

A Burning Issue: Prescribed Fire and Fire-adapted Habitats of the East Gulf Coastal Plain



A Communications Strategy of the East Gulf Coastal Plain Joint Venture



PHOTOS, CITATION, ACKNOWLEDGMENTS

Recommended citation:

East Gulf Coastal Plain Joint Venture. 2014. A Burning Issue: Prescribed Fire and Fire-adapted Habitats of the East Gulf Coastal Plain. 54 pages.

Produced under the guidance of the EGCPJV Prescribed Fire Subcommittee:

Amity Bass, Louisiana Dept. of Wildlife & Fisheries

Mike Black, Shortleaf Pine Initiative (formerly National Bobwhite Conservation Initiative)

Adam Butler, Mississippi Dept. of Wildlife, Fisheries, & Parks

Vernon Compton, The Longleaf Alliance

Rob Holbrook, East Gulf Coastal Plain Joint Venture

Tim Mersmann, USDA Forest Service

Produced with support from the [Gulf Coastal Plains & Ozarks Landscape Conservation Cooperative](#). This strategy would not have been possible without the cooperation of scores of experts in habitat management and prescribed fire - thank you for your dedication, time and support.

Development, design and layout: Gregg Elliott/[K Gregg Consulting](#)

Photo Credits on Cover, clockwise from top left

[Hatchling gopher tortoise](#) - Randy Browning, US Fish & Wildlife Service (USFWS); [Longleaf pine \(*Pinus palustris*\) grass stage seedling in flame](#) - USFWS Southeast region; Wild floss and native warm season grasses (NWSG) 4 months after burning, LA - Luke Lewis, National Wild Turkey Federation (NWTf); Tennessee Division of Forestry (TDF) native warm season grass prescribed burn, TN - TDF

Photo Credits in report

Table of Contents

Longleaf pine bark after a burn - Gregg Elliott

Executive Summary

p. 1 [Woodruff Volusia prescribed fire crewman](#), FL - USFWS Southeast region

p. 2 Longleaf prescribed burn - Louisiana Dept. of Wildlife & Fisheries Natural Heritage Program (LNHP)

p. 3 [Florida Panther NWR 700-acre prescribed burn along highway](#) - USFWS Southeast region

p. 4 [Male Bobwhite quail](#) - John Brunjes Photography

Message List Summary

p. 5 [Yellow-throated warbler](#) - Tony Hisgett; Long-tailed weasel - Jimmy Stafford, Louisiana Dept. of Wildlife & Fisheries (LDWF); [Mole salamanders](#)- USFWS Midwest

p. 7 *Sarracenia psittacina* - LNHP; [Coreopsis lanceolata](#) - Stilgherrian; Butterfly on [Liatris aspera](#) - Scott Costello

Photo Credits

- p. 8 Biologist with drip torch - LNHP; Lighting native warm season grasses (NWSG), TN - TDF; [Igniting a hardwood prescribed burn](#), Piedmont NWR, GA - USFWS Southeast region
- p. 9 [Brown-headed nuthatch](#) - Matt Tillett
- p. 10 Three time series photographs of a private longleaf pine prescribed burn in Mississippi: 0, 2 and 6 months post-burn - Adam Butler, Mississippi Dept. of Wildlife, Fisheries & Parks (MDWFP); bottom left to right:); NWSG burned & unburned - Scott Somershoe, Tennessee Wildlife Resources Agency; [Blue grosbeak](#) - Seabamirum; [American kestrel](#) - Anita Ritenour

Section I

- p. 11 Lake Ramsay Savannah WMA, post fire - LNHP
- p. 13 Take a forest break portable prescribed fire billboard - FFS
- p. 14 [Lower Suwannee NWR burn team](#), FL - USFWS Southeast region; Aerial ignition, Aucilla Wildlife Management Area (WMA), FL - Morgan Wilbur, Florida Fish & Wildlife Conservation Commission (FWC)
- p. 15 Longleaf pines in mist, AL - Rob Holbrook, EGCPJV/USFWS
- p. 16 [Northern harrier in flight](#) - Don McCullough

Section II

- p. 17 Smoke in pines, Pushmataha WMA, OK - John Weir
- p. 19 Prescribed fire smoke visible from highway, LA - John Tirpak
- p. 20 [Fawn hiding after prescribed fire](#) - USFWS Southeast region; Fire break - [Alabama Prescribed Fire Council on Facebook](#)
- p. 21 Map of "Forest Ownership in the Conterminous United States, 2006" - Brett D. Butler, USDA Forest Service
- p. 22 Walking the fire line - John Brunjes Photography; [Sand table "burn boss" training](#) - USFWS Southeast region; Burning - Mississippi Prescribed Fire Council
- p. 23 Where there's smoke - Adam Butler, MDWFP
- p. 24 [Good fires website](#); [Pine barrens tree frog](#) - Maureen
- p. 25 [Pine warbler](#) - USFWS Northeast region; [Kentucky power plant emissions](#) - Daniel Boyd
- p. 26 [Loggerhead shrike](#) - Derek Bakken; [Fire by the bay](#) - St. Vincent NWR, FL - USFWS Southeast region; [Three Eastern bluebirds](#) - Dendroica cerulea

