



## **Most federal forest is mature and old growth. now the question is whether to protect it**

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More than 60% of the trees managed by the U.S. Forest Service and Bureau of Land Management make up mature or old-growth forest—nearly double previous estimates—according to an inventory that the Biden administration unveiled Thursday.

The first-of-its-kind census shows that the two agencies are stewards of a total 112.8 million acres of mature and old-growth trees—a tally that President Joe Biden ordered one year ago in light of the important role older trees play in absorbing and storing carbon from the atmosphere.

Along with the inventory, the White House announced a plan for new regulations to enhance “climate resilience” in public forests. But it remains to be seen whether those rules will lead to greater protection for mature and old-growth stands on public lands, as some environmentalists have called for, or for more logging, thinning and prescribed burning by the Forest Service in order to control wildfire, disease and other climate-related threats.

Currently, the Forest Service has more than 20 projects under way that target some 370,000 acres of mature and old-growth forests for logging or burning, according to the Climate Forests Campaign, a coalition of environmental groups. And in virtually all those cases, the Forest Service—a division of the U.S. Department of Agriculture—says such “treatments” are needed to improve forest health or increase resilience.

Advocates of greater protection for mature and old-growth trees on public lands expressed optimism that new regulations could lead to fundamental change in management of federal forests—with their worth as a strategic reserve of carbon given as much or greater weight by the Forest Service, an agency that since its inception in 1905 has managed trees as a harvestable commodity and a valuable as a source of lumber.

“It is an important step in moving the Forest Service away from the metrics they use currently, which are really about timber targets and board feet,” said Blaine Miller-McFeeley, a senior lobbyist for the environmental group Earthjustice. “This rule, if it’s done right, will look at science-based risk. From our perspective, it is rare that you would want to pull down a mature or old-growth tree.”

Miller-McFeeley said his group and others will be urging the Forest Service to adopt rules that include a presumption of protection for mature and old-growth stands, with exceptions for specific science-based reasons such as wildfire risk.

A growing body of scientific evidence makes clear that forests have been a critical buffer against global warming, with mature and old-growth forests storing an outsized amount of carbon dioxide.

Previously, it was widely accepted that, although large trees can store huge amounts of carbon, they lost their capacity to absorb carbon dioxide as they aged. This concept coincided with the logging industry’s interest in harvesting the older, larger trees that are the most valuable because the carbon cost of felling them could be quickly recouped by planting seedlings and saplings.

But in 2014, a massive international study in *Nature* led by researchers with the U.S. Geological Survey showed not only that older trees store more carbon than younger ones, but that their ability to absorb carbon grows continually as they age. The research, based on direct measurements of more than 160,000 trees from 400 species covering every forested continent, shattered the notion that young trees can replace the capacity of old trees to remove carbon from the atmosphere in anything close to the amount of time that humanity has to address climate change. In fact, because of soil disturbance after a timber harvest, studies have shown that new young forests release more carbon than they absorb for 10 to 20 years after planting.

Biden: ‘Forests Are Key to Our Future’

The White House included the Forest Service initiative in a package of measures that Biden sought to highlight during a virtual meeting of leaders of the Major Economies Forum on Energy and Climate, a group of about 20 nations that together are responsible for 80 percent of the world's greenhouse gas emissions.

Biden talked about some steps already announced, like last week's proposal to reduce fleet-wide emissions from U.S. passenger vehicles 52% by model year 2032. He also announced a new finance initiative to accelerate the global reduction of super-polluting refrigeration and air conditioning gases under the Kigali amendment to the Montreal Protocol, which was ratified by the U.S. Senate last fall.

But the president's remarks on forests were highly anticipated in the environmental community, because this week marked the one-year deadline for completion of the mature and old-growth inventory that Biden directed agencies to do in an executive order last Earth Day. Biden told the forum of international leaders, as he said in his order a year ago, that U.S. forests absorb more than 10 percent of the nation's annual greenhouse gas emissions.

"Forests are key to our future," Biden said. "If we lose this natural resource, we can't easily get it back ... The time to act is narrowing. Together, we have to make it clear that forests are more valuable conserved than cleared."

Biden said he will request Congress approve a U.S. contribution of \$500 million to the Amazon Fund and other climate-related activities over the next five years to support Brazil's effort to end deforestation by 2030. The president also said that the U.S. Development Finance Corporation is working with others to raise an additional \$1 billion to conserve the Amazon and other critical ecosystems in Latin America.

