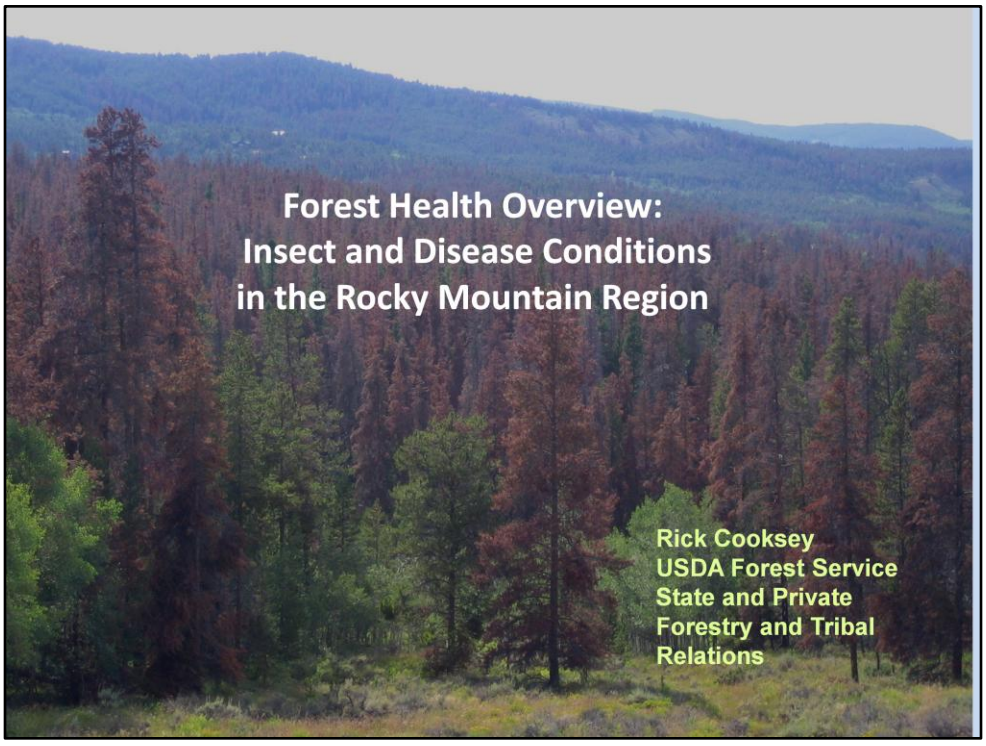
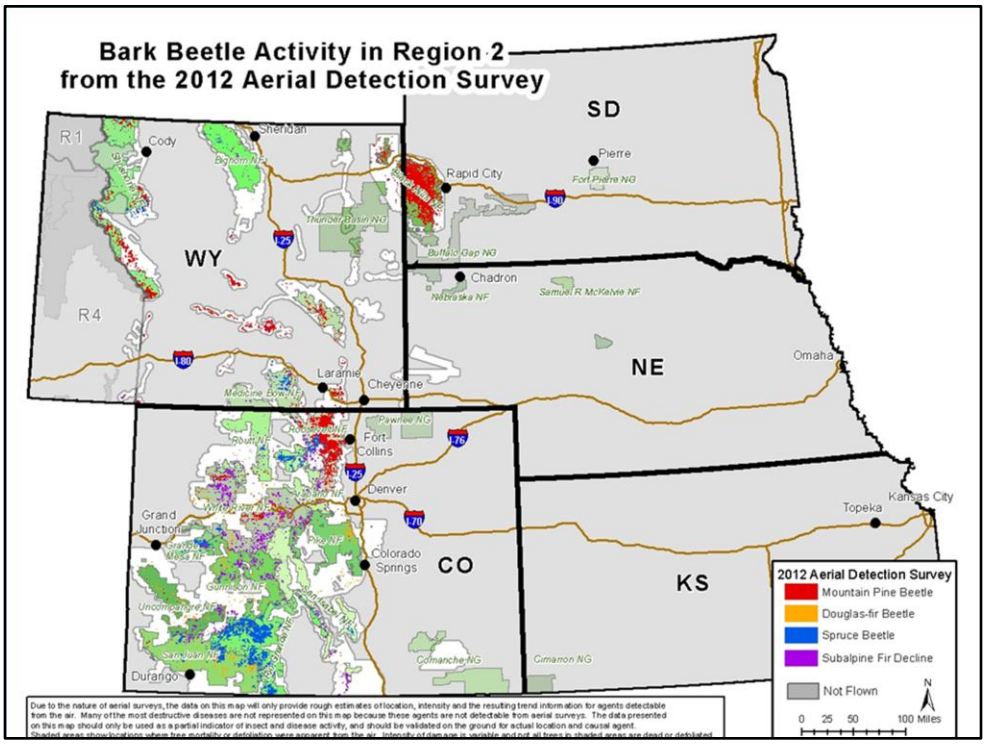