Section III

- p. 27 Lake Ramsay Savannah WMA high quality habitat - LNHP
- p. 28 [New growth post prescribed fire](#) - USDA
- p. 29 [Ocala National Forest prescribed fire demonstration](#), FL - USDA
- p. 30 [Wild turkey](#) - Tim Lenz; *Sarracena alata*, Cooter's bog, LA - Yvonne Allen
- p. 31 [Painted bunting](#) - Ralph Arvesen
- p. 32 Creeping flames in longleaf understory - Adam Butler, MDWFP; [USFS Airlift for >1000-square-mile wildfire](#), TX - DVIDSHUB

Section III continued

- p. 33 CP33 native grass buffer - Reggie Thackston, Georgia Dept. of Natural Resources
- p. 34 [Taylor & Murray Moore on CRP land](#), Obion River, TN - USDA; Map of longleaf significant geographic areas - [America's Longleaf Restoration Initiative Accomplishment report](#)
- p. 35 All American bird in an all American tree - Randy Browning, USFWS; [Prairie warbler](#) - Andy Reago & Chrissy McClarren
- p. 36 [Burning on Mt. Longleaf NWR](#), AL - USFWS Southeast region; Temporary prescribed fire sign - Florida Forest Service
- p. 37 Mixed pine hardwood private property, LA in spring after a winter burn - Luke Lewis, National Wild Turkey Federation (NWTF); [Don't let a wildfire destroy your property poster](#) - Kathy McGraw
- p. 38 Longleaf prescribed burn on private property, LNHP
- p. 39 [Shortleaf pine \(Pinus echinata\) cone](#) - Dendroica cerulea
- p. 40 [Loblolly pine \(Pinus taeda\) plantation](#) - USDA Natural Resources Conservation Service; [Prescribed fire closeup in hardwood understory](#) - USFWS Southeast region
- p. 41 [Bachman's sparrow](#) - Andy Reago & Chrissy McClarren
- p. 42 [Open pine management decision support tool](#) (screenshot) - Lower Mississippi Valley Joint Venture accessed on the GCPO LCC [Conservation Planning Atlas](#)
- p. 43 [Duck nest in grassland](#) - USFWS Mountain-Prairie
- p. 44 Longleaf pine saplings - Russ Walsh, USFWS
- p. 45 Igniting prescribed fire through pines, Pushmataha WMA, OK - John Weir
- p. 46 [Prescribed fire training](#) - USDA USFS; [Firefighters training](#) - Andrew Magill
- p. 47 [Stephen F. Austin University experimental forest education class](#) - Adrian Delgado2012; [Lightning strike and distant fire](#) - j_arred
- p. 48 [Photographer's lens](#) - Ben Stephenson
- p. 49 [White-eyed vireo](#) - Cindy Elder; [Tending a prescribed burn](#) - Jason L. Price Priceless Photos
- p. 50 [Dickcissel](#) - USFWS Midwest
- p. 51 [Firewise logo](#); [Pony Ranch pond, MS](#) - USDA; [Grasshopper sparrow](#) - John Brunjes Photography
- p. 52 Walkie talkie during prescribed fire - [Alabama Prescribed Fire Council on Facebook](#); [Red-cockaded woodpecker in flight](#) - USDA
- p. 53 Prime turkey brood habitat on private property 4 months after a prescribed burn, LA - Luke Lewis, NWTF
- p. 54 Prescribed fire workshop, MS - Melissa Moore; from left to right, top to bottom: [USFWS fire technicians, FL](#) - USFWS Southeast region; Gopher tortoise, FL - David B. Johnson, FWC; [Barn owl in flight](#) - Ed deane; [Shortleaf pine](#) - USDA; Salem & Dianne Saloom, private landowners in Alabama - Salem Saloom; [Mourning dove](#) - Dawn Beattie



