



United States Department of Agriculture

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The banner features the U.S. Forest Service logo on the left, followed by the text "Forest Service" and "Research and Development" in a large, white, sans-serif font. Below this, an orange box contains the text "Monthly News and Highlights from the World Leader in Forestry Research". On the right side, there is a graphic of a globe with two white leaves growing from it. At the bottom right, the hashtag "#SoundScience" is displayed above icons for Twitter, Instagram, Facebook, and YouTube.

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**U.S. Forest Service R&D Newsletter: March 2020**  
*News from the Washington Office and Research Stations*



## FEATURED NEWS

### How to Halt the Global Decline of Lands

*From Nature:* Land degradation is defined as the persistent reduction in the capacity of land to support human and other life. The assessment of land degradation and restoration by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services indicates that land degradation across the globe is a wide, severe issue that is not slowing down. This trend must be halted and reversed, says a recent [paper](#) in *Nature* co-authored by John Parrotta, Forest Service program leader for international science issues. (Image Credit: Tsiry Parma Project in Madagascar, ESSA-Forêts /University of Antananarivo)

## DELIVERING BENEFITS TO THE PUBLIC

### Huge Fish Catches from Alaska's Forests



Alaska's Tongass and Chugach national forests--which contain some of the world's largest tracts of intact temperate rainforest--contribute about 48 million salmon a year to the state's commercial fishing industry, according to a Forest Service-led [study](#). These "forest fish" are valued at about \$88 million per year and comprise a quarter of the state's catch. Plus, even salmon that don't originate in the Chugach and Tongass may rely on

these forests part of their lives. (Scroll to infographic for more on fishing in national forests.)



### *RECREATION*

#### **New Global Conservation Priorities Identified**

Environmental conditions, more than human impacts, explain why some parts of the globe harbor more endangered species than others. A new [study](#) shows that certain environments, including those that are warmer, are less seasonal, have more variable terrain or have less space--such as small islands--are more likely to contain disproportionately high numbers of threatened species.

### *RECREATION*

#### **How Much Fun? Economics of Recreation in National Forests**



People made more than 891 million recreational visits to federal lands in 2016. They spent \$49 billion and supported 826,000 jobs with these visits. Forest Service researchers [summarized](#) more than 400 studies that measure the economic value that people hold for recreation opportunities. This research quantifies the value of recreation, not just through monetary transactions, but in terms of the economic value of outdoor recreation enjoyment. This information helps forest managers manage public lands for multiple uses.

### *MITIGATING WILDLAND FIRE*

#### **Rethinking Fire with Data Analytics**



*From MIT News:* From record-setting fires in the western United States to the devastating and still-blazing bushfires in Australia, it is increasingly apparent that society must forge new relationships with fire. Forest Service [research](#) shows how short-term gain from suppression can condition the landscape for future, even-greater fires burning in extreme conditions.



### ***MITIGATING WILDLAND FIRE***

#### **Benefits of Thinning and Prescribed Burns**

In the first major [study](#) following the devastating 2014 Carlton Complex fire in north central Washington, researchers from the Forest Service and the University of Washington found that previous tree thinning and prescribed burns helped forests survive the fire.



### ***INVASIVE SPECIES***

#### **Major Invasive Potential of Tree-of-heaven**

A Forest Service-supported [study](#) reports the Tree-of-heaven, or Ailanthus, is an invasive triple threat. It produces seeds early in its lifespan, makes millions of viable seeds during its life, and continues to produce seeds for decades. The species is considered a growing invasive threat in numerous spots in the United States.



### ***URBAN FORESTRY***

#### **Varied Roles of Nature in New York City**

In addition to providing critical ecological resources, the forests and wetlands of urban parks are integral to the social and psychological well-being of many city residents. A Forest Service [study](#) involved interviewing New York City outdoor enthusiasts to explore differences in park use and motivations for park visitation. *Image: Hector Arguello Canals*



## ***SUPPORTING RURAL COMMUNITIES***

### **Why Trees Outside Forests Count**

Windbreaks increase crop yields, reduce erosion, improve soil health and provide wildlife habitat. Forest Service researchers have [developed](#) high-tech methods for mapping windbreaks, which are being applied in various Plains States to help farmers meet production and conservation goals.

