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**Ecological
Restoration
Institute**

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RESTORATION NEWS



As of September 1, 2012, more than 7.6 million acres have burned nationally. Foresters, ecologists, fire managers, and climate change experts have long predicted that, as fuels steadily accumulate in frequent fire forests (absent natural fires), the trajectory of increasing frequency, size, and severity of fires would continue, eventually reaching catastrophic levels. Since the 1940s,

deep-digging research has sought to find ways to head off this trend, as well as to restore not only appropriate fire, but also naturalness to forest and rangeland ecosystems.

Since May, ERI crews have been working on the Apache-Sitgreaves National Forests collecting data on the record-breaking 2011 Wallow fire—a fire which burned 579,000 acres in east central Arizona and western New Mexico. Working with the U.S. Forest Service and other agencies the ERI is studying forest restoration treatments applied 10 years prior to the Wallow fire to determine how effectively these treatments were in protecting communities and restoring forest health. Results from this work will assist land managers to better understand ecological restoration and hazardous fuel reduction treatments so they can better plan future forest restoration activities, and do so quickly. With large, unnaturally severe and devastating fires occurring annually and at scales measured in tens to hundreds of thousands of acres, we must act and act boldly but with the humility to monitor, learn and adapt treatments to new knowledge.

In addition to studying restoration treatments, ERI is studying the relationship between forest restoration and watershed health. In cooperation with Salt River Project we are supporting and will monitor forest restoration on millions of acres in the Salt and Verde watershed ecosystems. ERI is proud to work with SRP to expand the scientific knowledge that contributes to the protection and preservation of our

precious water sources.

UPCOMING EVENTS:

2012 Society of American Foresters National Convention

Date: October 24-28, 2012
Spokane, WA
[More Information](#)

Association for Fire Ecology (AFE) 5th International Fire Ecology and Management Congress

Date: December 3-7, 2012
Portland, OR
[More Information](#)

2013 Society for Ecological Restoration 5th World Conference

Date: October 6-11, 2013
Madison, WI
[More Information](#)
Proposal submission closes Dec. 1



Flagstaff, Arizona, in September

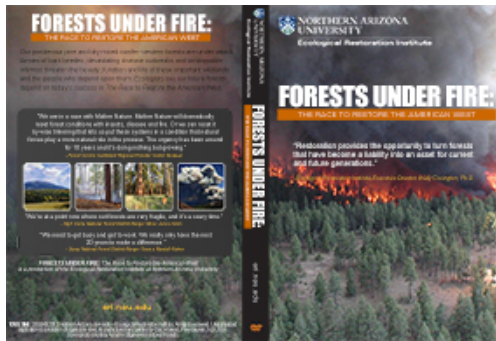
ERI IN THE NEWS



This panorama, taken about 10 miles west of Flagstaff, Ariz., shows a nearly 360-degree view of forest land. The trees on the left side of the road have been thinned by foresters; the stand on the right has been left untouched. [Link](#) Copyright David Gilkey/NPR

NPR: Is it too late to defuse the danger of megafires? In the fourth installment of this 5-part series, NPR's Christopher Joyce talks to ERI's Dr. Wally Covington about the fate of our forests.
[More...](#)

ERI's Forests Under Fire DVD released in June 2012. [More...](#)
[Order a free copy](#)



ERI's Wally Covington appointed to Federal Forest Policy Committee

On June 5 Agriculture Secretary Tom Vilsack appointed Covington, NAU Regents' Professor of Forest Ecology in the School of Forestry and Executive Director of the Ecological Restoration Institute at NAU, to represent the scientific community on a federal advisory committee for the new US Forest Service Planning Rule. [More...](#)

NEW PUBLICATIONS:

ERI Fact Sheets:

Allen, J.A., and K. Ramstead. 2012. [Fact Sheet: Evidence-based Conservation Systematic Review: Effectiveness of Wet Meadow Restoration Projects](#). Ecological Restoration Institute, Northern Arizona University, 2 p.

Dubay, C.T. 2012. [Fact Sheet: Adding Value to Forest Restoration: ERI Accomplishments 2011-2012](#). Ecological Restoration Institute, Northern Arizona University, 2 p.

Huffman, D.W., Sanchez-Meador, A.J., and Greco, B. 2012. [Fact Sheet: Canopy Cover and How it Relates to Other Forest Attributes as an Indicator of Forest Conditions](#). Ecological Restoration Institute, Northern Arizona University, 4 p.

Springer, J.D. 2012. [Fact Sheet: Conserving Rare Plants in National Parks and Protected Areas](#). Ecological Restoration Institute, Northern Arizona University, 2 p.

Springer, J.D. 2012. [Fact Sheet: Exotic Species Management at Landscape Scales](#). Ecological Restoration Institute, Northern Arizona University, 2 p.

Vosick, D.J. 2012. [Fact Sheet: Fiscal Year 2013: ERI Federal Appropriations and Budget](#). Ecological Restoration Institute, Northern Arizona University, 2 p.