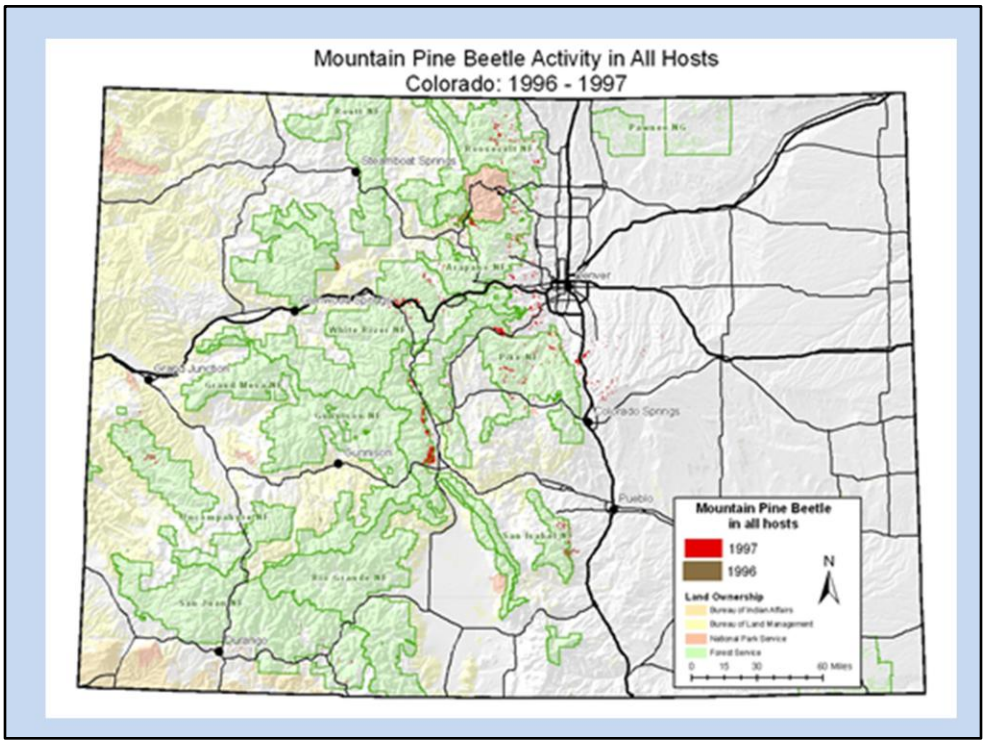
- Good morning. As introduced, I am the Director for State and Private Forestry and Tribal Relations for the Rocky Mountain Region. This region includes the states of CO, WY, NE, KS and SD. I also am responsible for our Forest Health Protection and corporate partnerships that relate to water partnerships and energy.
- State and Private Forestry is the branch of the FS that works and with through these entities to deliver programs geared toward the restoration, conservation and management of forests.
- Forest Health Protection in the Rocky Mountain Region (Region 2) provides direct support to forest managers of federal, tribal and assistance to Private lands on issues related to forest health, especially insects and diseases. We provide technical assistance through site visits, surveys, studies, and funding for suppression or prevention of diseases and insects.

- The key message that I want to communicate this morning is that forest health has been significant impacted in the Rocky Mountain Region, as it has across the west, and there are challenges ahead as we deal with infrastructure in those forests. However, the FS and partners are working diligently and in new collaborations to affect the health and resiliency of our future forest.