Table of Contents

Executive Summary	Page 1
Message List Summary with Links	Page 5
Section 1 - EGCPJV Prescribed Fire Communications Vision, Goals, Strategies and Opportunities	Page 11
EGCPJV Mission, Vision & Role	Page 12
Communications Vision for Prescribed Fire	Page 12
Strengths of the East Gulf Coastal Plain Joint Venture	Page 12
Communications Goals & Approach	Page 12
Recommended Communications Strategies	Page 13
Areas of Opportunity for the EGCPJV	Page 15
Section 2 - Impediments to Prescribed Fire	Page 17
Table - Impediments to Prescribed Fire: Effects on Public vs Private Lands	Page 18
Public Lands	Page 18
Private Lands	Page 21
Public and Private Lands	Page 23
Section 3 - Prescribed Fire Messages, Audiences & Communications Products	Page 27
Policy Goal	Page 28
Outreach Goal	Page 38
Education Goal	Page 47
Communications Tools & Products	Page 52
References	Page 55
Experts Interviewed for Prescribed Fire Strategy	Page 58
List of Appendices	Page 61

EXECUTIVE SUMMARY

Almost all Southeastern upland systems, as well as some types of wetlands, have been shaped and maintained by periodic fire. Decades of fire suppression have degraded these systems and have changed the human perception of fire and its role on our landscape. Prescribed fire serves as a crucial management tool to restore and maintain these habitats, and its use is a critically important issue in the Southeast.

This Communications Strategy proposes that the East Gulf Coastal Plain Joint Venture (EGCPJV) assume the role of prescribed fire champion by focusing its coordination, outreach and partnership activities through the lens of prescribed fire - a process vital to the ecological health of the natural communities that support birds and wildlife diversity. This document is strategic, providing a comprehensive framework of prescribed fire issues and messages within which the EGCPJV will further identify priority actions. The “niche” of the EGCPJV with respect to prescribed fire is to focus on fire’s ecological benefits to wildlife, specifically birds, and provide wildlife-focused education and outreach materials to key audiences.

This strategy builds upon the unique strengths of the EGCPJV Management Board and staff, which lend themselves to achieving prescribed fire goals. It was developed over the course of several months based upon information provided in interviews of ~45 prescribed fire/resource management experts throughout the East Gulf Coastal Plain, as well as guidance from the EGCPJV staff and board members concerning their mission, strengths and appropriate roles in promoting prescribed fire.

East Gulf Coastal Plain Joint Venture Mission

The mission of the EGCPJV is to protect and restore bird populations of the East Gulf Coastal Plain by coordinating the effective conservation of key habitats.

Communications Vision for Prescribed Fire

The EGCPJV’s vision for prescribed fire in the Southeast is to maintain and restore fire regimes through an increased use and acceptance of prescribed fire, since fire has historically and evolutionarily played a critical role in the health of East Gulf Coastal Plain upland systems and marshes. Specifically, communications and partnerships will increase the safe use of prescribed fire to restore, improve and sustain the ecosystem health of fire-dependent systems such as shortleaf and longleaf pine, mixed pine woodlands, oak woodlands and savannas, native warm season grasses and distinct climax grasslands such as the Black Belt Prairies of Mississippi/Alabama and Big Barrens of Kentucky/Tennessee.



Communications Goals & Approach

1. **POLICY GOAL:** Support and advocate the establishment and/or strengthening of laws, policies, budgets and regulations required to consistently allow, promote and apply prescribed fire across the Southeast.
2. **OUTREACH GOAL:** Foster the adoption and increased application of prescribed fire among East Gulf Coastal Plain (EGCP) resource program and management communities by providing science-based information and training focused on fire's ecological, wildlife, and habitat benefits. Include a focus on recruitment and training of professionals and consultants to increase overall capacity for conducting prescribed burns.
3. **EDUCATION GOAL:** Promote an increased societal awareness of and demand for safe, science-based application of prescribed fire in support of community safety and ecological health. In particular, focus on training for landowners to achieve fire capacity and application at a large scale.



Recommended Communications Strategies

Many of the experts consulted across all six of the EGCP states recommended the following approaches for developing and disseminating Joint Venture communications:

1. In addition to nonprofit partners currently on the EGCPJV Board, collaborate with the state [Prescribed Fire Councils](#), the [Southern Fire Exchange](#), the [Oak Woodlands and Forests Fire Consortium](#), and possibly the [Joint Fire Science Program](#) and the [Coalition of Prescribed Fire Councils](#).
2. Coordinate action and communications on prescribed fire among Joint Ventures with similar issues in the Southeast; continue collaboration with the Gulf Coastal Plains & Ozarks LCC particularly with respect to landscape scale planning and goals.
3. Collaborate and stay in contact with the SERPPAS Prescribed Fire Work Group and the Southeast Regional Strategy Committee of the National Cohesive Wildland Fire Management Strategy.

