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U.S. Forest Service R&D Newsletter - September 2017

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FEATURE NEWS

The Last Un-Inventoried Frontier

Alaska's interior forests make up around 15% of the nation's forests, but are also extremely remote. The Forest Inventory and Analysis program, also known as the nation's "forest census," had not inventoried this region prior to 2015. Researchers employed state of the art aerial remote sensing technologies to perform the [first ever inventory of this final frontier](#).



FOREST HEALTH

Too Much Nitrogen is Bad for Forests

[A 30-year study](#) found that small but constant nitrogen additions to a forest lead to nitrogen saturation, which impacts the nitrogen cycle. While plants need some nitrogen to grow, nitrogen saturation ultimately leads to tree mortality and overall forest decline.



FOREST PRODUCTS

Fire-Resistant Building Materials

[Scientists tested cross-laminated timber](#) (CLT) and found it is possible to construct a fire-resistant building using CLT. The test results will help inform building codes, allowing taller structures to be built from this durable, renewable material.

RESTORATION

Partnering to Restore Habitat



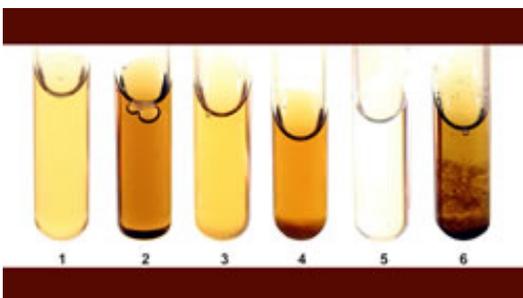
Scientists are partnering with National Forest staff to develop a [restoration plan](#) for Greater sage-grouse habitat. National Forest System land managers are unsure whether the current vegetation patterns are a result of livestock grazing, historic herbicide use, elk browsing or are due to underlying soil differences.



WILDLIFE

When Species Collide

Researchers found that as snow packs decrease, the [fisher's range could expand deeper into marten habitat](#). Martens, however, displayed the ability to coexist with the fisher by occupying hotter and drier portions of fisher habitat. Conservation efforts need to take changing habitat requirements into consideration.



FOREST HEALTH

Maple Syrup Health Watch

In a collaboration involving high school students and maple syrup producers acting as citizen scientists, Forest Service researchers are examining [if sugar maple sap can act as an indicator](#) of forest health as conditions change. The students are learning how to use modern scientific equipment to analyze sap.



HISTORY

Preserving Historic Plant Pathology Research

Forest Service plant pathologist Dr. Alex Shigo was a pioneering tree care scientist. A [historic collection of his research papers](#) and laboratory samples are now preserved and on display through a partnership between the Forest Service, The Davey Tree Expert Company and the Southern Chapter of the International Society of Arboriculture.

Did You Know?



[Cougars](#) have the largest ecological range of any terrestrial mammal, ranging from the Yukon to the Andes in South America.

Recent Blogs



[Cleaning Up Illegal Marijuana Grow Sites](#)



[The Promise of Biochar for Forests, Grasslands, and Farms](#)



[Faces of the Forest Service: Felipe Sanchez](#)



[Leadership Corner: R&D Deputy Chief Carlos Rodriguez-Franco](#)

BY-THE-NUMBERS

Environmental DNA (eDNA) tests can detect free floating DNA in soil, water or air to help determine if a species of interest is present in an ecosystem.



These species include bull trout, grizzly bear, coho salmon and harlequin duck. Tests with eDNA, which are noninvasive, are much faster, cheaper and more sensitive than invasive tests.

For more information: [National Genomics Center - eDNA](#)

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