



United States Department of Agriculture

[Home](#) [Publications](#) [Locations](#) [Blog](#) [About Us](#)

Forest Service

# Research and Development

Monthly News and Highlights from  
the World Leader in Forestry Research

#SoundScience

[Twitter](#) [Instagram](#) [Facebook](#) [YouTube](#)

The banner features a green and gold color scheme. On the left is the U.S. Forest Service shield logo. The text "Forest Service" is in a white sans-serif font. Below it, "Research and Development" is written in a larger white font. A gold box contains the text "Monthly News and Highlights from the World Leader in Forestry Research". On the right is a stylized white leaf graphic with a globe inside it. At the bottom right, the hashtag "#SoundScience" is displayed above social media icons for Twitter, Instagram, Facebook, and YouTube.

[CLICK HERE TO SUBSCRIBE](#)

## **U.S. Forest Service R&D News: September 2020**

*News from the Washington Office and Research Stations*



### FEATURED STORY

#### Partnering to Advance Adaptive Silviculture

The [Adaptive Silviculture for Climate Change \(ASCC\) project](#) is a collaborative effort among the Forest Service, Colorado State University, and other partners across North America investigating [adaptation approaches for silvicultural systems](#) under changing climatic conditions. In this multiregion study, scientists, academic institutions, and land managers have established a [series of experimental silvicultural trials](#) in which they are investigating the impact that different adaptive silvicultural interventions have on long-term ecosystem resilience. *Photo Credit: Molly Roske*



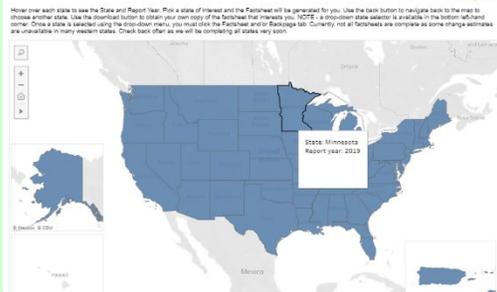
### RANGELAND MANAGEMENT

#### Forage Forecasting Tool for Ranchers and Fire Managers

A [new online tool](#) developed by Forest Service researchers and partners is helping land managers and ranchers better plan for and adapt to drought. The [Rangeland Production Monitoring Service \(RPMS\)](#) offers maps of and predicts future rangeland forage stocks to inform operating plans and grazing permits. Fire managers are also using it to project fire behavior based on fuel availability.

### Forest Inventory & Analysis One-Click Factsheet

The USDA Forest Service's Forest Inventory & Analysis program supplies annual updates that provide a brief overview of forest resources in each state based on an inventory conducted by the FIA program in cooperation with each State forestry agency.



## FOREST INVENTORY AND ANALYSIS

### State-by-State Forest Factsheets At Your Fingertips

The Forest Service's [Forest Inventory and Analysis \(FIA\)](#) program continually produces vast amounts of data on the extent, conditions, trends, and ownership status of the forest resources of the United States. Now you can easily access some of this information through an [interactive website that offers factsheets for each state.](#)



## FOREST MANAGEMENT

### Management Options for Building Drought Resilience

A warming climate will mean more frequent droughts and longer dry periods across most regions of the United States. A recent Forest Service publication offers region-specific management options for increasing [resilience to drought](#), including Alaska and the Pacific Northwest, California, Hawai'i and the U.S.-Affiliated Pacific Islands, the Interior West, Great Plains, Northeast and Midwest, and Southeast.



## RESTORATION

### New Framework for Evaluating Ecological Restoration in Wilderness Proposals

Federal agencies managing wilderness areas receive hundreds of proposals each year from public and private entities looking to help restore these ecological systems. Forest Service scientists [published a framework](#) using scientific, legal, and ethical questions to evaluate proposals for ecological restoration and other types of ecological intervention in wilderness areas.



## ***PARTNERSHIPS***

### **Seeds of Success: Repository of Native Plant Genetic Resources**

[Seeds of Success](#) is a national seed collection program led by the Bureau of Land Management. A recent study led by a Forest Service researcher revealed that 14 percent of the seed collection sites will likely burn by 2050, and 24 percent by 2080. This highlights the [importance of the program](#) as a critical repository of native plant genetic resources.



## ***INVASIVE SPECIES***

### **Tree Diversity Regulates Forest Non-Native Pest Invasion**

New Forest Service research is shedding light on the role plant diversity has in regulating non-native pest invasions. Using data from across the conterminous United States, they found tree diversity likely [regulates forest pest invasion](#), but the relative impact on pests varies with overall tree diversity within respective ecosystems.