Areas of Opportunity for the EGCPJV

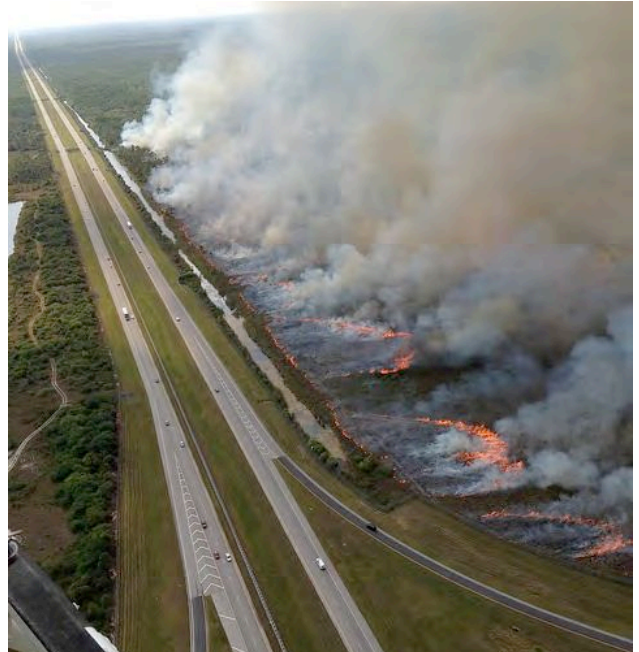
The EGCPJV, working with Prescribed Fire Councils, Joint Ventures, the forestry community and other partners, is poised to contribute significantly to the rebirth of prescribed fire in key areas throughout the Southeast by focusing efforts in the following three “value-added” areas:

1. Planning and outreach about prescribed fire in shortleaf pine, pine-oak, oak woodlands, and grasslands/prairie systems. (Continue to collaborate, support and learn from longleaf pine initiatives.)
2. Developing and providing science-based information on the wildlife (especially bird) benefits of prescribed fire.
3. Developing and promoting the concept of fire landscapes for birds (and other wildlife).

Impediments to Prescribed Fire

The impediments to prescribed fire are well known and well documented and often affect public and private lands quite differently. All of these factors contribute to increased difficulty in achieving prescribed fire at scales sufficient to provide desired ecological benefits.

- Capacity, which has three components - knowledge (particularly through direct experience), equipment and manpower - affects the ability to burn on both public and private lands, and can be a barrier to entry for landowners new to the use of prescribed fire.
- Liability concerns, stemming from reduced visibility on roadways or fire escape, arise due to lack of confidence in legal protections for prescribed burning and the high cost of insurance.
- Smoke management and its effects on air quality can lead to public health concerns, limits to burn days and negative press.
- Coordination is required on many fronts: at the burn level increasing habitat fragmentation and parcelization of land ownership into smaller holdings require greater coordination; support for prescribed fire often combines multiple federal and state conservation management programs; landowners managing for multiple objectives must navigate the tension between forestry and wildlife perspectives.
- Public perception/population growth contribute to an increasing lack of understanding of the right to burn and the benefits of prescribed fire, which leads to alarm, complaints and political pressure to stop prescribed burning.
- Wildlife - forestry interface, meaning the historical separation of forestry and wildlife management disciplines, has resulted in different perspectives that can confuse landowners and create barriers to effective land management.
- Climate change is projected to cause an increase in air temperatures and precipitation variability (droughts) in the Southeast, and it has the potential to increase wildfire occurrence while also restricting the number of burn days within current prescription guidelines.



Prescribed Fire Messaging, Audiences and Communications Products

EGCPJV prescribed fire communications will be ongoing and multi-faceted. As such, the Joint Venture board and staff will select the focus, type and phasing of communications activities according to their organizational, partnership and scientific priorities. A total of 30 Prescribed Fire messages in this section are organized according to the three primary goals (policy, outreach and education) that they aim to achieve. The messages provide a flexible menu of the most important points to make with appropriate audiences. Messaging may be reworked and combined for a variety of purposes and products. A detailed discussion with background information accompanies each message, providing abundant raw material for a diversity of communications products. The EGCPJV is particularly suited to lead development and/or dissemination of five specific high priority communications products:

- a pocket guide to birds of fire maintained habitats in the South targeted to landowners, resource and program managers, and wildlife enthusiasts;
- dissemination of the National Bobwhite Conservation Initiative's quail DVD to landowners and hunters;
- a "canned" powerpoint presentation about prescribed fire's benefits to birds for agencies and interest groups;
- a synthesis of science related to growing season burns and birds, aimed at resource managers, consultants and wildlife enthusiasts;
- a crosswalk of EGCP State Wildlife and Forest Action Plans to identify overlapping priorities, targeted to resource agencies.



MESSAGE LIST SUMMARY

Each message listed below provides a **link to its discussion** in the body of the electronic document.



POLICY GOAL: Support and advocate the establishment and/or strengthening of laws, policies, budgets and regulations required to consistently allow and apply prescribed fire across the Southeast.

The Joint Venture is in a position to forge consensus among a broad group of organizations, which includes private nonprofit organizations who are best suited to conveying policy messages directly to target audiences. Target audiences consist primarily of government representatives and agencies at various levels.