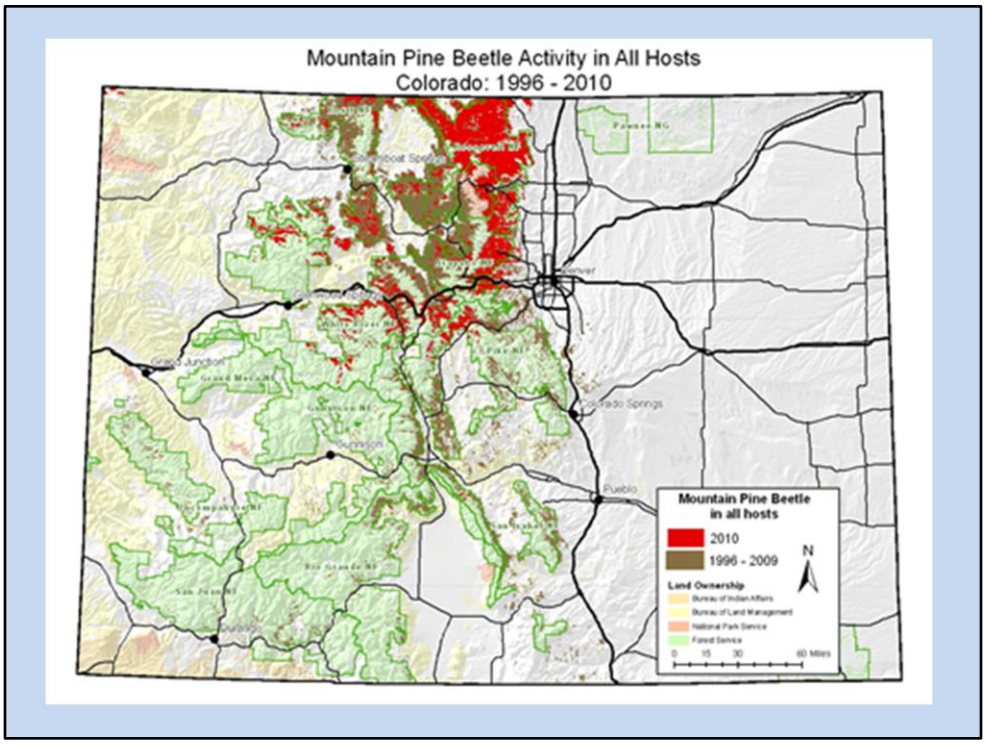
- I am going to talk about what has happened to forests in our part of the country; highlight some of the challenges that we face; and end by sharing some of the activities and partnerships to change our trajectory.



- So I lets begin with what has occurred. Each year, the USFS and State Forestry Agencies cooperatively fly the forests of the Rocky Mountain Region and record where trees are being killed by bark beetles or damaged by other insects of foliage diseases. Since 2000, nearly 1.5 million acres have been affected by spruce beetle and over 7 million acres have been affected by mountain pine beetle in the Colorado, Wyoming and South Dakota.

