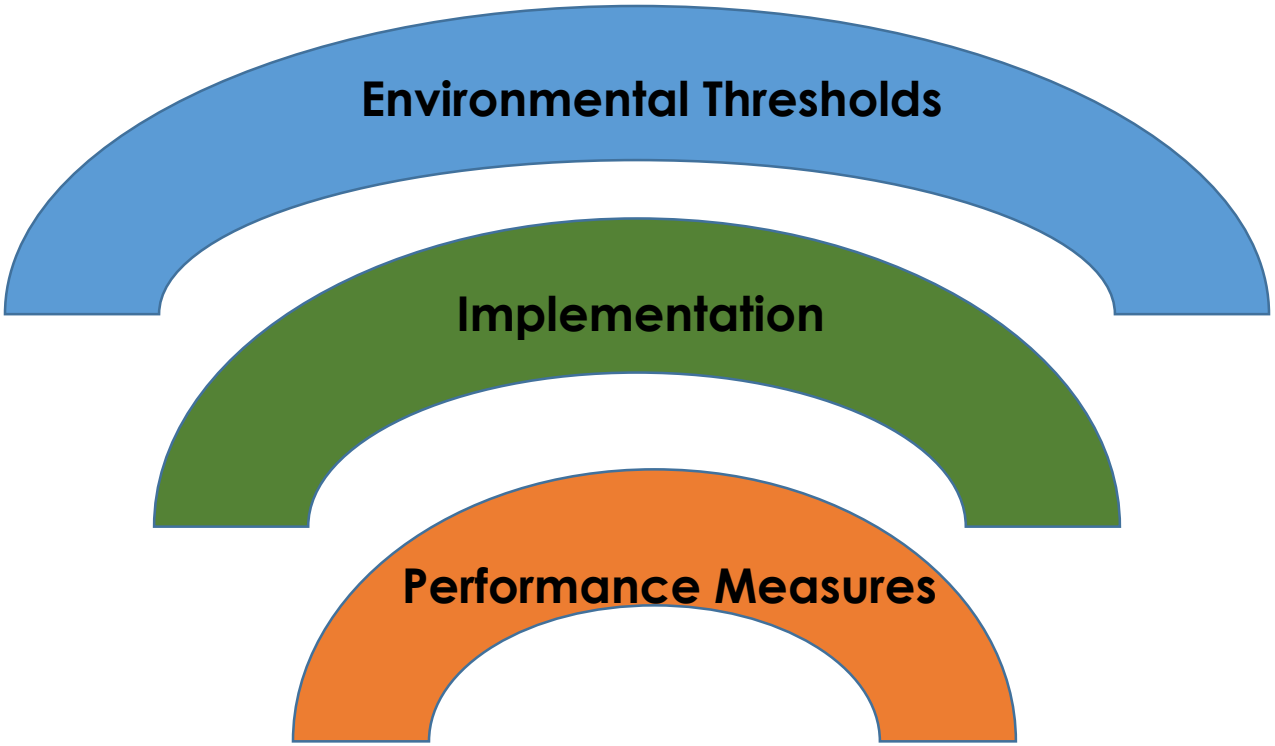
Air Quality & Transportation

Recreation & Scenic Resources

Applied Science

Program Support

Goal of EIP: Attain and maintain thresholds through project implementation



Do the current thresholds align with goals of ecosystem health, resilience, and restoration in the Tahoe Basin (and regionally) ?

Are EIP performance measures reflecting the primary objectives of EIP projects?

Current Threshold Goals:
Maintain Native Vegetation and Promote Old-Growth Forests

What is missing?

Ecosystem health and resilience

New Threshold Goals:
Promote ecosystem health and resilience, so ecosystems better support native vegetation and create conditions for old-growth forest development

USDA

United States Department of Agriculture

Forest Service

Pacific Southwest Research Station

General Technical Report PSW-GTR-220 (Second printing, with addendum)

March 2009

An Ecosystem Management Strategy for Sierran Mixed-Conifer Forests

Malcolm North, Peter Stine, Kevin O'Hara, William Zielinski, and Scott Stephens

USDA

United States Department of Agriculture

Natural Range of Variation for Yellow Pine and Mixed-Conifer Forests in the Sierra Nevada, Southern Cascades, and Modoc and Inyo National Forests, California, USA

Hugh D. Safford and

USDA

United States Department of Agriculture

Land Management Plan

Lake Tahoe Basin Management Unit

Desired Conditions for Forest Health

LAKE TAHOE WEST

RESTORATION PARTNERSHIP

NEW VEGETATION THRESHOLDS →

Terrestrial Ecosystem Health Thresholds

1. Resilience to fire, drought, and insect outbreaks
2. Supporting native vegetation
3. Healthy forest structure with multiple age classes
4. Protecting and promoting sensitive habitats (aspen and meadows)
5. Support for development of old-growth forests
6. Promotion of natural fire regime

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Questions?
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