

IN THIS ISSUE...

A MESSAGE FROM THE SIOSA PRESIDENT
DROUGHT IMPACTS ON PRESCRIBED BURNING
CASCADING SPECIES SHIFT LOOMS IN FIRE STARVED EASTERN WOODS
SPECIES SPOTLIGHT: BUR OAK
FOREST UNDERSTORY LINKED TO WATER QUALITY





Message from the SIOSA President

by Casey Campbell

Hello All!

Just heard it was the hottest July on record. The lack of rain is really stressing the trees. We have white oaks in our lawn in Des Moines dropping leaves already; not a good sign. The trees at the cabin are doing a bit better, but it's been a tough couple of months. Hopefully the fall will bring some relief from the high temperatures and provide some much needed rain.

Our friends over Kellerton way had a great prairie chicken event in June. It's always good to get out and see the great improvements that are being done to the land and for the wildlife. Shannon and her folks are really making a difference!

Speaking of events, the National Turkey Federation is putting on a Landowner Workshop & Field Tour, August 24. It starts at 9 am at the Lineville Community Center for three hours of various seminars, a lunch from noon to one, then a tour of the Orvis property just west of Lineville. John and Sharon Orvis are founding members of SIOSA and have various plots in different stages of restoration. It is a great way

to see how things progress. It's all free. Check out the details at SIOSA.org.

We are in the planning stages of our fall burn workshop, looks like a late October or early November Saturday at Little River in Leon, IA. Keep an eye on SIOSA.org for the upcoming details.

We continue restoration work in the southern counties but have recently started some work in Madison and Monroe counties. Branching out not only helps the land it gets more people involved. Both projects are excellent examples of oak savanna and the landowners are spreading the word! At some point we will have a field trip to see them. We are also talking about a project or two just across the border in Missouri. If you know of an oak savanna or prairie project that could use some funding please give me a call, 515-314-3255, we still have funds available to make a difference.

When the weather turns around, get out and burn. If you don't know how come join us and we'll show you how!

Casey

Drought Impacts on Prescribed Burning

Written by Gregg Pattison, USFWS

As we are all well aware, Iowa has been in the holds of a strong drought in 2012. The drought actually began last summer, but the impacts were mitigated by a wet a spring of 2011. Iowa's topsoil moisture levels are as low as they have been since the dust-bowl days. On top of the lack of moisture, Iowa has also had its hottest year in recorded history! The warm dry spring started with snow trilliums blooming in mid-march and New England asters blooming in June!? The strange summer continues with many trees feeling the effects of the drought. Buckeyes and cottonwoods have started dropping leaves and going into dormancy and many of the previously stressed trees, including oaks, are showing increased effects including mortality. Cool season grasses are near full dormancy and are cured as if it is late fall or spring. Even prairies, usually very drought resistant, are much dryer and ready to burn.

The intensity of this years drought will have impacts on the prescribed burn season this fall and winter, especially if dry conditions persist. Fire intensity levels will be much higher which should allow the fires to reach areas not burnable in the past, such as normally wet bottomland hardwood timbers or wet sloughs. The fires will also have a much greater impact on woody vegetation, with larger trees being impacted much more than normal. For folks trying to rid prairies of woody encroachment, this could be a very good year for late summer/fall burns to improve the prairies. Expect complete burns on any areas you will be burning this fall.

We preach that in savanna habitat we ideally want frequent low-intensity fires to remove the litter layer and aid in early plant growth and water absorption and set back invasive woody plants from overpopulating a site, while having minimal or no impact on mature oak trees. With dry conditions, even larger trees will be impacted if high intensity fires are burned through savanna areas. This may be a great opportunity if you have areas with a lot of multi-flora

rose, honeysuckle or other invasive brush or if your timber is overstocked with young oaks or hickory or if your site is full of locust trees. But, caution and patience should be used make sure an intense fire will not do more harm than good on your site. To mitigate fire intensities, burn the savanna areas when conditions are normally in the marginal category for burning – humidity around or above 50%, lower temperatures, calmer winds, or after a small rain event. Leaf litter and savannas will burn in conditions this fall that would have had marginal fire success in the past – if conditions continue to be dry.

With the increased intensities of the fires due to very dry fuels, caution will have to be used when planning and implementing burns this year. I would

highly recommend strengthening any fire breaks by widening the break or haying off grasses on the fire lines if possible. Mineral soil will be the best fire break in these dry conditions. The probability of a small ember igniting a fire outside the fire line (spot fire) is very high in extremely dry conditions. Even logs that have an ember fall on them, can ignite and eventually cause an escaped

fire. More people on the fire line to monitor for spot fires is essential, and extra water will help immediately extinguish any fires outside of your lines. In your burn area, it will be critical to watch for burning snags and to clean up any burning debris near the fire lines. If winds increase during or after the burn period, a snag that is on fire can throw burning embers several feet across the fire line and start a spot fire. A great way to help minimize the chance of an escape will be to burn in conditions that in normal years would cause minimal fire behavior. For instance, burn when the humidity is higher and winds are calmer to reduce the risk of an escaped fire.