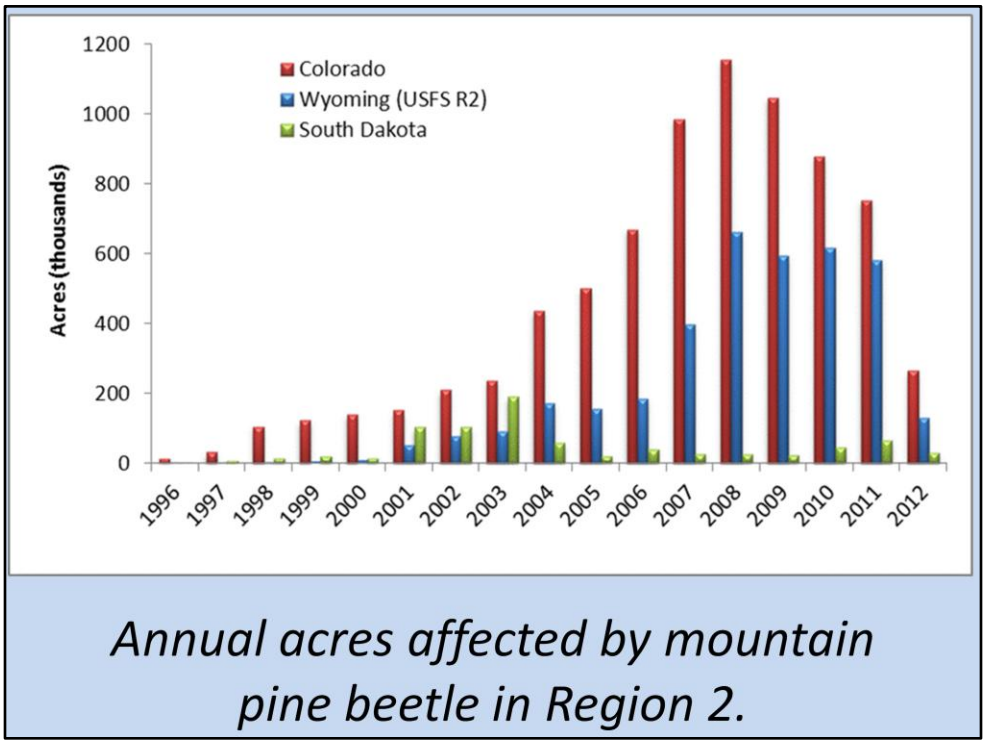


- In 2005 we started to detect MPB infestation. The spread and amount seemed abnormal and we started to actively manage to reduce the impact.



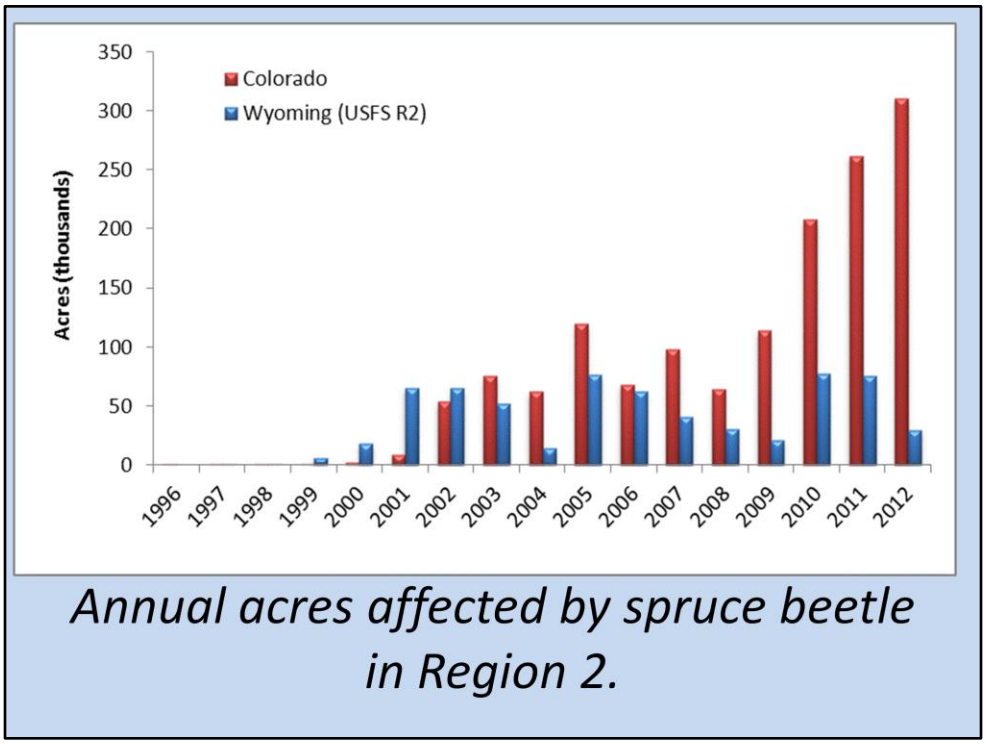
By 2010 it was clear that the confluence of warmer winters, extended drought were stressing the forests. This combined with long-term fire suppression and reduced forest management had created the perfect storm for an unprecedented infestation and resulting mortality,

The FS took a new tact with our approach – Incident Management Team. Its focus – safety, recovery, and resiliency.



