



“Colorado’s Changing Forests”

2013 Sustaining Colorado Watersheds Conference



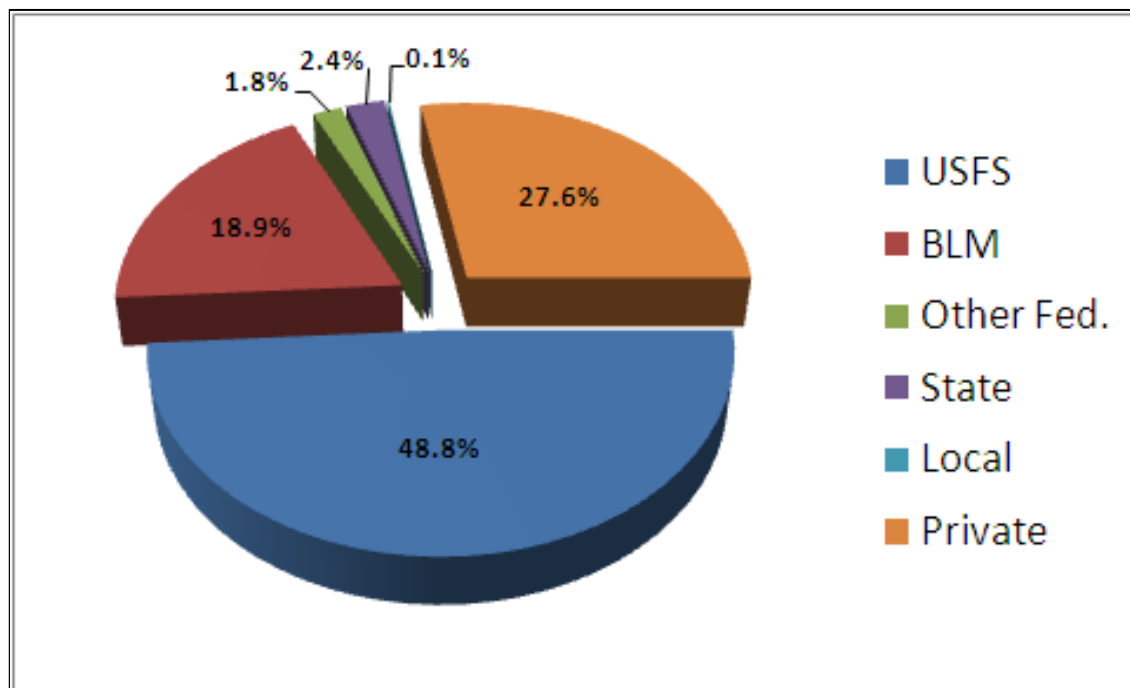
Topics to be Discussed

1. **Colorado's Land Ownership**
2. **Colorado's Changing Forests**
3. **Impacts to Hydrology**
4. **Management and Markets**