Tropical forests, which hold the world's largest stores of forest carbon, have long been the focus of international efforts aimed at ending deforestation. But recent science has shown that to address climate change at the pace that is needed, policymakers also need to focus on temperate forests like those in the latitudes of the Lower 48 states, which are generally more resilient. Because of rapid destruction and the fragility of the Amazon, portions of that forest are now releasing more carbon than they store, according to recent studies, including those at the National Oceanic and Atmospheric Administration.

But in the United States, national forests are still absorbing carbon dioxide and the amount they absorb has been increasing. The new inventory quantified one of the reasons why: 18 percent, or about 33 million acres of the 178 million acres managed by the Forest Service Bureau of Land Management, or BLM, an agency within the Department of the Interior, is old-growth forest. Another 45 percent, or 80 million acres, are "mature" forests—on their way to becoming old-growth, said the agencies' report.

In the Lower 48 states alone, more than 104 million acres of National Forest or BLM land is mature and old-growth, the agencies concluded—nearly double the calculations arrived at in studies published by outside researchers the prior year that showed the amount closer to 59 million acres.

Dominick DellaSala, chief scientist for the advocacy group Wild Heritage, said that the agencies were able to pick up more of the pinyon pine juniper acreage than his team was able to do in its survey conducted using satellite imagery. (It is harder for the satellites, which rely on the density of the canopies, to classify trees in dry ecosystems because the tree canopy is so open, even though the trees are old.)

"They did a solid scientific analysis with their inventory," DellaSala said. "But what matters most is the need to protect these forests from logging. We need the president to direct the agencies that what comes next is full protection for these forests as natural climate solutions."

Unlike the National Park system, the Forest Service and BLM sell timber from the forests they manage. Currently, some of the same stands that are identified as mature and old-growth—visible to the public on a new interactive Forest Service Climate Risk Viewer website—are slated for logging or prescribed burns. In Kentucky, for example, one 5,000-acre logging project has been approved and another 10,000-acre plan is under consideration in the Daniel Boone National Forest tracts that are purple "mature forest" stands on the interactive map.

“While we appreciate the attention that the Biden administration is bringing to the conservation of mature and old-growth forests, the reality is that the Forest Service—at least here in Kentucky—is targeting thousands of acres of these forests for logging, including clearcutting,” said Jim Scheff, chief ecologist of the environmental group Kentucky Heartwood. “The messaging from the Biden administration is simply not reflected in the decisions being made by U.S. Forest Service officials and land managers.”

Indeed, in testimony this week on the agency’s fiscal year 2024 budget request, Forest Service Chief Randy Moore told members of the Senate Energy and Natural Resources Committee that timber production on federal lands is rising.

“We’re producing more than we have in the last 10 years,” Moore said, adding that the only reason the agency fell just short of its 3 billion board feet target was because wildfires burned some areas that had been slated for timber sales. This year, the agency plans 3.4 billion board feet of timber production, and is working toward an annual 4 billion board-foot program. “I think we are being really productive in that arena,” Moore said.

The Forest Service’s historic emphasis on managing the public forests for production, rather than preservation, became clear as the agency conducted its mature and old-growth inventory, according to the agencies’ report. Although the agency was able to build its old-growth inventory based on definitions of old-growth that it has used for decades, it had no similar definition for “mature” forest.

The report noted that forest science uses metrics related to “economic maturity,” or the age at which “merchantable tree volume” peaks in a given tree stand. But that’s a metric “not easily applied” to conservation goals, the report said. Instead, the agencies came up with methods of determining maturity based on tree density, diameter and diversity—with different metrics for different species of trees.

Now, the Forest Service will take public comments for 60 days on its advance notice of proposed rulemaking, which does not focus specifically on protection of mature and old-growth forests, but more generally on how to “protect, conserve, and manage national forests and grasslands for climate resilience.”

“Our forest ecosystems and communities are struggling to keep up with the stresses of climate change, whether it’s fire, drought, or insect infestations, it is clear that we must adapt quickly,” said USDA Under Secretary for Natural Resources and the Environment Homer Wilkes, who oversees the Forest Service.

DellaSala said he is concerned that the agency will use the threat of wildfire and insects to continue logging the larger, older trees, which are the most valuable to the timber market.

“Large trees are fire resistant, resilient, and contain carbon and gene pools to get forests through the climate emergency,” DellaSala said. “There’s no ecological reason to log them. By far the bigger risk is in the heavily logged landscape that lacks resilience and carbon.”

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