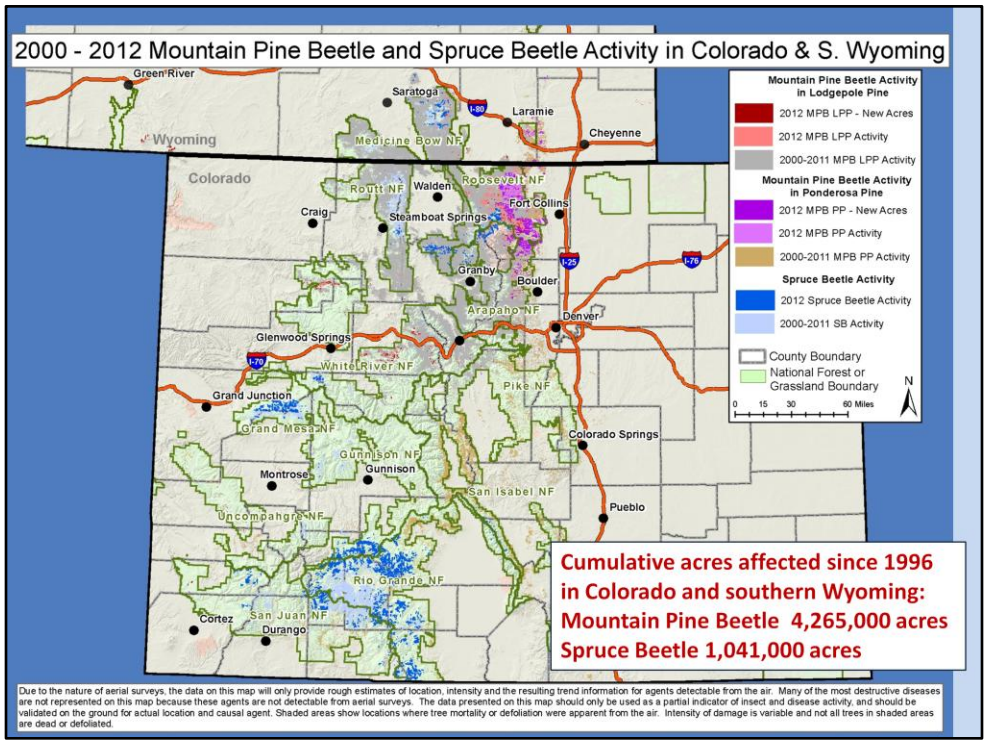
Annual acres affected by mountain pine beetle in Region 2.

- Here is the trend.
- Currently mountain pine beetle numbers are in decline across the region but still very active in areas like the Black Hills, western Wyoming or the northern Front Range in Colorado

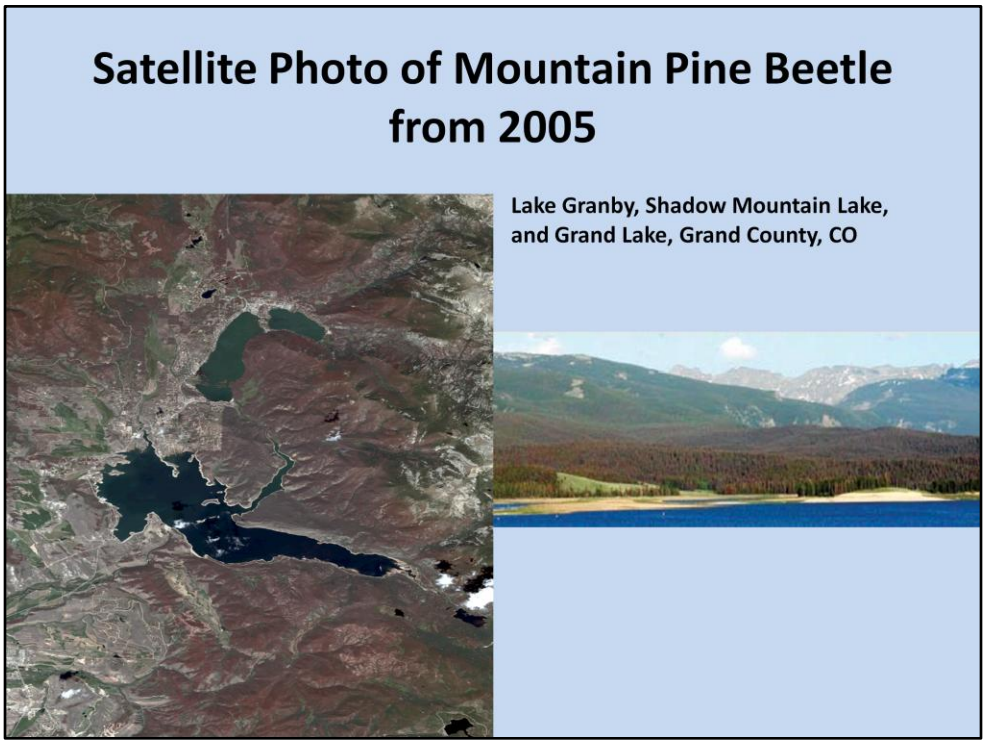


Annual acres affected by spruce beetle in Region 2.