1. **Message:** Every state in the Southeast needs to establish, define and protect the right to use prescribed fire, and seek to do so as consistently as possible.

Audience: State legislatures, county governments

2. **Message:** Increase state forestry/wildlife agency budgets for prescribed fire. There is often greater public demand for prescribed fire than state agencies can meet!

Audience: State legislatures; executive leadership of state resource agencies

3. **Message:** Increased budgets for state resource and forestry agencies will ensure states can retain

all of their Pittman-Robertson federal matching dollars.

Audience: State legislatures

4. **Message:** Increase federal budgets for prescribed fire; increase federal agency program expenditures in support of prescribed fire. There is an ecological imperative for prescribed fire on lands that are legislatively mandated to be managed for the "conservation and protection of wildlife resources" or "multiple uses," and it is not being met. Lack of fire has direct consequences on ecological health, listed species, and hazardous fuels build up.

Audience: Congress; executive leadership of federal resource agencies (with authority to vary budget expenditures)

5. **Message:** Maintain State Wildlife Grant and Pittman Robertson expenditures, and allow states to apply these funds toward prescribed burning projects

Audience: Congress, State resource agencies

6. **Message:** Fire is a safe and cost-effective science-based land management tool.

Audience: State resource management agencies/local government/landowners/the public

7. **Message:** Prescribed fire reduces the risk of wildfire and costs much less than wildfire. Prescribed fire must be managed as an integral part of wildfire suppression and fuels reduction. We need to stop devoting our resources to emergency room treatment and start spending them on preventive medicine. Prescribed fire is the medicine that can help to reduce the frequency and intensity of wildfires as well as accelerated species listings in the Southeast.
- Audience:** Congress, federal and state resource agencies, land managers, local government, resource-dependent commercial enterprise, the public
8. **Message:** It is critically important that wildlife habitat improvement, and specifically prescribed fire, be incorporated into guidelines for EQIP and other conservation programs of the Agricultural Act of 2014. We need to expand the partnership between NRCS, resource agencies and private landowners to ensure that the EQIP program will support prescribed fire as a stewardship practice to benefit species of conservation concern, game species, and overall ecosystem health.
- Audience:** NRCS State Conservationists and staffs, State Technical Committees of the Natural Resources Conservation Service, national Forest Resource Coordinating Committee, USFS State & Private Forestry
9. **Message:** The “farm bill biologist” model works and should be considered in states that do not currently employ this model of stewardship.
- Audience:** Natural Resource Conservation Service state conservationists and staffs
10. **Message:** Multi-state analyses of both State Wildlife Action Plans and State Forest Action Plans, focusing on landscapes across boundaries and the overlapping priorities in these plans, would be tremendously useful in helping agencies and partners focus their conservation efforts. State Wildlife Action Plans should more explicitly recognize the need for prescribed fire when describing specific habitat types and species of concern.
- Audience:** State wildlife and forestry agencies, nonprofit conservation partners
11. **Message:** Agencies should seek to include privately held inholdings in prescribed burns on public lands.
- Audience:** US Forest Service, US Fish & Wildlife Service, state resource agencies
12. **Message:** Much of the demand for prescribed burning expertise and support is being funneled into a narrower and narrower range of available burn days due to both variable/changing weather patterns and burn permitting standards. Land managers are also being forced to burn smaller pieces of land to mitigate smoke impacts. Available burn days can be increased by changing smoke dispersion requirements and/or the season of burning.
- Audience:** State or local environment, air quality and/or forestry agencies.
13. **Message:** Affordable prescribed fire insurance is sorely needed, and it may also represent a business opportunity.
- Audience:** Insurance companies
14. **Message:** [Visit My Forest](#) should be a prominent link on all State Forestry websites, and wildlife agency websites as well. This website is the public interface to the “[good fire](#)” message, developed through the One Message Many Voices campaign. However, in many cases information about prescribed fire and the Visit My Forest weblink are still absent or hard to find on resource agency websites.
- Audience:** State resource management agencies, EGCPJV Management Board members
15. **Message:** County and municipal governments in the Southeast have a significant role to play in the protection of their local forests’ health, quality of life, and management of wildfire risk through measures that protect the continued use of prescribed fire.
- Audience:** County and municipal governments, land use planning departments, prescribed burn associations



OUTREACH GOAL: Foster the adoption and increased application of prescribed fire among EGCP resource program and management communities by providing science-based information and training and by focusing on achieving ecological, wildlife, and habitat benefits. Include a focus on recruitment and training of professionals and consultants to increase overall capacity for conducting prescribed burns.

