

Study: Tree deaths outpace new growth across state

By Staci Matlock, *The New Mexican*

Printed in *The Taos News*, 8/28/2014

New Mexico trees are dying faster than they are being replaced with new growth across much of the state, according to a study on forest health released Tuesday (Aug. 26). Brown trees dotting landscapes around the state are a highly visible sign of what's happening.

The study by the U.S. Forest Service's Rocky Mountain Research Station is a kind of encyclopedia of New Mexico forests, one that researchers hope can be consistently updated every few years. It uses data gathered at 3,000 forested sites on private and federal lands between 2008 and 2012.

Analyzing tree death and growth over time can help land managers and policymakers spot trends and make decisions about protecting forests, which provide wildlife habitat, firewood and food, along with clean water.

"A significant trend we found was an overall increase in tree mortality and decline in tree growth," said Sara Goeking, lead author for the report.

Insects, wildfires and disease were the top culprits in tree deaths and are related to a multi-year drought, Goeking said in a prepared statement.

The mortality rate was higher on Forest Service lands than private lands, even as timber harvests from national forests declined by 95 percent, according to the study.

Private landowners own more than 40 percent, or 10.8 million acres, of the state's forest lands, according to the report. The Forest Service manages 7.8 million acres of forest.

Each of the forest sites analyzed in the study represents 6,000 acres.

Only 252 forest sites provided data over an extended time back to the 1980s. Initially, those forests had a lot of growth and low mortality, mirroring a time when the state was a lot wetter. In the last decade during several years of drought, tree deaths rose and tree growth declined.

Tree health depended a lot on the type of tree, the study found. Douglas fir, Engelmann spruce, white fir and quaking aspen all had more tree deaths than growth. A total of 35.2 million cubic feet of ponderosa pines died compared to 23.4 million cubic feet of net growth, according to the study. And more than 30 million cubic feet of common pinon died, while new growth measured 12.6 million cubic feet.

Juniper and pinon survived a drought and a bark beetle onslaught pretty well in 2007, just prior to the study period, despite the brown landscapes around places like Santa Fe that made residents wonder if there would be any trees left. About 8 percent of the total pinon forest died and less than 2 percent of juniper.

From 2008 to 2012, researchers calculated that the one-seed juniper added 18 million cubic feet of growth, far exceeding the species' overall mortality.

The state sports an estimated 6.7 billion live trees. According to researchers, pinon and juniper woodlands make up more than half the state's forests. Gambel oak has the largest number of trees, but ponderosa pine provides the most biomass because of its size.

For all trees over 5 inches in diameter, the annual mortality totaled 165 million cubic feet per year, while the annual growth was 46.4 million cubic feet.

The study is available at www.fs.fed.us/rm/pubs/rmrs_rb018.pdf.

The Santa Fe New Mexican is a sister paper of The Taos News.