- And just when we thought we were out of the woods with MPB, spruce beetkle begins to take hold in higher elevation forests.
- ….. While the numbers of acres affected by spruce beetle continue to increase especially in southern Colorado. Nearly 1.5 million acres have been affected in the Rocky Mountain Region affected since 2000.



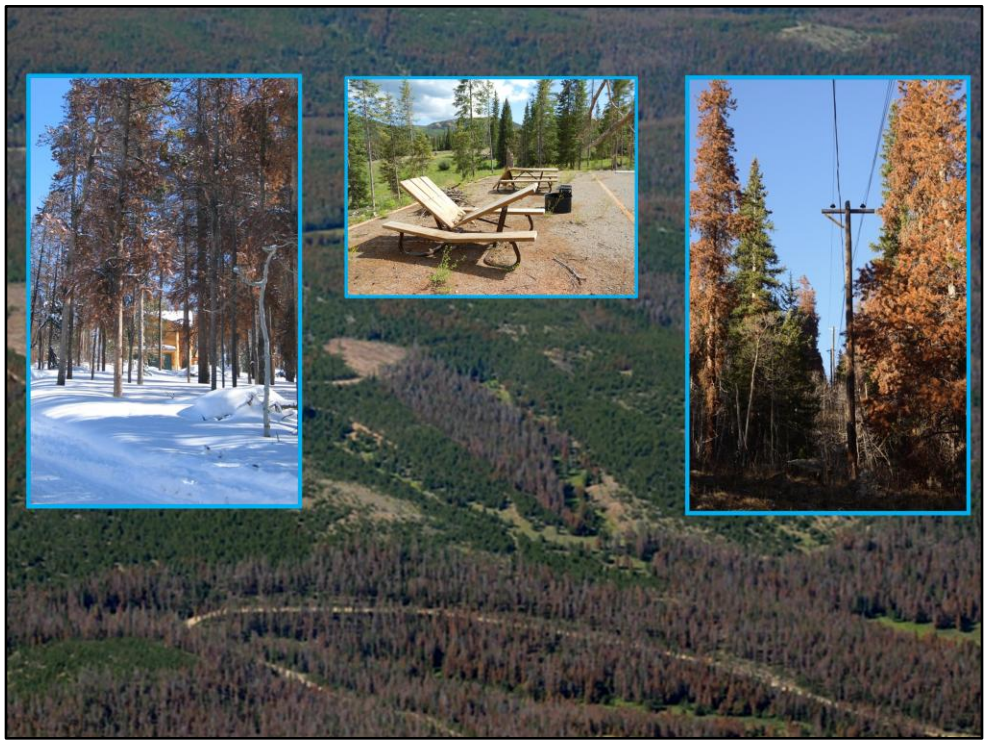
- This map shows what is happening now.
- Looking more closely at Colorado and Southern Wyoming, this map show where the beetles have left behind standing dead trees in areas shaded gray or tan for pines or light blue for spruce and where beetles are currently active in the bolder colors.



Lake Granby, Shadow Mountain Lake, and Grand Lake, Grand County, Colorado. The town of Grand Lake is in the upper center of the satellite photo.

