

U.S. Forest Service R&D Newsletter - August 2018

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## FEATURED NEWS

### [Science Friday : Tracking Tweets to Forecast Smoky Skies](#)

When it comes to wildfire and air quality, tweets can speak volumes. USDA Forest Service researchers [evaluated](#) 39,000 tweets that included the names of California's most destructive wildfires of the 2015 season. The study suggested that social media could help predict air quality in remote areas where it is not monitored.

This story aired 7/27/18 on *Science Friday*, a weekly talk show hosted by award-winning science journalist Ira Flatow.



## WILDFIRE PHYSICS

### [The New York Times : How Wildfires Became Infernos](#)

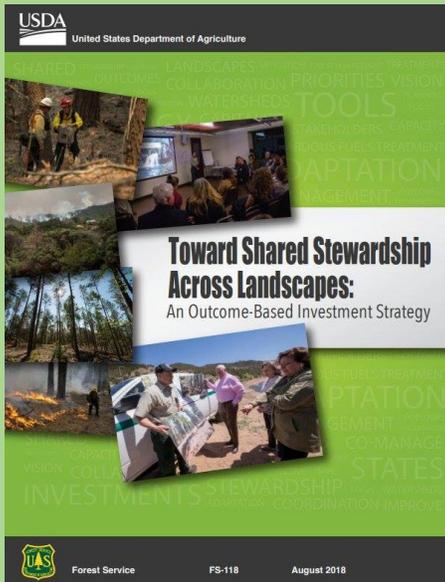
As featured in *The New York Times*, Forest Service scientists at the Missoula Fire Sciences Laboratory in Montana are [studying](#) the mysterious behavior of large wildfires to combat enormous blazes destroying millions of acres in the West. The scientists are hoping to create a new computer model to map and predict fire patterns. The lab is also investigating "fire whirls" or "fire tornadoes"-- dangerous whirlwinds of flame and ash that sometimes occur with wildfires.



## WILDFIRE

### Less Summer Rain is the Main Reason for Increased Western Wildfires

Wildfires have profound impacts on forested ecosystems and rural communities. Increases in area burned by wildfires in the western United States have been widely attributed to reduced winter snowpack or increased summer temperatures. Forest Service scientists [show](#) that declines in summer precipitation and lengthening summer dry periods have likely been a primary driver of increases in wildfire area burned.



## WILDFIRE MANAGEMENT

### New Strategy to Improve Forest Conditions Announced

The Forest Service just released a new [strategy](#) for managing catastrophic wildfires and the impacts of invasive species, drought, and insect and disease epidemics. A key component of the new strategy, which builds on the 2018 Omnibus Bill, is to prioritize investment decisions on forest treatments in direct coordination with states using the most advanced science tools. This allows the Forest Service to increase the scope and scale of critical forest treatments that protect communities and create resilient forests.

The strategy also includes a long-term "fire fix," which will top the rise of the 10-year average cost of fighting wildland fire starting in 2020 (see explanation of fire funding fix below).



## HISTORY

### Fire Funding Fix

As part of the 2018 Omnibus Bill, Congress came to a bipartisan agreement about funding wildfire suppression efforts, known as the "[fire fix](#)." The fix provides a new funding structure beginning in 2020, granting an additional \$2.25 billion in funding authority to USDA and the Department of the Interior that year and increasing by \$100 million each year through 2027.

The fix has been sought for decades. Fire suppression has been traditionally funded at a rolling ten-year average of appropriations, while the overall Forest Service budget remained relatively flat. As fire seasons became longer and more severe, fire suppression budget needs kept rising, consuming a greater percentage of the agency's total budget each year. This has forced the agency to take funds from fire prevention and recreational programs to cover fire suppression costs.



## HUMAN HEALTH

### [The Washington Post](#) : Greener Neighborhoods Reduce Depression

[The Washington Post](#) featured a [study](#) by Forest Service scientists and partners that found cleaning up vacant lots and planting vegetation can improve the mental health of low-income neighborhoods. Scientists assigned 110 vacant lot clusters in Philadelphia to either greening intervention, trash cleanup intervention, or a control group with no intervention. After 18 months, 63 percent of people living in greened lots reported improvements in mental health compared to those living where no greening occurred.



