

Agenda Item VIIb
Policy and Outreach Update
Attachment A

SIERRA NEVADA TREE MORTALITY

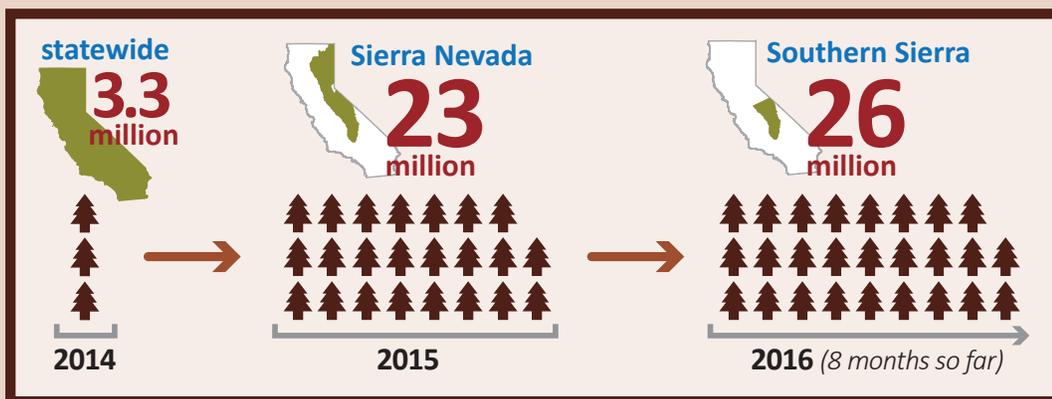


April 2015



March 2016

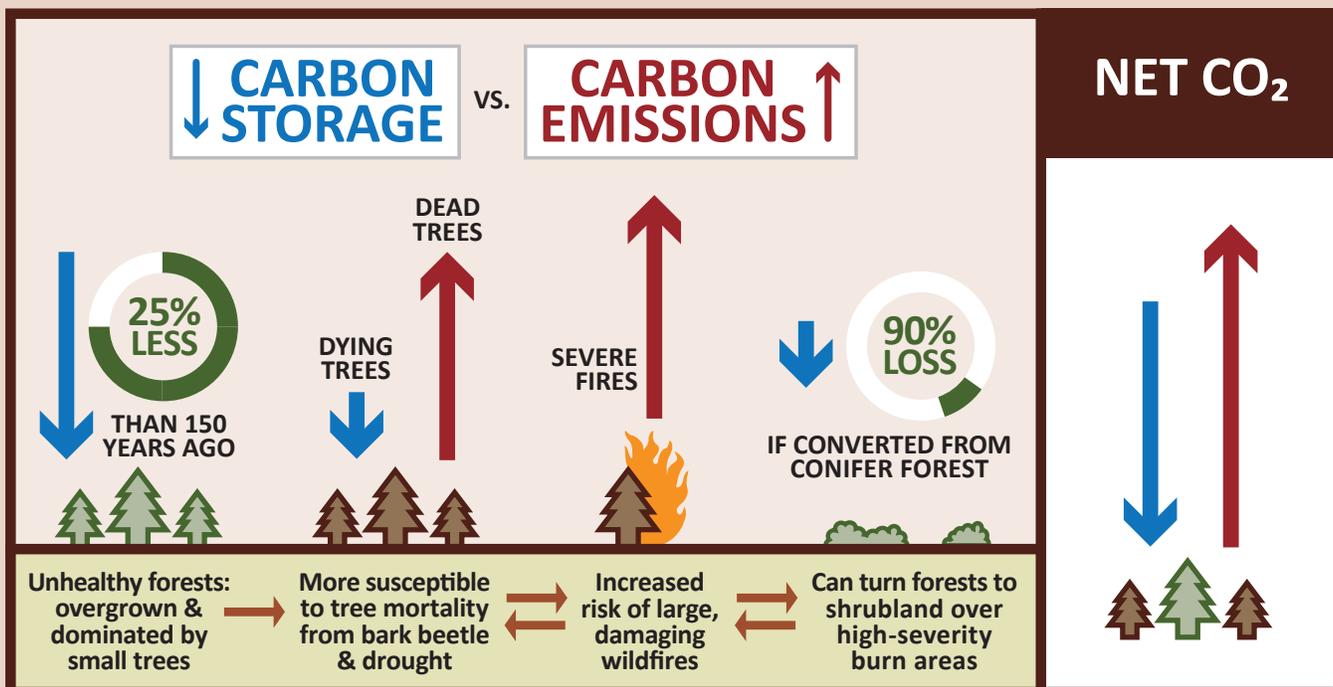
Location in Madera County before and after tree mortality began spreading. Photos: Margarita Gordus, CA Department of Fish and Wildlife