## ***CONSERVATION***



### **Surprising Hot Spot for Bird Conservation**

A Forest Service-led [study](#) indicates that a trend toward more small, organic farms in New England is helping to diversify the landscape, which is good news for birds and bird lovers. The Department of Agriculture Natural Resource Conservation Service--which funded this study--will use these findings to inform local farmers about bird conservation on their farms.



## ***SUSTAINABLE FORESTRY***

### **New Data Collection in U.S. Virgin Islands**

Data collection in the U.S. Virgin Islands by the Forest Service's Forest Inventory and Analysis Program (FIA) will, for the first time, include surveys of forest landowners and sampling of urban plots. This new data [collection](#) together with continued data collection on trees, soils and other forest characteristics will support tracking of changes in forest cover, land use, biodiversity, and hurricane recovery.

## ***DID YOU KNOW?***

### **Changing Climate May Alter Syrup Production**

[Research](#) from the Forest Service and Cornell University examined relationships between sugar maple sap flow and temperature over several



decades, and used climate models to project future sap flow. Results show that the number of sap flow days may not change in the Northeast, but the timing of peak production will shift earlier.

## Webinars



The Forest Service is co-hosting a monthly [webinar](#) series that covers basic information about biochar, and its applications and environmental benefits.



The Forest Service's Urban Forest Connections [webinar](#) series brings together experts to discuss the latest science, practice, and policy on urban forestry and the environment.

## Message from the Forest Service R&D Deputy Chief

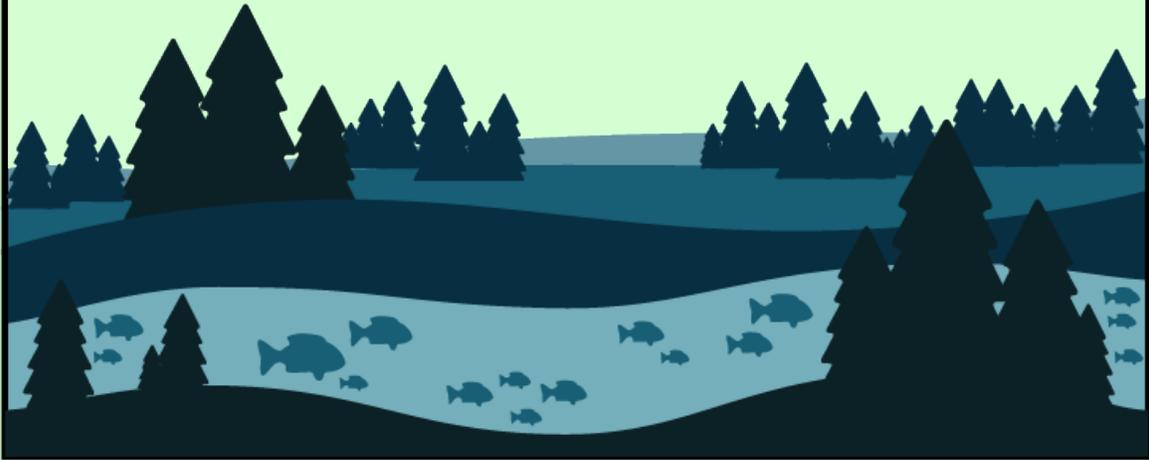


### ***A SCIENCE-BASED RESPONSE TO THE CORONAVIRUS PANDEMIC***

"As members of the Forest Service community, our focus at this extraordinary time is responding quickly to a continually shifting landscape. Together, we are discovering how nimble we are as an agency even as we continue to serve our mission as stewards of vast and vulnerable natural resources." Read the full [message](#) from Alexander Friend, Forest Service Deputy Chief for R&D, on the value of research in coping with the COVID-19 pandemic.

BY-THE-NUMBERS

Millions of people **fish** on national forests and grasslands,  
providing **more than \$2.2 billion** of economic activity each year.



[Click Here for More About Forest Service Stewardship of Aquatic Resources](#)

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