## ***FOREST MANAGEMENT***

### **Debris Flows Make Way for Enhanced Biodiversity**

Forest Service scientists recently completed a study evaluating the [impact debris flows](#) have on ecosystems in the Pacific Northwest. They found these types of disturbances ultimately enhance ecosystem resilience by introducing habitat heterogeneity that supports long-term productivity and biological diversity.



## FOREST MONITORING

### Using Satellites to Map Forest Disturbances

COVID-19 restrictions have magnified the need for reliable ways to evaluate forest disturbances remotely. The High-Resolution Forest Mapping ([HiForm](#)) project is a collaboration between the [Forest Service's Eastern Forest Environmental Threat Assessment Center](#) and the University of North Carolina using satellites and cloud computing to study the impacts of disturbances like tornadoes at high resolution.



## RESTORATION

### Ranchers, Beavers, and Stream Restoration in Western Rangelands

Beavers and their dams can enhance riparian grazing area restoration in Western rangelands by balancing water availability and improving forage. Forest Service researchers recently studied rancher perceptions of [beaver-related restoration](#) to identify important social factors that support successful project implementation.



## DID YOU KNOW?

[Environmental DNA \(eDNA\)](#) is one of the most cost-effective and defensible sampling approaches for detecting endangered and aquatic species.

This technology can detect the presence of species without the need to physically observe them by picking up trace amounts of DNA in water or air samples, and even in soil or snow.

## Webinars



The Forest Service is co-hosting a monthly [webinar](#) series that covers basic information about biochar, and its applications and environmental benefits. Tune in on September 24 at 11 a.m. EST for the next webinar "[Techno-Economic and Lifecycle Assessments of Biochar Production from Forest Residues](#)".

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. The next webinar "New guidance for tracking long-term tree survival, growth, and health" is scheduled for September 9 at 1 p.m. EST .

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



Deputy Chief Alex L. Friend

### *A Tribute to Resilience in 2020*

Beyond our role as caretakers of some of the nation's best and most accessible pandemic getaway destinations, there are thousands of other ways in which our staff contribute to our collective ability to cope with threats and hardships. The Forest Service's league of world-class scientists and natural resource specialists dedicate their careers to understanding, testing, and implementing technologies and management practices that enhance forest ecosystems and further our agency's legacy to the American people. In a continuous process of building off the best available science, we seek and cultivate disease-resistant trees, understand and convey techniques that will equip land managers to confront the complicated challenges presented by a changing climate, harness new technologies to better understand forest health and trends, and the list goes on.

Read the full [message](#) from Alex Friend, Forest Service Deputy Chief for R&D, reflecting on the role USFS staff have played in enhancing resilience this year.

SEPTEMBER INFOGRAPHIC

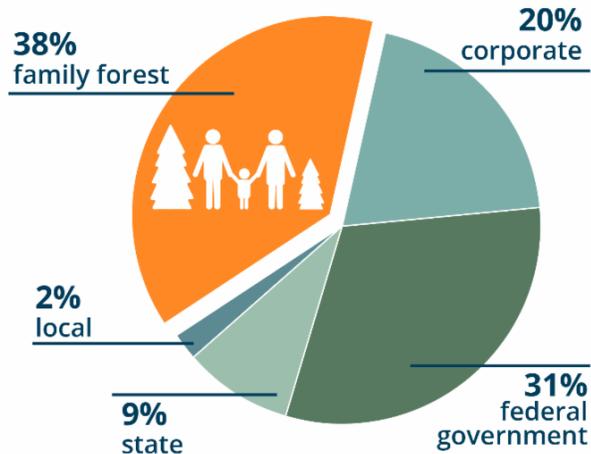
## FOREST SERVICE RESEARCH: BY-THE-NUMBERS

An estimated **10.6 million** families, individuals, trusts, and estates make up the category of *family forest and woodland* ownerships.



They control **more** forest and woodland than any other group.

Source: Forest Resources of the United States, 2017



## PATENT LICENSING ANNOUNCEMENT

The USDA Forest Service has announced an Intent to License to EKCO Associates, LLC, 34650 Bear Paw Trail, Post Office Box 1, Bayfield, Wisconsin, 54814, an exclusive license to U.S. Patent Application No. 16/681,147, "PAPERMAKING SYSTEM AND METHOD", filed on November 12, 2019. Papermaking System and Method is a Technology to Improve Fiber Loading at Paper/Pulp Mills. For information and comments please go to: <https://federallabs.org/licenses-list/all>

[Click here to download this infographic and dozens of other infographics on R&D research.](#)

[Click here for the archives of the U.S. Forest Service R&D Monthly Newsletter](#)

Forest Service



STAY CONNECTED