## COMMUNITY RESTORATION

### [USA Today](#) : Old Wood Provides New Jobs for People in Need

As featured in [USA Today](#), the Forest Service has partnered with Humanim, a social services enterprise, and the furniture company Room & Board to restore communities in Baltimore while creating jobs. Humanim employs people who have experienced barriers to employment (such as lack of education and previous incarceration) to remove salvageable materials from vacant row homes. These salvageable materials, which include high-quality yellow pine wood from old growth trees that only exists today in aging structures, can later be restored and reused.

A [segment](#) about the program was featured on *NBC Nightly News*.



## INVASIVE SPECIES

### [CBS News : People are Growing Marijuana Illegally in National Forests--and it's Ravaging Them](#)

A [video](#) that aired on *CBS News* highlights the environmental damage caused by illegal marijuana grows by following Forest Service agents as they track down a large crop grown in the San Bernardino Forest. Forest Service researchers have uncovered the devastating [impact](#) of illegal marijuana grows on wildlife and water in national forests while developing tools to help law enforcement detect these sites.



## AQUATIC SUSTAINABILITY

### [eDNAtlas Shows Location of Freshwater Species Across the U.S.](#)

The eDNAtlas [website](#) provides a dynamic database that the public, managers, and researchers can use to view the precise location of freshwater species throughout the country. The data comes from 8,000 samples of environmental DNA (eDNA)-- genetic material released by organisms into the environment. The samples were collected through multi-agency partnerships with the Forest Service's [National Genomics Center for Wildlife and Fish Conservation](#).



## BIRD CONSERVATION

### [For Nesting Least Terns, Water Levels Matter](#)

Forest Service researchers have conducted surveys of least terns--small water birds listed as endangered species--on the Cheyenne River in South Dakota for 29 years. Researchers recently [found](#) the birds suffered when natural sandbars were lost due to the development of large dams and reservoirs because high water wiped out young chicks during nesting season. They also found birds learned to move to suitable habitats when water levels rose.



## WILDERNESS STEWARDSHIP

### Leopold Institute and Carhart Center Celebrate 25th Anniversary

This month marks the [25th anniversary](#) of the Aldo Leopold Wilderness Research Institute and the Arthur Carhart National Wilderness Training Center. Both were created in the spirit of cooperation by the Forest Service, the Bureau of Land Management, the National Park Service, and the Fish and Wildlife Service. These organizations have conducted more than 300 wilderness science projects and have trained over 30,000 people in wilderness stewardship.



## DID YOU KNOW?

### Prescribed Fires Improve Forest Health

Large areas of the Intermountain West are in need of some sort of landscape restoration to change fuel patterns, forest age, and forest-density conditions. Restoration often includes fuel treatments, including both mechanical thinning and use of [prescribed fire](#), needed to reduce the density of trees and fuels in many of our forests. A benefit of prescribed fire over wildfire is that you can plan for it, control the conditions of the burn, and minimize the smoke impacts.

The more people understand about the ecological benefits of prescribed burning, the fewer concerns they have about its use, and that includes concerns about smoke.

## Recent Blogs



### Inside Agroforestry: So Many Trees to Choose From

Check out the latest issue of the National Agroforestry Center's newsletter.



### R&D Announces Three New Senior Scientists

Forest Service scientists Deborah "Jean" Lodge, Alan Watson, and Jeff Prestemon achieved the title of "Senior Scientist" for their world-class work.



### [Inquiring Minds with Natural Inquirer](#)

Forest Service Natural Inquirer team engaged in two educational outreach events in June.



### [Faces of the Forest Service: Meet Josh Wilson](#)

Josh is a Research Program Manager with the Pacific Southwest Research Station.

## HIDDEN HARVESTS CREATE JOBS AND BOOST RURAL ECONOMIES

U.S. forests contributed about **\$1 billion** to the economy in 2013 at the wholesale level from wild-harvested products. Some examples are:



See the Forest Service's new report, *Assessment of Nontimber Forest Products in the United States Under Changing Conditions*.

[Learn more about Nontimber Forest Products](#)

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