Number of dead trees caused by bark beetles and drought based on year and location

A century of fire suppression, years of drought, and a warming climate have made Sierra Nevada forests **more vulnerable** to tree mortality from bark beetles and large, damaging wildfire.

CURRENT STATE OF SIERRA FORESTS: CARBON ABSORPTION



Reduced carbon storage plus more carbon emissions means many forests are **contributing to climate change** rather than offsetting it.

WATERSHED IMPROVEMENT PROGRAM

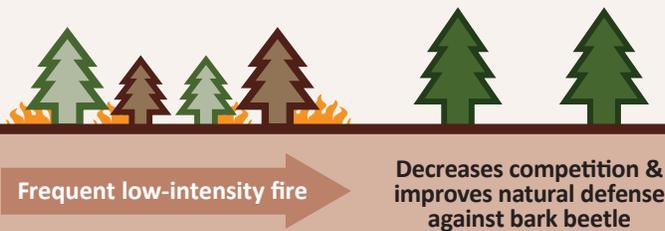


Sierra forests are unhealthy and vulnerable. The Sierra Nevada Watershed Improvement Program (**WIP**) is a broad effort organized by the Sierra Nevada Conservancy and U.S. Forest

Service to significantly increase restoration in the Sierra Nevada and promote healthy forests and watersheds that are resilient to drought, insects, wildfire, and climate change.

FOREST RESTORATION, A LONG-TERM CLIMATE SOLUTION

PRESCRIBED BURNING & THINNING REDUCES TREE MORTALITY



TREATMENTS

Prescribed burning Managed wildland fire Mechanical thinning

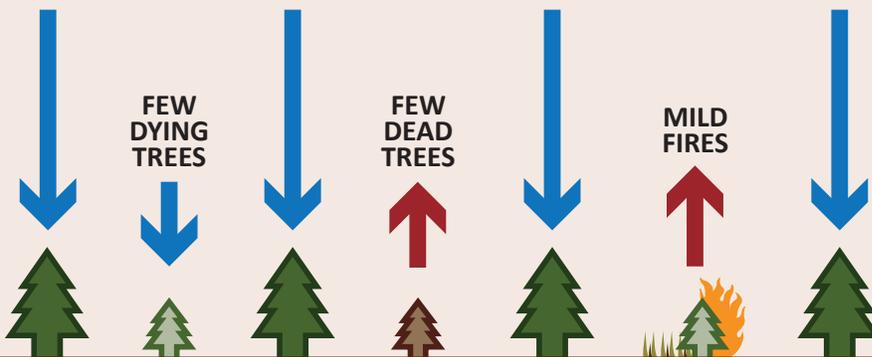
ACTIONS NEEDED

- ↑ **Funding** for restoration and infrastructure
- ↑ **Biomass utilization** infrastructure in order to process forest waste, a restoration byproduct
- Incorporate restoration into **climate policy**

↓ **CARBON STORAGE**

vs.

CARBON EMISSIONS ↑

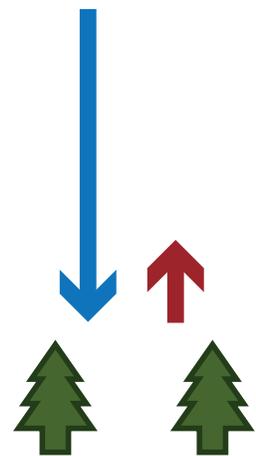


Healthy forests:
more sparse,
larger trees

Resilient against tree
mortality from bark beetle,
drought, climate change

Low risk of
large, damaging
wildfires

NET CO₂



Forest restoration shifts stored carbon from many small trees to fewer larger, older trees, resulting in more stored carbon overall. These forests are more resilient to drought, wildfire, and insects, which further stabilizes carbon storage. This means treated forests will do what they have historically done: absorb carbon and help **offset climate change**.