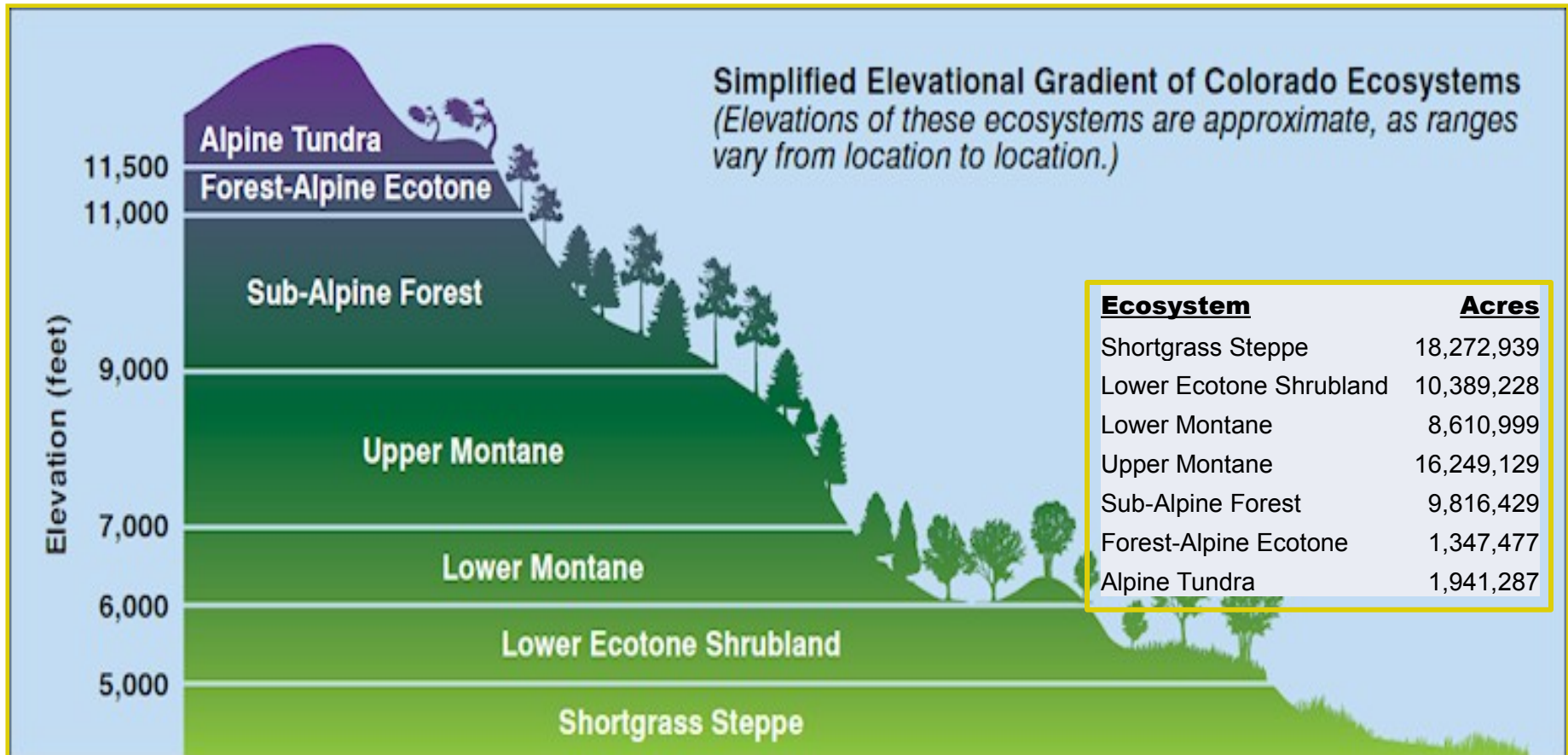


Colorado's Forests

Colorado Forest Land-Ownership Percentages



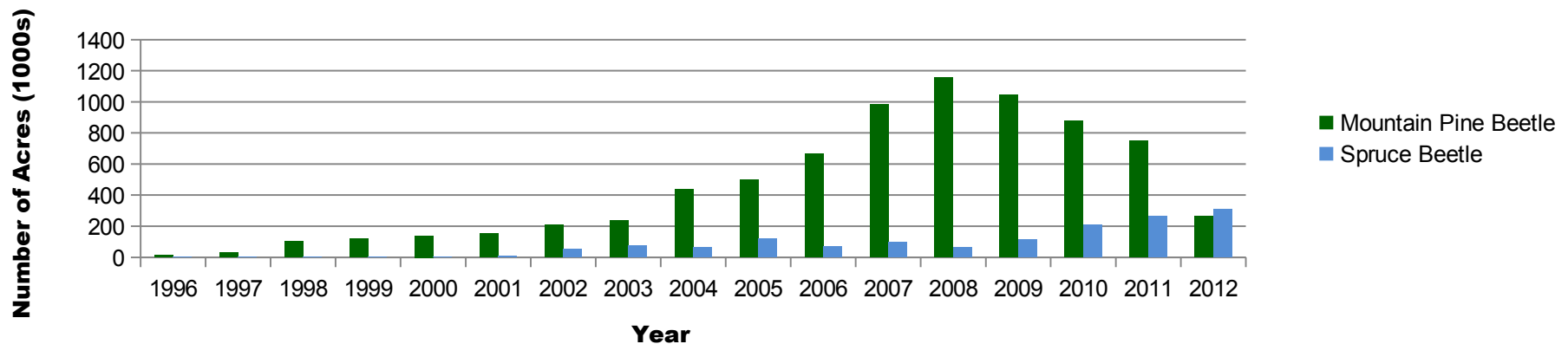
Colorado's Forests



2. Insect & Disease Update

As of 2012, the spruce beetle has become the dominant insect threat in Colorado's forests.