Vosick, D. (Ed.). 2012. [Fact Sheet: Estimating Flagstaff Residents' Willingness to Pay for Forest Restoration in the Lake Mary and Upper Rio de Flag Watersheds: A Pilot Study](#). Ecological Restoration Institute, Northern Arizona University, 2 p.

Waltz, A.E.M. 2012. [Fact Sheet: Impacts of Fire Hazard Assessment and Fuel Reduction Priorities on Mega-fire Outcomes: A Hypothetical Test Using the Wallow Fire in Arizona](#). Ecological Restoration Institute, Northern Arizona University, 3 p.

ERI Working Papers:

Springer, J.D. and D. Egan. 2012. [Strategies for Enhancing and Restoring Rare Plants and Their Habitats in the Face of Climate Change and Habitat Destruction in the Intermountain West](#). Working Paper 25, Ecological Restoration Institute, Northern Arizona University, 8 p.

Published in Journals:

Abella, S.R., and J.D. Springer. 2012. [Soil Seed Banks in a Mature Coniferous Forest Landscape: Dominance of Native Perennials and Low Spatial Variability](#). *Seed Science Research* 22:207-217.

Abella, S.R., J.C. Hurja, D.J. Merkler, C.W. Denton, and D. Brewer. [Overstory-Understory Relationships along Forest Type and Environmental Gradients in the Spring Mountains of Southern Nevada, USA](#). *Folia Geobot* 47:119-134.

Barrett, K.J., E.L. Kalies, and C.L. Chambers. 2012. [Predator Occupancy Rates in a Thinned Ponderosa Pine Forest, Arizona: A Pilot Study](#). *Wildlife Society Bulletin* 36(2):232-239.

Zegler, T.J., M.M. Moore, M.L. Fairweather, K.B. Ireland, and P.Z. Fule. 2012. [Populus Tremuloides Mortality Near the Southwestern Edge of its Range](#). *Forest Ecology and Management* 282:196-207.

For more articles, please visit: <http://library.eri.nau.edu>

NEWS FROM THE FIELD

WALLOW FIRE UPDATE

ERI field crews are keeping busy this summer collecting ecological data within the largest wildfire on record in Arizona. Located in east-central Arizona, the Wallow Fire burned more than 500,000 acres in 2011. In the decade before the fire, many sites had been treated for restoration or to reduce hazardous fuels. These sites are providing the Institute with an opportunity to determine how effective treatments were on conserving ecosystem integrity with respect to forest structure, wildlife habitat, and understory plant communities.

Since mid-May, field crews have been staying in beautiful Greer, Arizona while conducting field data collection. Data collection includes installing monitoring plots within treated and untreated sites. The overall study design pairs treated sites with adjacent untreated areas which burned on the same day and have similar topography and soils. Data collected on these plots will allow researchers to examine the fire's effect on overstory trees, regeneration and shrub dynamics, surface fuel loads, and understory plant communities. In addition, crews are installing "edge effects" transects which run from severely burned untreated areas into adjacent treated areas to determine how long it takes for active crown fires to transition to surface fires once the fires enter treated areas. Lastly, camera "traps" are also being installed to capture wildlife activity on previously treated and untreated sites.

Preliminary on-site observations indicate high variability but in general, it appears that treatments were usually effective at limiting the levels of tree mortality seen in untreated areas. Crews will continue to work in the White Mountains for the remainder of the summer. Reports from this study will be available in spring of 2013.



Treated site had limited tree mortality one year after it burned in the Wallow Fire



Most of the untreated Auger Creek watershed burned with stand-replacing crown fire

PARTNERS

Spotlight: Apache-Sitgreaves National Forests



<http://www.fs.usda.gov/asnf>

About the Forest

Administered as one national forest, the Apache-Sitgreaves is one of six national forests in Arizona and encompasses more than 2 million acres of magnificent mountain country in east-central Arizona. The forest's headquarters is located in Springerville, with five additional ranger stations in Alpine, Clifton, Heber-Overgaard, Springerville, and Lakeside.

Our Vision Statement:

"We believe in the diversity of natural resources, the long-term view, and multiple uses!" The Apache-Sitgreaves National Forests effectively manage for resiliency across the landscape. We ensure the perpetuation of a broad range of diverse habitats, exceptional recreation opportunities, functioning watersheds, robust rangelands, and a balanced flow of forest resources for future generations. We integrate community values and protection into all aspects of forest management.

Importance of Partnerships:

Managing a national forest as large and varied as the Apache and Sitgreaves National Forests requires the efforts of not only dedicated employees, but numerous partners and volunteers who contribute greatly to the successful management of forest resources. Our partners help maintain recreation sites and trails, reduce hazardous fuels, restore watersheds, monitor wildlife populations, improve wildlife and fisheries habitat, inventory and monitor archeological and historic sites, provide input to proposed management activities, conduct conservation education programs, and respond to emergency incidents. Our partners include a number of federal agencies, tribes, State of Arizona, conservation organizations, universities, public entities and private citizens.



Big Lake Reflections. Photo Courtesy Apache-Sitgreaves National Forests, 2012

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