Additional information is often needed to promote greater recognition of fire dependent habitats, the ecological value of prescribed fire, and the benefits of landscape scale planning to the professional/practitioner audience - including staff of government assistance programs for private land stewardship, foresters, fire control experts, state and federal resource agencies, wildlife consultants, and consulting foresters.

1. **Message:** The wildlife community wants to work more closely with the forestry community to integrate conservation, management and prescribed fire information and technical assistance with the goal of improving our overall effectiveness on-the-ground.

Audience: US Forest Service and national forests, state forestry agencies, forestry extension offices, the forestry science community, consulting foresters and wildlife consultants

2. **Message:** The EGCPJV is willing to lead or contribute to the development of science-based wildlife- and ecosystem-centric information about the need for fire on the landscape and the ecological results of prescribed fire.

Audience: State natural resource agencies, federal and state program staff (NRCS, USFS, USFWS), forestry/wildlife consultants, prescribed fire vendors, private landowners

3. **Message:** To achieve the full benefits of prescribed fire across the Southeast, landscape scale planning for fire should be a priority. Targeted delivery of prescribed fire in key regions will provide synergistic benefits with other conservation planning initiatives.

Audience: Federal and state resource agencies, USDA state conservationists, USDA State Technical Advisory committees, NRCS county-level working groups, program managers, land managers, Landscape Conservation Cooperatives and conservation biologists, conservation planning nonprofits, and any organization that conducts conservation planning

4. **Message:** Program staff in state and federal agencies who administer cost-share and grant programs for private landowners will provide better service to landowners, taxpayers and the environment when they understand both the ecological and economic value of prescribed fire.

Audience: State resource and forestry agencies, USDA state conservationists, NRCS staff

5. **Message:** Consulting foresters and traditional forestry assistance programs can expand and improve the assistance they provide landowners by focusing on the wildlife benefits of using prescribed fire in forest management. Expertise

in prescribed fire can provide a competitive edge to consulting foresters, wildlife consultants, tree vendors and Technical Service Providers. There is a high unmet demand for professionals who are trained and certified to conduct prescribed burns in the EGCP states; there are also federal cost-share programs that can help landowners defray the costs of planning and implementing prescribed burns.

Audience: Forestry/wildlife consultants; prescribed fire vendors; resource program managers

6. **Message:** The East Gulf Coastal Plain states need more “habitat teams” and/or “fire strike teams,” particularly in KY and TN.

Audience: State wildlife agencies, nonprofit organizations such as The Nature Conservancy, National Wild Turkey Federation, Pheasants Forever and others; habitat technicians and prescribed fire vendors

7. **Message:** Significant opportunities exist for state forestry and wildlife extension departments to play a role in developing prescribed fire education and outreach programs aimed at foresters, conservation practitioners and private landowners.

Audience: State land grant university extension systems and personnel, state forestry and resource management assistance programs

8. **Message:** Local fire departments can assist in making their communities safer from fire and gain valuable experience in managing fire by helping to conduct prescribed burns.

Audience: Local fire departments, county and municipal governments, prescribed burn associations



EDUCATION GOAL: Create an increased societal awareness of and demand for safe, science based application of prescribed fire in support of community safety and ecological health.

Audiences for this goal are various segments of the general public as well as private landowners, many of whom can benefit from training in application of prescribed fire.

1. **Message:** “Good fires prevent bad ones.”
“Prescribed fire lowers the risk of wildfire.”
“Prescribed fire is not destruction but renewal.”
“Prescribed fire for a forest in balance.” “The effects of prescribed fire in a forest are kind of

like mowing the grass.” “Fire is as natural as rain, wind, sunshine and blue skies.”

Audience: General public

2. **Message:** People who care about wildlife are crucial allies in the struggle to reintroduce and apply prescribed fire where it is most needed. Fire is essential to the health of most southern ecosystems, but it has been suppressed for the past 150 years or so, and coordinated anti-fire campaigns began in the 1920s. Many species of birds, including the South’s iconic bobwhite quail, respond to the plant communities that follow fire.

Audience: Birders and other wildlife enthusiasts

3. **Message:** Landowners must choose whether to use prescribed fire based on the benefits they desire from their land. Fire is a natural process essential to the health of most southern ecosystems, and wildlife species respond to the plants that sprout following a fire. There are public programs that provide cost-share for prescribed fire, which is also very cost-effective compared to mowing, mechanical thinning, and herbicides.

Audience: Private landowners

4. **Message:** Landowners can learn to conduct their own prescribed burns safely by getting training or certification. By forming Prescribed Burn Associations, landowners can share knowledge, manpower and equipment - cutting down on costs. Engaged well-trained landowners are essential to achieve prescribed burning at a large scale because currently cost-share funds are insufficient for this purpose.

Audience: Private landowners

5. **Message:** Prescribed burning is an integral part of the cultural heritage of the Southern coastal plains going back to pre-colonial times.