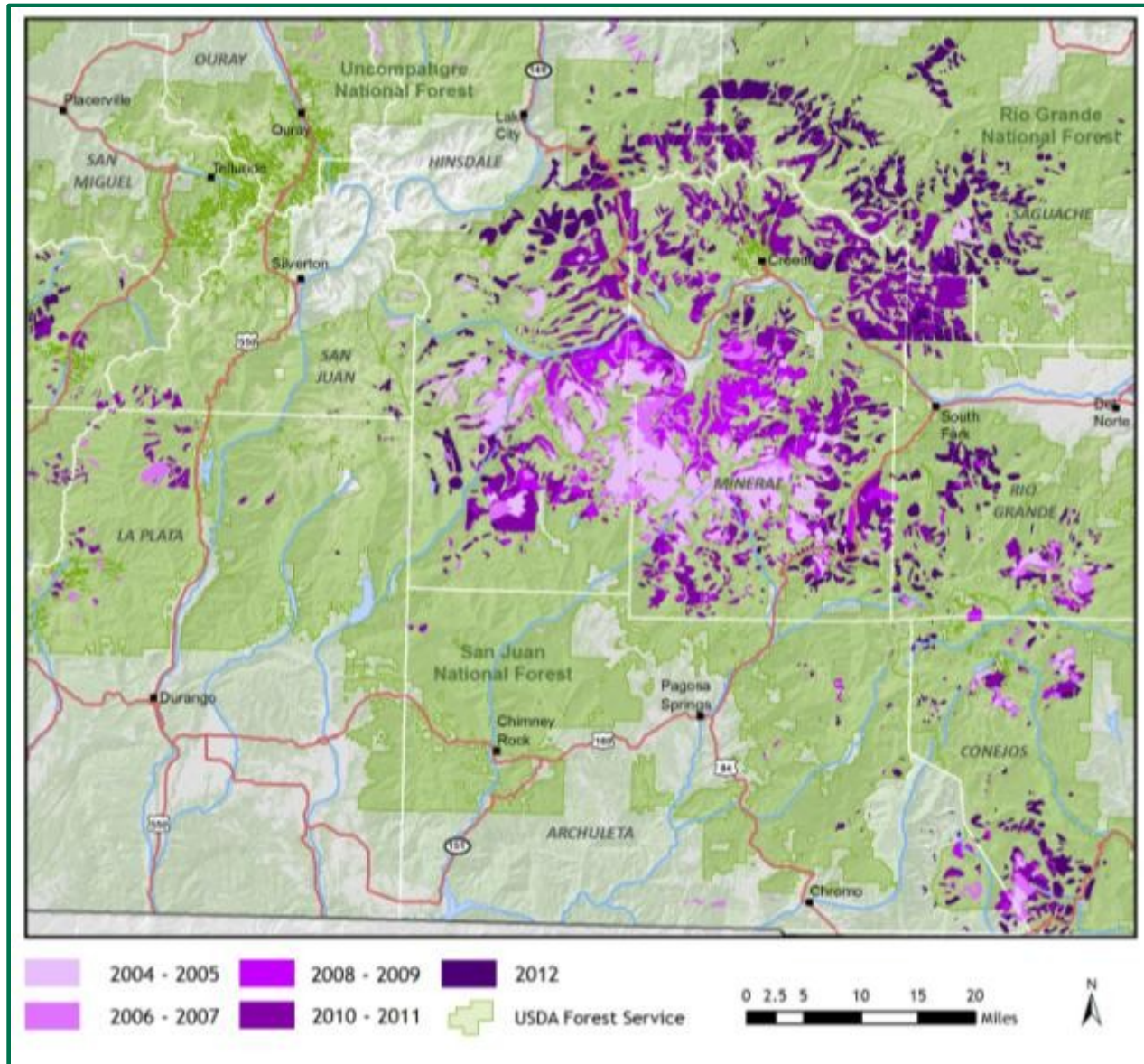
New Acres Impacted by Mountain Pine and Spruce Beetles, 1996-2012





Large areas of spruce forests, including areas on the La Garita Range, have a ghostly gray cast. Surveyors mapped 311,000 acres of spruce beetle mortality in 2012.