As always, contact your fire dispatch office prior to implementing any prescribed burns, in many counties in Iowa there are currently burn bans in place that may impact the ability to burn. Plan well, be safe and have a great prescribed fire season.



Cascading Species Shift Looms in Fire-starved Eastern Woods

by Paul Voosen

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BIG PINEY RANGER DISTRICT, Ark. -- It was a rare patch of sunlight in a dark forest.

On a hot spring morning, foresters and scientists tromped through the charred understory of a burned patch of the Ozark National Forest. They had recently wrapped their work, dripping fire this way and that beneath an open canopy of oaks. Soon, they hoped, a succession of grasses would bloom in blackened soil, bathing in restored light.

The site is an atonement for the Forest Service's past sins.

A century ago, the Ozarks sparkled with sun. Periodic low-grade fires ripped through prairie grasses that waved between sparse oak and pine trees. Accustomed to fire -- dependent on it, even -- these trees' seeds survived to replace their ancestors, a pattern, and ecosystem, that lasted for thousands of years.

A 400-year-old snapshot, this scarred section of shortleaf pine, held by Martin Blaney (with John Andre), reveals a tree immersed in flame until the era of modern fire suppression began.

Walk through the Ozarks today, though, and there are few signs of that historic forest. Beneath aged oak and pine boughs is a dense mix of maple, ash and cedar. Starved of light, grasses no longer sprout. The butterflies have left, and so have the woodpeckers. Most of the forest floor is lifeless, smothered by layers of leafy duff.

Imperceptibly, at a decadal pace, the Ozark oaks and pines are departing, said Martin

Blaney, a habitat coordinator for the Arkansas Game and Fish Commission and a member of one of the country's most aggressive forest-restoration teams.

"The next oak forest is not under the oak forest of the eastern United States now," Blaney said during a tour of the burn site, a patchwork of cedar, green grass and browned saplings. "And what's one of the ingredients we took out 90 years ago?"

It's become clear that many forests of the eastern United States -- from Wisconsin to Florida, Arkansas to New England -- are undergoing a rapid shift in character. A mosaic of oak, hickory and pine -- forests that rebounded even after the widespread clear-cutting of the 19th century -- are falling to species like maple and beech that fire once kept in check.

Many scientists now believe that humans maintained these forests, dominant in the Ohio River Valley and Appalachia, through fire. American Indians bent nature's bounty to their convenience, promoting easy access to fruiting trees and shrubs; European settlers followed suit. And now, by snuffing out fire, humans are causing a forest they created to disappear.

More than climate change, it is the starkest existential threat to these forests.

Half of the shortleaf pine east of the Mississippi River has disappeared in two decades. Oaks are in wide decline. And unlike the western half of the country, where fire suppression has made catastrophic conflagrations more likely, fire's disappearance in the East is creating moist, dark forests that are increasingly difficult to ignite.

That's the case being [made](#) by Marc Abrams, a forest ecologist at Pennsylvania State University who has spent his long career studying eastern oaks. A forceful presence, unafraid to anticipate where sparse data may take him, Abrams is a sort of James Hansen of the forest, unifying and pushing a trend that many had timidly kept confined to single forest types. So far, his warnings have been proved true, scientists say.

"The forests are changing away from their historic norm in a way that's making them less flammable or less prone to burning -- which to some people might sound like a good thing," Abrams said in a recent interview. "But it's actually a bad thing. ... The oak, hickory [and] pine system is changing in ways that are irreversible."

These shifting, dense forests have become biological deserts, vulnerable to disease. The grasses and flowering plants that evolved in these open, fire-dependent systems now lead beleaguered lives. They grasp for the little sunlight that still exists, clinging alongside roads, beneath high-voltage power lines or in forgotten cemeteries. And few species are filling the gap left by their disappearance.

"There's just this tremendous drop in biodiversity," said Greg Nowacki, a Forest Service ecologist and one of Abrams' primary collaborators. "Equally, there's a tremendous drop in the number of animals that co-evolved with these systems. That is a major crisis that we're facing right now with fire suppression."

Most scientists agree that eastern oak and pine are declining, giving way to late successional trees, but some wonder whether Abrams has earned all his conclusions. Data about historic burning are sparse in the East; modern climate change may play a larger role than Abrams would like to acknowledge. Some view him as playing fast and loose with data, said Charles Lafon, a geographer and dendrochronologist at Texas A&M University.

"But I think the big picture is right," he added. Indeed, even the Forest Service, which through its mascot Smokey Bear has been the primary perpetrator of this species shift, has broadly embraced the use of fire in Eastern forests. Smokey's motto, to little fanfare, has changed. "Only you can prevent forest fires," he once warned. But today, he says, chagrined: "Only you can prevent wildfires."

Despite this growing consensus, it is doubtful that the shift of the Eastern forests can be, or should be, wholly stopped. Settlement is too widespread, and the public understands little of fire. Few want smoke to fill their bucolic springtime valleys. But pockets of resistance remain, including an aggressive program in the Arkansas Ozarks.

Returning fire to the forest has proved far harder than fighting it ever was.