Prescribed burning is also a private property right. Prescribed fire is "good fire" that limits the risk of catastrophic wildfire, so its smoke is a signal that safety measures are taking place. Smoke from prescribed fire can be managed to reduce or eliminate its impact, and it will usually be far less than the smoke experienced from a wildfire.

Audience: New rural or vacation landowners and general public

6. **Message:** Firewise presentations, which can be quite well attended, need to incorporate information about the role of prescribed fire in reducing wildfire risk.

Audience: State forestry agencies

7. **Message:** Fire is essential to the health of most southern ecosystems, but it has been suppressed for the past 150 years or more. Many species of wildlife depend on the plant communities that follow fire. Prescribed fire is also a good tool for reducing the risk of catastrophic wildfires.

Audience: Students and their parents





3 time series
photographs of
a private
longleaf pine
prescribed burn
in Mississippi

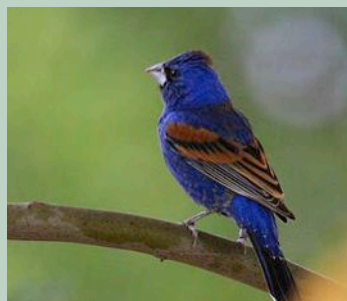
2 months
post-burn



6 months
post-burn



left: native warm
seasons grasses:
burned (foreground)
and unburned



Two priority species for
open pine: blue
grosbeak and American
kestrel

SECTION I

EGCPJV Prescribed Fire Communications Vision, Goals, Strategies and Opportunities

Almost all Southeastern upland systems, as well as some types of wetlands, have been shaped and maintained by periodic fire. Decades of fire suppression have degraded these systems and have changed the human perception of fire and its role on our landscapes. Prescribed fire serves as a crucial management tool to restore and maintain these habitats, and its use is a critically important issue in the Southeast. Many organizations are working in multiple ways and with many partners to promote, explain and implement prescribed fire on the landscape, yet the East Gulf Coastal Plain (EGCP) lacks a prescribed fire champion focused specifically on its full complement of habitats.

This Communications Strategy proposes that the East Gulf Coastal Plain Joint Venture (EGCPJV) assume the role of prescribed fire champion throughout the EGCP by focusing its coordination, outreach and partnership activities through the lens of prescribed fire - a process vital to the ecological health of the vast majority of natural communities that support birds and wildlife diversity.



The “niche” of the EGCPJV with respect to prescribed fire is to focus on fire’s ecological benefits to wildlife, specifically birds, and provide wildlife-focused educational and outreach materials to key audiences. These activities can augment the wide array of prescribed fire activities already ongoing in the region without duplicating efforts. The Strategy builds upon the unique strengths of the EGCPJV Management Board and staff.

This strategy was developed over the course of several months in 2012 and again in 2013 and is based upon information provided in interviews of 45 prescribed fire/resource management experts, including several from each of the six EGCP states of Florida, Alabama, Mississippi, Louisiana, Tennessee and Kentucky. In addition, the EGCPJV staff and board members provided guidance concerning their mission, strengths, focus and appropriate roles in promoting prescribed fire.

Strategic communications are designed to achieve goals that are dependent upon changing people’s attitudes and actions. Section I of this strategy identifies a communications vision for prescribed fire along with three broad goals that can be achieved through communications and outreach directed toward three relatively distinct groups of audiences. Section II discusses the major impediments to prescribed fire, on both public and private lands, that have been identified by a range of experts and key prescribed fire documents. Section III delineates specific prescribed fire messages and their associated target audiences, organized according to the communications goals they are designed to achieve. The messages and discussion sections explain and advocate potential solutions to the impediments described in Section II.

EGCPJV Mission, Vision & Role

The mission of the EGCPJV is to protect and restore bird populations of the East Gulf Coastal Plain by coordinating the effective conservation of key habitats.



**EAST GULF COASTAL PLAIN
JOINT VENTURE**

Communications Vision for Prescribed Fire

The EGCPJV's vision for prescribed fire in the Southeast is to maintain and restore fire regimes through an increased use and acceptance of prescribed fire, since fire has historically and evolutionarily played a critical role in the health of East Gulf Coastal Plain upland systems and marshes. Specifically, communications and partnerships will increase the safe use of prescribed fire to restore, improve and sustain the ecosystem health of fire-dependent systems such as shortleaf and longleaf pine, mixed pine woodlands, oak woodlands and savannas, native warm season grasses and distinct climax grasslands such as the Black Belt Prairies of MS/AL and Big Barrens of KY/TN.