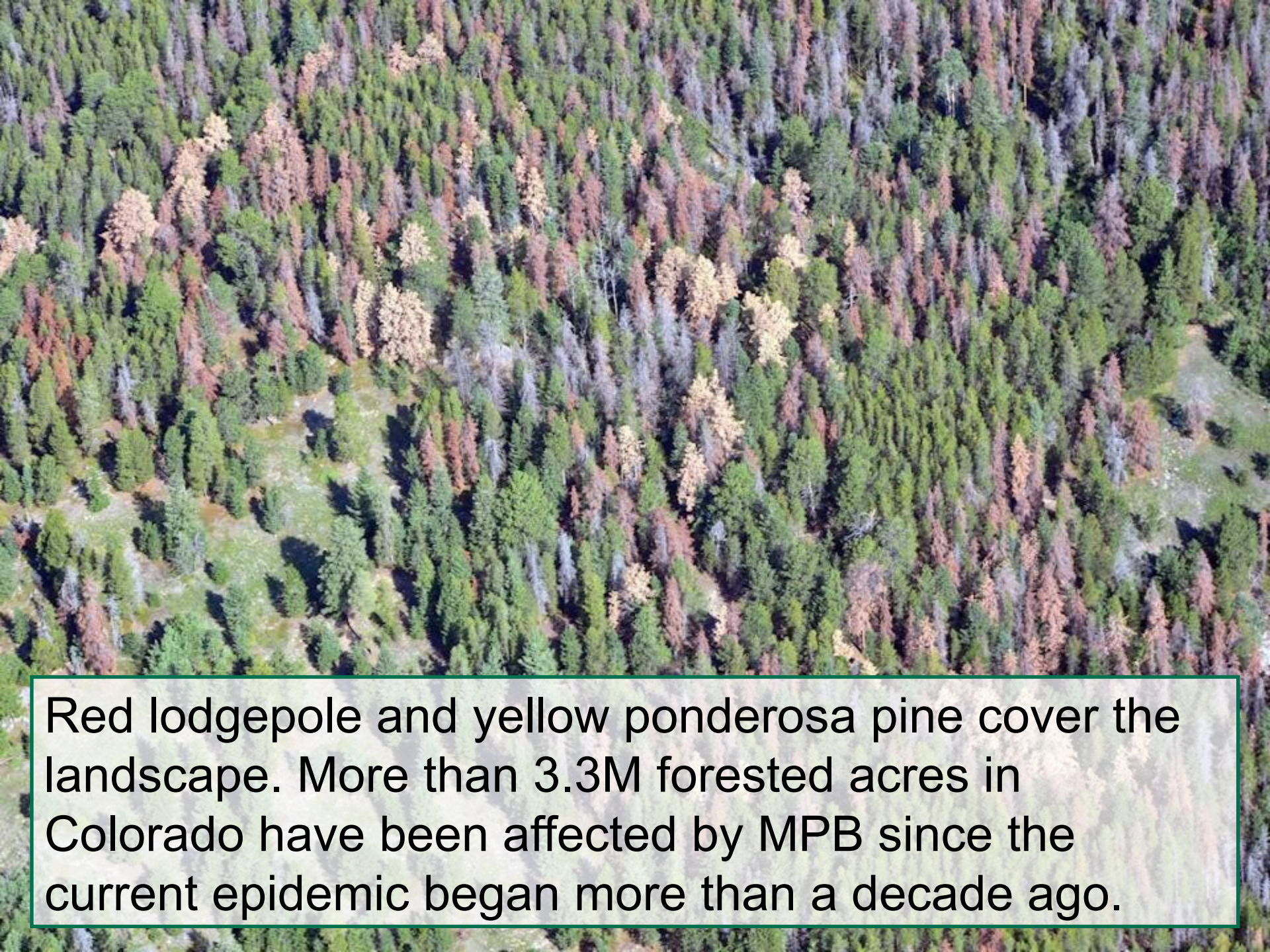
Spruce Beetle Progression, 2004 - 2012



2. Insect & Disease Update

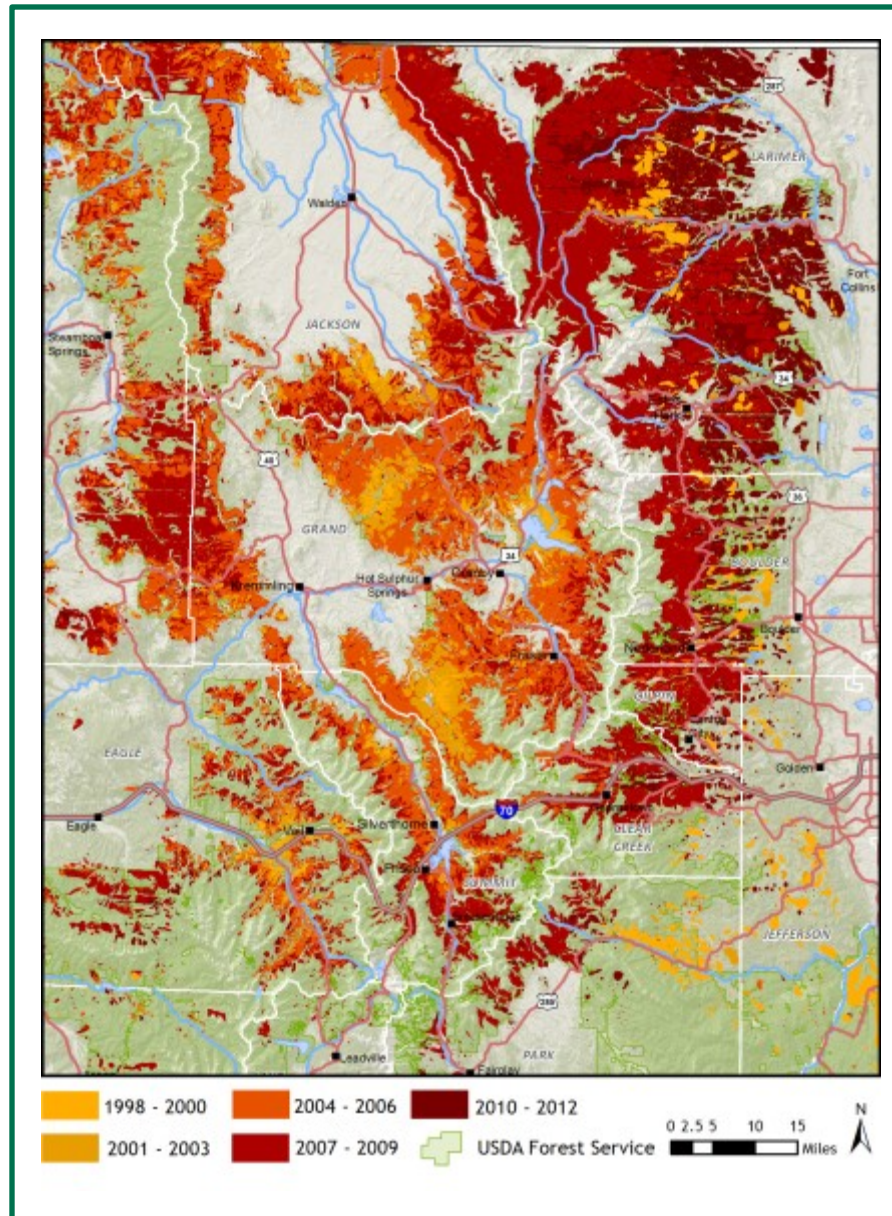
The mountain pine beetle infestations continue to cause severe damage to forests in Colorado.



An aerial photograph of a dense forest. The trees are mostly green, but there are significant patches of brown and tan, indicating dead or dying trees. The forest is densely packed, and the colors are scattered throughout the landscape.

Red lodgepole and yellow ponderosa pine cover the landscape. More than 3.3M forested acres in Colorado have been affected by MPB since the current epidemic began more than a decade ago.