Click [here](#) to view the rest of this article

Save the Date!

Iowa/Missouri Field Tour

When? Friday, August 24th 2012

9 a.m. – 3:30 p.m. (free lunch incl.)

Where? Lineville, Iowa Community Center and Orvis Property

What? Free Field Tour of Management Practices

Please visit siosa.org homepage for details or email us at admin@siosa.org



SPECIES SPOTLIGHT Bur Oak

Species: *Quercus mandanensis*

IDENTIFICATION The bur oak is part of the white oak family. Tree height is dependent upon tree location: it grows best in rich bottomlands of southern Illinois and Indiana where it can reach 170 feet. Leaves of the bur oak are known to have narrow “waists” (see leaf image below). The leaf is also commonly leathery/shiny on top and hairy and lighter in color on the underneath. The bur oak acorn has a “burry” fringe and the bark of the bur oak is usually described as light gray with shallow grooves.



SITE CHARACTERISTICS and OTHER INFO. The deciduous bur oak grows in much of the north-central United States into Canada and in the eastern Great Plains. It grows in a range of soil types with ranging pH values; growing on medium to somewhat coarsely-textured soils and more rarely on clays. Interestingly, the bur oak is highly tolerant to smoke and air pollution and therefore it is known to be intentionally planted in urban areas. The bur oak is known as a ***climax species**.

MANAGEMENT CONSIDERATIONS The bur oak will re-sprout aggressively following the cutting from a pole-sized (or smaller) tree, especially after fire. Larger bur oak trees will also re-sprout, but will not do so a vigorously.

FIRE EFFECTS Bur oak bark is thick and fire-resistant when mature. In many areas, bur oak communities are favored by fire and without fire, seedlings of bur oak are unable to compete with other, more shade-tolerant species/communities, such as maple-basswood forests.



The narrow “waist” of the leaf. It appears to separate the leaf into two portions.

***Climax Species** Plant species that will remain essentially unchanged in terms of species composition for as long as a site remains undisturbed. The most shade-tolerant species of tree to establish in the process of forest succession. - Wikipedia

Forest Understory Linked to Water Quality**by Laura Miller****Republished with permission. Iowa State University Extension**

Twice a week in woodlands across central Iowa, Jan Thompson's research team catalogs plant species, collects water samples and identifies aquatic insects.

The tasks seem unrelated at first, but Thompson intends to change that perception. A professor in natural resource ecology and management at Iowa State University, Thompson received a competitive grant from the Leopold Center for Sustainable Agriculture in 2009 to study how forests protect the health of waterways.

The project is featured in a new video on the Leopold Center website: www.leopold.iastate.edu/news/on-the-ground/iowa-woodlands-working-water

Iowa has approximately 3 million acres of forested lands, much of which is located along small headwater streams. Plants in the woodland understory protect water quality by storing nutrients and holding soil in place. Thompson's team collects data from nine locations in central Iowa—three intact natural systems, three where cattle have grazed and three urban sites—to understand how understory plants can reduce water pollution.

“We're really interested in the functioning of natural systems in the Iowa landscape, and having them do the most they can do for us,” Thompson said.

Michaleen Gerken, a Ph.D. candidate in ISU Natural Resources Ecology and Management, handles the plant species inventory, recording the number and name of each plant species she

finds in 20 x 20-meter plots. Graduate student Alister Olson and undergraduate Joe Bolton take samples from the stream to test for sediment and nitrate, and use instruments on-site to measure temperature, flow, dissolved oxygen and other aspects of water quality.

Olson also catalogs aquatic insects, which he said “can give a lot of insight to landowners into what's impacting the stream condition.” Some species, like mayflies, stoneflies and caddis flies, cannot tolerate pollution, and only appear in large numbers where the water quality is high.

The researchers hope to use this data to provide information to landowners about how they can protect or restore small patches of forest with the benefits to streams and rivers in mind. In a previous Leopold Center project, Thompson discovered that restoring key spring-growing species to a forest has the potential to greatly improve nutrient capture.

“We believe there is a close connection between what happens on the forest floor and what happens in the water,” Gerken said. “We can protect areas we already have as opposed to starting over.”

Support for the project comes from the Leopold Center, ISU Department of Natural Resource Ecology and Management, University of Iowa Center for Global and Regional Environmental Research, U.S. Forest Service, and U.S. Department of Agriculture McIntire-Stennis Program.

Other investigators include Tim Stewart and Cathy Mabry, ISU Natural Resource Ecology and Management, and Randy Kolka, U.S. Forest Service.

WE RELY ON YOUR SUPPORT!

SIOSA Membership Rates

Student Member \$10
Savanna Friend \$25
Supporting Member \$100
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Savanna Steward \$500

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If you would like your contribution to specifically support one of the following SIOSA services, please indicate which one:

- Habitat & Restoration
- Membership Recruitment
- Outreach & Education
- Annual Meeting

Please print & mail the completed form with check/money order payable to SIOSA to:

SIOSA c/o Richard Hillyard
21654 295th Ave Leon, IA 50144

THANK YOU for your support!

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