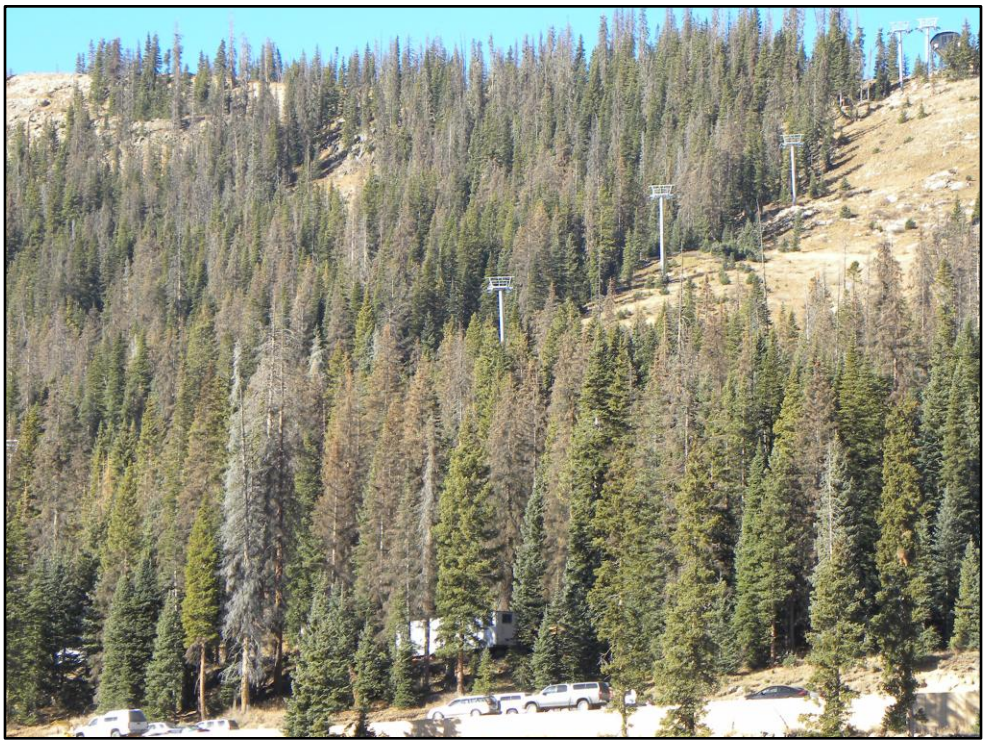
After the needles fall off the trees, red forests turn to gray….

….. Often covering extensive landscapes. Here are dead lodgepole pine forests in northern Grand County, Colorado



- Our first job was to address safety.
- Safety has become a priority for the region as dead trees create hazards along forest roads, in campgrounds, in residential areas and for critical infrastructure, like power transmission and distribution lines

Colorado ski areas face impacts from beetles as well. Breckenridge sits on the edge of the mountain pine beetle affected area and well away from spruce beetle affected areas. While mountain pine beetle killed trees are abundant on the road up to town and on the west facing slopes east of town the more east and north facing slopes on the ski areas are dominated by spruce and subalpine fir and have been spared from more extensive mortality seen on some of Colorado's other ski areas. Other areas haven't been so lucky…..



The massive spruce beetle epidemic in southern Colorado reached the Wolf Creek Ski Area in 2012

Steamboat Ski Area was first affected by spruce beetles following the 1997 windthrow event on the Routt National Forest and later by mountain pine beetle. The resort area has diverse cover ….

Early and extensive sanitation of infested trees and its fortunate location on the edge of the epidemic have helped the ski areas keep a lot of its forested runs.

Winter Park has more runs in lodgepole pine killed by mountain pine beetle. It has spruce and fir on the highest runs, on the north facing slopes and wetter areas on the bottoms of drainages

More extensive mortality seen here at Winter Park than on Steamboat – the green trees remaining here are spruce-fir
Winter park sits in the heart of the hardest hit mountain pine beetle areas

- Logging low value trees is expensive.
- It is the responsibility under the special use permit for the ski area to remove hazard trees.
- Settlement sale allows FS to sell timber at minimal cost ($1-3/ CCF). Ski area still needs to pay for loggers. Much of the material is being left on site due to haul costs.

Some of the issues facing ski areas dealing with these dead trees

Both Steamboat and Winter Park have done some (a little) helicopter logging on steeper slopes. Both areas have averaged only 50- 100 acres of total treatments per year

Regeneration plan for Winter Park

After treatment, skied tree islands will be closed to skiing once regeneration reaches an average height of three (3) feet or if there is significant damage to greater than 50% of trees classified as regeneration within a tree island. The area may be opened to skiing once advanced regeneration reaches an average height of 6 feet.