Mountain Pine Beetle Progression, 1998 - 2012



2. Insect & Disease Update

Finally, other potentially invasive insects and diseases continue to threaten Colorado's forests:

- Thousand cankers (detected and spreading)
- Gypsy moth (not detected in 2012)
- **Emerald ash borer (confirmed Sept 2013)**
- Pine wilt nematode (detected and spreading)
- White pine blister rust (detected and spreading)

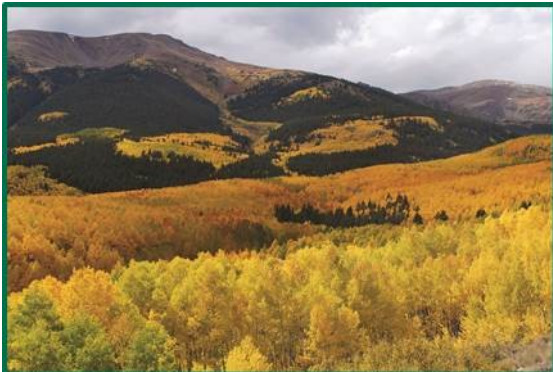
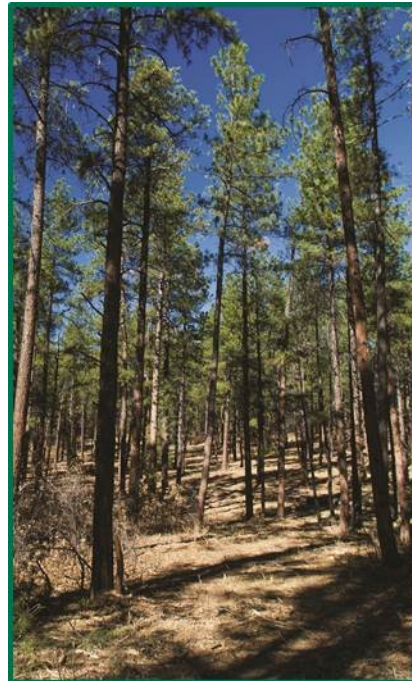
Deforestation increases water yield.



Forests cannot in themselves protect against floods, but they can reduce their destructiveness.



Forests are better than what replaces them.
This is perhaps their greatest value.



Many forested watersheds are increasingly susceptible to fires that are so severe they volatilize and harden soils, which can send torrents of sediment into reservoirs and towns.



4. Active Management

The Wildland-Urban Interface (WUI) is expected to increase by 300% to almost 2.2M acres by 2030. **Wildfires** threaten our lives, property, water supplies, infrastructure, recreation, and landscape aesthetics.

Active forest management can help protect us while restoring forest ecosystems.



4. Active Management

Maintaining forest health is essential to Colorado's social, economic and ecological health.

To remain vigorous and productive, forests require proper, active management.



4. Active Management

Forest products businesses:

- provide local jobs,
- support economic diversity,
- make goods for local use, and
- offset forest management costs.

Active management is essential to healthy forests and our forest products industry.



4. Active Management

Watershed quality can be compromised in forests that have sustained extensive mortality. **Riparian areas** are threatened by invasive tree species.

Active management can mitigate these concerns.



4. Active Management

Community forests are at risk from native and exotic insects and human-caused factors, such as development and pollution.

Active management can improve community forest health through diversity and canopy maintenance.



4. Active Management

Poor air quality, climate and forest fragmentation all threaten forest health.

Active management can help by:

- encouraging new tree growth,
- improving forest stand diversity, and
- fostering cooperation between public and private landowners.

4. Active Management

Engaging in active management:

- restores forest health,
- maintains and enhances our forest products infrastructure, and
- ensures Colorado's forests will meet the needs of present and future generations.
- Conserves and protects watersheds



Colorado Wildfire Risk Assessment Portal (CO-WRAP)

The Colorado Wildfire Risk Assessment Portal provides information on values at risk through data, maps and detailed summary reports.





Getting Started ?

Explore Map Themes ?

- Reference Base Layers
- Wildfire Risk Themes
 - Wildfire Risk
 - Wildfire Threat**
 - Fire Occurrence Areas
 - Where People Live
- Wildfire Effects Themes
- Wildfire Behavior Outputs
- Landscape Characteristics
- Historical Wildfire Occurrence

Active Layer Description
Likelihood of an acre burning

Hide Legend Full Description

Transparency 54

Manage Project Areas ?

Use the tools below to define and manage your project areas

Manage Zoom To

Show on map

Active Project Area:
Fourmile Canyon Fire
6,174.4 acres

Generate Summary Report ?

