Ecological Restoration Institute

Fact Sheet: Lessons Learned from the Wallow Fire *November 2013*

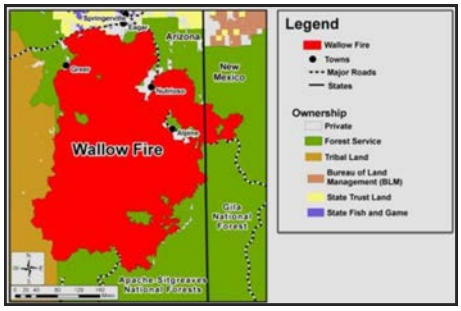
NORTHERN ARIZONA UNIVERSITY
Ecological Restoration Institute

Lessons Learned from the 2011 Wallow Fire

The fires we face today continue to be bigger and more severe than those that occurred historically. In the Southwest the situation is predicted to get worse.

Lesson #1: We need to act at the pace and scale of the problem* NOW *— or be prepared to bear the cost of fires at the scale of 100,000 acres and larger.

The size of unnatural crown fires has increased exponentially in the last 50 years. In the 1960s, a fire of several thousand acres was considered large. During the last two decades, fire size has increased to 100s of thousands of acres in extent. The Wallow Fire was reported in both acres *and square miles*.



The Wallow Fire ignited May 29, 2011 and burned more than 538,000 acres, or 732 square miles, in eastern Arizona and western New Mexico.

Lesson #2: Unnatural crown fire is destroying critical wildlife habitat such as old growth. The Wallow fire reinforces the conclusion of the Mexican Spotted Owl Recovery Plan that fire is the biggest threat to their long term survival.

Photo by Aaron Maizlish

Twenty years ago, logging was the biggest threat to the habitat of the Mexican Spotted Owl — in 2013, it is uncharacteristic crown fire. Estimates vary, but somewhere between 60 and 80 Mexican Spotted Owl PACs (Protected Activity Centers) are estimated to have been degraded or destroyed by the three major fires in Arizona in 2011.

***Lesson #3: Towns are not fully protected by wildland-urban interface treatments alone*.**

Residents in Greer, Ariz., despite forest treatments in the wildland-urban interface, lost homes, property and infrastructure due to the fire's intensity.

Fire behavior and heat generated by such "mega-fires" create fire-fighting situations that are difficult to manage despite WUI treatments. Treatments around the community of Greer could not prevent fire from destroying homes in the face of such an intense fire.

Ecological Restoration Institute, P.O. Box 15017, Flagstaff, AZ 86011, 928.523.7182, FAX 928.523.0296, www.eri.nau/eri

Lesson #4: Small treatments embedded in an overstocked landscape won't survive the kind of fire we are experiencing today. We need to implement treatments that are large enough to make a difference.

The ERI implemented a 150-acre treatment called Eagar South in cooperation with the White Mountain Stewardship Contract in the town of Eagar, Arizona, in the wildland-urban interface. Anecdotal accounts indicate that when the crown fire hit the treatment, the fire behavior changed and the fire dropped to the ground. However, the heat of the surrounding fire scorched vegetation within the treatment and will likely result in high tree mortality. ***The lesson?*** The treatment worked to change fire behavior but was insufficiently large to protect the trees. ***The answer?*** Fuel loads in the Southwest require immediate attention at the landscape scale. Contiguous treatments that are larger and implemented more quickly are crucial to reducing fire risk.

Two burn areas — previously treated (top) and untreated (bottom) — from the Wallow Fire experienced drastically different fire intensities. *Photos courtesy of the ERI*

Lesson #5: Comprehensive restoration requires action in mixed conifer forests.

Continuous, unnatural fuel loads across the Mogollon Rim are creating stand-replacing fire conditions in all forest types. This is a critical problem in less common forest types such as both dry and wet mixed conifer. We need to experiment with treatments that will restore these systems and return fire to its natural role.

A dry mixed-conifer forest in the Apache-Sitgreaves National Forests. *Photo courtesy of the ERI*

Lesson #6: Mega-fires are expensive to suppress and astronomically expensive to society and the environment when all costs are calculated.

Based on analyses of recent mega-fires the full cost accounting for the Wallow Fire will approach $1 billion dollars. According to an analysis prepared by the Forest Guild, the average cost of treatment for the White Mountain Stewardship Contract is $538 per acre. We could have treated every acre in the fire perimeter at a total cost of $282,450,000 and saved ourselves $700 million! We would have saved even more if the wood was utilized and treatments were strategically placed to maximize effectiveness.

Contact
Diane Vosick, Diane.Vosick@nau.edu

This research was funded by a grant from the USDA Forest Service.