Some issues facing the ski area

Areas with hazard trees roped off for skier safety

Google Map view of this ski run by a skier with a helmet camera shows the extensive mortality in the forest adjacent to the runs

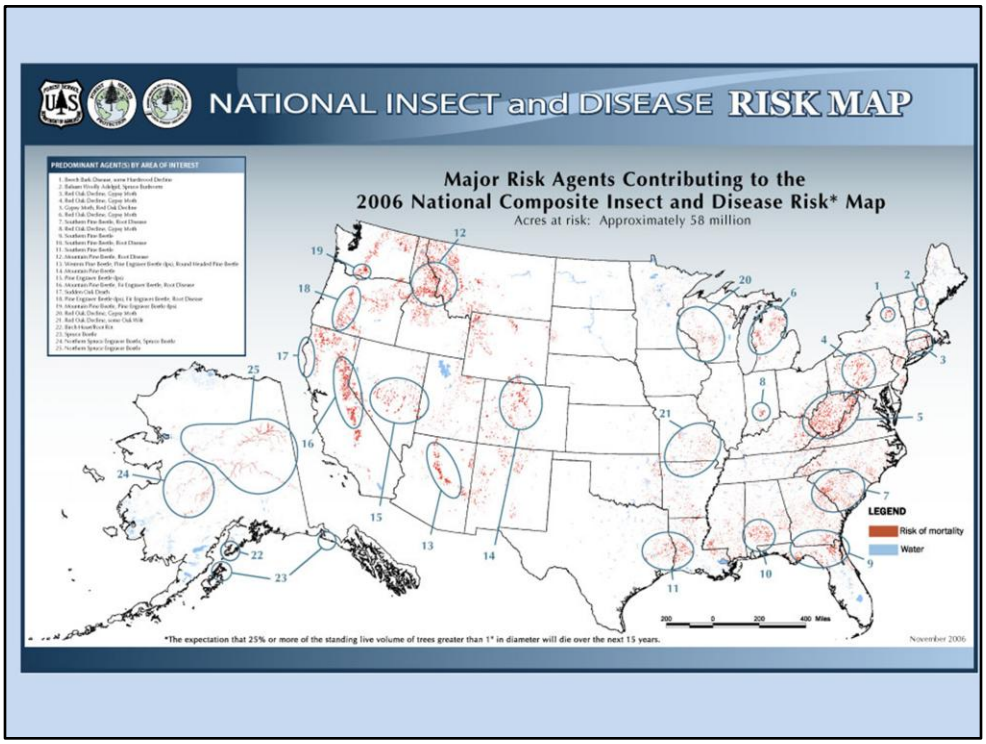
Vigorous vegetation response under the dead lodgepole overstory has helped reduce run off concerns on many sites

- There has been a lot of concern about loss of live forest cover to beetles.
- Many have been concerned that we have a dead forest and others worry that the dead and dying trees are affecting water quality and quantity.
- The reality is that we are seeing rapid response of understory vegetation in many areas. Regeneration has been vibrant and our future forest is already happening.
- Studies are underway by the USFS Rocky Mountain Research Station and universities to better quantify these effects.

- We are fortunate that this major mortality event is a natural part of our Rocky Mountain Forests and the ecosystem is well adapted to regenerate a new young forest.
- Existing shade tolerant conifers like subalpine fir are already present in many areas underneath the dead lodgepole pines ad in many areas may dominate the future landscape ….
- Aspen, which has been declining stands to rapidly expand creating important habitat and a more fire resistant forest.

In areas such as this campground where trees have been removed, new lodgepole pine seedlings have already begun to sprout from seeds in the soil and in cones left behind on the cleared sites. In areas where aspen is present, it will also quickly sprout from roots in areas where the sun now hits the ground.

Future forest health concerns may focus on other insects like engraver beetles, tussock moths or budworms, or diseases like dwarf mistletoe, root rots or the introduced white pine blister rust



The science of predicting forest disturbance into the future is improving. Insect and disease risk models have been developed and are being applied to the latest known tree cover data and predictions are being made as to where we can expect tree mortality form these agents into the future. In the future, maps will be available on a regional level that shows where 25% or more of the standing live volume of trees will die over the next 15 years.

Planting limber pine seedlings with potential genetic resistance to white pine blister rust on the Medicine Bow-Routt National Forest

And efforts are underway to identify and protect our forests from introduced agents like white pine blister rust

Working with state partners to educate the public about protecting our forests from introduced pests.

And for keeping out other introduced organisms that may threaten or native Rocky Mountain Forests

The Resilient Future Forest

- **A commitment to Ecological Restoration and Resiliency**
  - An internal board
  - A framework for action
- **Investments in Accelerated Restoration**
  - Focus; Performance; Results
- **Public / Private Partnerships**
  - Water; Energy; Corporate participation
- **Working Across Boundaries**
  - Federal – State – Private
  - Using Programs and Authorities as Tools

The RMR is moving full speed ahead