Export Data ?

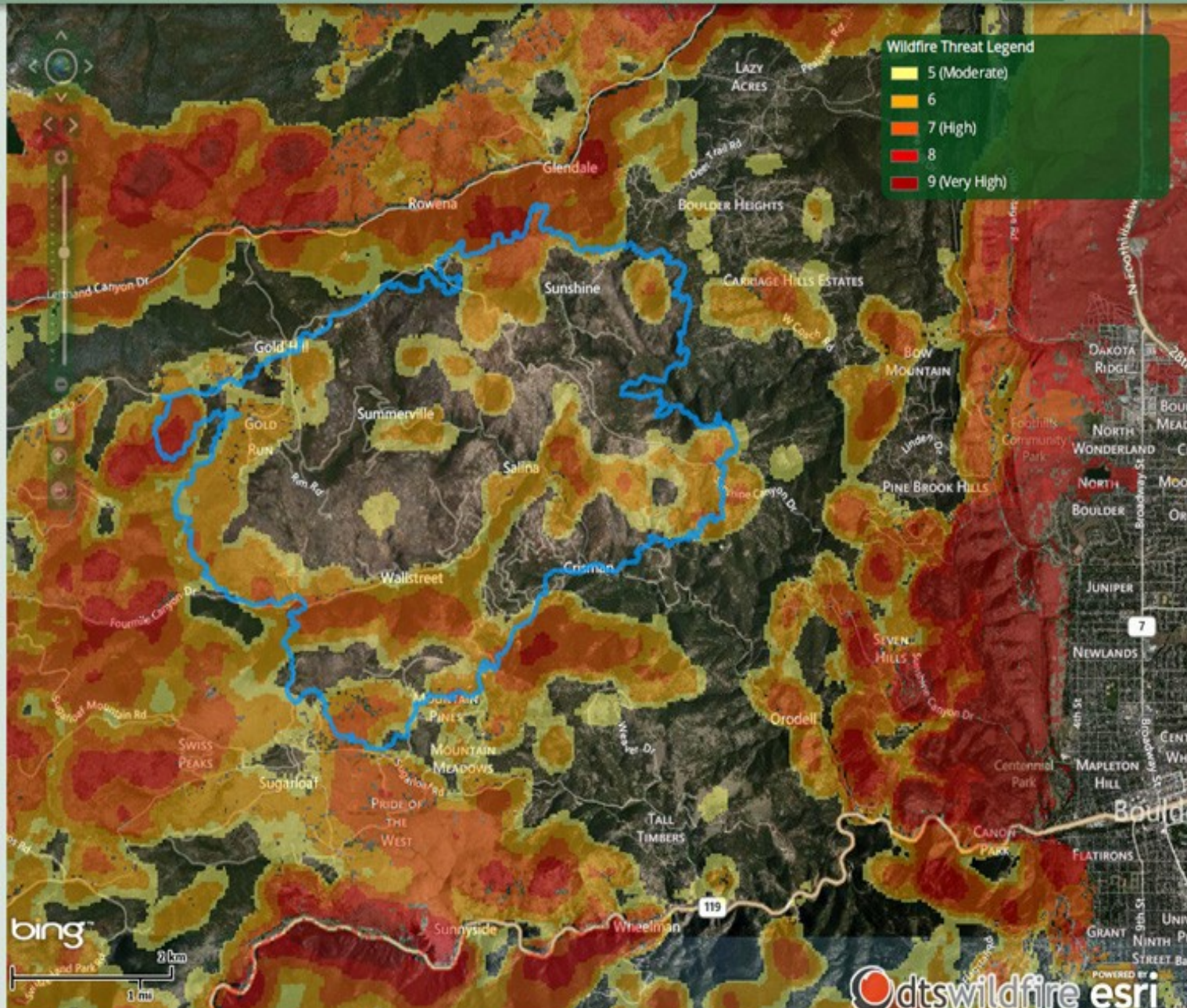
Print Map ?

Zoom To... ?

Zoom To Results ?

Wildfire Threat Legend

- 5 (Moderate)
- 6
- 7 (High)
- 8
- 9 (Very High)





Thank you.

To learn more, please call us: (970) 491.6303

You can also visit us on the web: <http://csfs.colostate.edu>

