

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

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FEATURED NEWS

Tracking Forest Carnivores and Backcountry Recreationists

USDA Forest Service scientists recruited skiers and snowmobilers to help study how winter recreation impacts Canada lynx, a federally listed species, and rare wolverines in the Western U.S. By using GPS units to track the volunteer recreationists and carnivores over four years, the scientists mapped how they share the landscape. This [research](#) aims to promote a better understanding of how humans may peacefully coexist with these forest mammals.



FIRE MANAGEMENT

Smoke in a New Era of Fire

Smoke from fire can sharply reduce air quality by releasing particulate matter--one of the most dangerous types of air pollution for human health. A science [update](#) from the Forest Service examines prescribed fire as a tool for minimizing the impact of smoke on communities.



SOCIAL JUSTICE

Who Benefits from Urban Green Spaces--and Who Doesn't?

Public green spaces are often less available in neighborhoods that are low-income or that have a high proportion of African American or Hispanic residents, according to a review [article](#) by Forest Service researchers. This unequal access to green space may be related to disparities in cardiovascular health, heat-related illness, obesity, and psychological well-being.



WILDFIRE SAFETY

When it's Time to Evacuate

A [study](#) by Forest Service researchers identified factors that contribute to decision-making by homeowners when wildfire approaches homes. These factors include their understanding of how quickly fire spreads, their tolerance for risk, and whether they believe evacuation is an effective strategy. This research underscores the need to understand the varied reasons and values that inform evacuation decisions to promote safe decision-making by homeowners.



OUTDOOR EDUCATION

Growing Future Environmental Stewards

A [study](#) by Forest Service scientists looked at how various ways children are exposed to nature can shape their future engagement in environmental activities. Study results suggest that voluntary, unstructured time outdoors builds the strongest ties to nature.



AQUATIC SUSTAINABILITY

Expanding an Atlas of Aquatic Resources

[Environmental DNA](#), or eDNA, is a sensitive new [technology](#) that can detect the presence of threatened and endangered species in ecosystems as well as individuals at the leading edges of invasive species takeovers.

In 2017, Forest Service scientists began developing an online database of aquatic species detected using eDNA in rivers and streams in 12 Western states. Known as the [Aquatic eDNAAtlas](#), that project was funded by the Bring Back the Natives program of the National Fish and Wildlife Foundation (NFWF). The Aquatic eDNAAtlas recently received more than [\\$73,000 of additional funding](#) from NFWF and \$300,000 in matching funds from the Forest Service and partners to expand coverage to the eastern U.S. The eDNAAtlas will enable the cost effective use of eDNA data for designing strategies to detect and suppress the spread of invasive species, developing conservation plans for native species, and assessing the effectiveness of habitat restoration efforts.



AQUATIC SUSTAINABILITY

National Fish and Aquatic Strategy

The Forest Service recently completed an updated national fish and aquatic [strategy](#), which built on lessons learned from the original 1987 version. The updated strategy will use the latest data on fish conservation to sustainably manage watersheds used for fishing, boating, and other aquatic activities that communities need.



HISTORY

Learning From The San Dimas Experimental Forest

Long-term [studies](#) at the San Dimas Experimental Forest have helped scientists address important issues involving landslides, floods, and wildfires in the chaparral (shrubland) of California watersheds. Established in 1933, the San Dimas Experimental Forest has served as a testing ground for how humans can squeeze more water from the mountain ecosystem to serve the rapidly developing Los Angeles basin.



FOREST RESTORATION

Back to the Future for Front Range Forests

The Forest Service Rocky Mountain Research Station and its partners issued a joint science-based [framework](#) for guiding restoration practices and removing hazardous fuels to improve the health of Colorado's Front Range forests. Researchers hope this framework will help forest managers cultivate fire-resilient forests similar to those of the past.



HONORING RESEARCH

Forest Service Scientist Awarded for Academic Excellence in China

Southern Research Station scientist Qinfeng Guo recently received an “Award for Excellence in Academic Activities” from the Northeast Normal University in China. The [award](#) recognizes Guo’s role in a long-term international collaboration on experimental research in regional grassland ecosystems, focusing on plant-animal interactions.



HONORING RESEARCH

USDA Forest Service Scientist Recognized for Top Research

Michael Schwartz, Director of the [National Genomics Center for Wildlife and Fish Conservation](#), was [awarded](#) the title of "highly cited researcher" by Clarivate Analytics. Schwartz conducts research in conservation genetics/genomics, genetic monitoring, landscape genetics, and the ecology of threatened and endangered species.



HONORING RESEARCH

Forest Service Scientists Recognized with Deputy Chief's Awards

Research and Development Deputy Chief Carlos Rodriguez-Franco recognized four Forest Service scientists in a [ceremony](#) on February 7th in Washington, D.C. Research ecologist Sean Parks received the Early Career Scientist award; research landscape ecologist Paul Hessburg and research hydrologist Ge Sun both received Distinguished Science awards; and research entomologist Christopher Fettig received the Science Delivery award.



Did You Know? You Can Assess the Benefits of Trees

More than 80 percent of the U.S. population lives in urban areas, and natural resources are crucial to the health and livability of cities and suburbs.

The [i-Tree Software Suite](#) is a set of free urban forestry analysis tools from the Forest Service; these tools improve understanding of the benefits and value of urban forest resources--from entire states to individual trees. Analyses from i-Tree help inform green infrastructure management and planning. Scroll down to the infographic below for a sample i-Tree application.

Recent Blogs



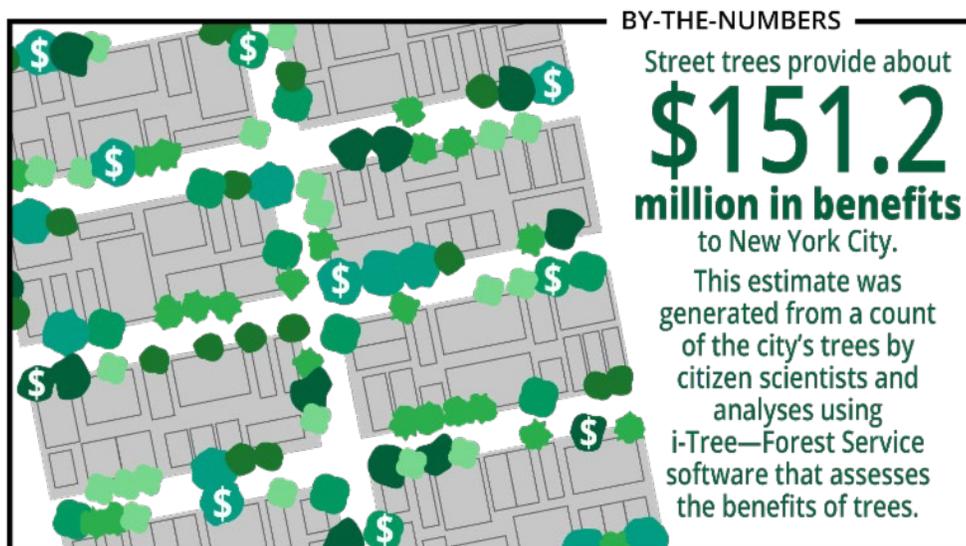
[Faces of the Forest Service: Meet Sharon Parker](#)

Forest Service program manager Sharon Parker shares her past, her passions, and the inspirations that drive her forward.



[Tracking Forest Sustainability to Meet U.S. and International Goals](#)

Forest Service scientists actively monitor and assess the sustainability of forests nationwide through the Sustainability Assessment Program.



For more information about i-Tree, click [here](#).

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