Strengths of the East Gulf Coastal Plain Joint Venture

- Science-based wildlife and habitat conservation research and expertise applied strategically at the landscape level;
- Multi-state/multi-agency breadth and representation on the Management Board, which makes it possible to coordinate across state and jurisdictional boundaries;
- Connections with agency and organization staff at the local level who can facilitate and assist with grassroots conservation planning and education;
- Expertise and preferred access to certain types of funding (e.g. for migratory birds) with the ability to leverage funds through partnerships;
- The ability to develop science-based tools that can translate landscape level conservation goals into site-based achievements on the ground.

Communications Goals & Approach

The EGCPJV's prescribed fire communications goals build on the Joint Venture's mission and strengths. The goals will drive the type, content and delivery of messaging as well as the audience to receive those messages. These goals seek both to remove impediments to prescribed fire and to promote a "breakout" of the prescribed fire message in the public consciousness.

1. **POLICY GOAL:** Support and advocate the establishment and/or strengthening of laws, policies, budgets and regulations required to consistently allow, promote and apply prescribed fire across the Southeast.
2. **OUTREACH GOAL:** Foster the adoption and increased application of prescribed fire among East Gulf Coastal Plain (EGCP) resource program and management communities by providing science-based information and training focused on fire's ecological, wildlife, and habitat benefits. Include a focus on recruitment and training of professionals and consultants to increase overall capacity for conducting prescribed burns.
2. **EDUCATION GOAL:** Promote an increased societal awareness of and demand for safe, science-based application of prescribed fire in support of community safety and ecological health. In particular, focus on training for landowners to achieve fire capacity and application at a large scale.

Recommended Communications Strategies

This strategy approaches communications as a broad category inclusive of the following “products”:

- (1) traditional communications campaigns aimed at influencing the knowledge, attitudes, skills and actions of people, particularly decision-makers;
- (2) outreach to build relationships and share information with new people and organizations, often through coordination and personal meetings;
- (3) education in the form of training, special events and curricula specifically aimed at increasing the level of understanding or skill in use of prescribed fire among practitioners, landowners, students, and the public.



Achieving the EGCPJV’s three goals for prescribed fire will require both individual behavior change and policy change, a fact that was intuited or stated outright by many of the experts consulted in developing this Strategy. Those experts represent a broad range of expertise, including land and program managers in federal and state forestry, wildlife habitat management, prescribed fire, and private land stewardship, as well as managers of longleaf pine, oak savannas, native warm season grasses, prairies and barrens.

Many of the experts consulted across all six of the EGCP states recommended the following approaches for developing and disseminating Joint Venture communications:

1. In addition to nonprofit partners currently on the EGCPJV Board, collaborate with the state [Prescribed Fire Councils](#), the [Southern Fire Exchange](#), the [Oak Woodlands and Forests Fire Consortium](#), and possibly the [Joint Fire Science Program](#) and the [Coalition of Prescribed Fire Councils](#).

Several nonprofits that are not already represented on the EGCPJV Management Board are known for their expertise in the application of prescribed fire in the Southeast. These include [The Nature Conservancy](#), [Tall Timbers](#) and [Jones Ecological Research Center](#).

The Councils have been leaders in promoting prescribed fire at the state level; they have and continue to successfully pursue legislative action that establishes prescribed fire as a right, with defined certification requirements and burn guidelines that, when met, limit landowner liability. Working through the Fire Councils will allow the EGCPJV to work through a single organization within each state to disseminate messages and get feedback to partners on the ground. The Councils are also a good means of maintaining open lines of communication with the forestry community.

The Consortia, funded by the [Joint Fire Science Program](#), were established to achieve goals similar to the three outlined in this strategy, and their primary means of doing so is by providing science-based information, training and analyses. Representatives from both fire consortia indicated they are open to collaborating with the EGCPJV in developing and disseminating science-based prescribed fire messages and programs.

Collaboration with these organizations will vastly improve the EGCPJV's ability to foster coordination, work across jurisdictional boundaries and build consensus in areas such as:

- policy goals and how to achieve them;
- prescribed burns across adjacent federal/state/private ownerships;
- enhanced education and training about the ecological and wildlife value of prescribed fire;
- open lines of communication with forestry agencies and foresters.

Some of the key partners and audiences that the JV will need to engage on prescribed fire are unfamiliar with bird conservation joint ventures and need to be introduced.



2. Coordinate action and communications on prescribed fire among Joint Ventures with similar issues in the Southeast.

Several experts expressed a desire to have the EGCPJV serve in a coordination role with other Joint Ventures in the Southeast because many habitat types and prescribed fire issues are shared throughout the region. They specifically suggested coordination among the Gulf Coast, Lower Mississippi Valley, and Central Hardwoods Joint Ventures. Bringing these JVs together will help build a larger and stronger coalition of voices with respect to policy issues; foster collaboration on fundraising and grant development; foster incorporation of a wider range of expertise when developing communications and education products; and avoid duplication of effort.

3. Collaborate and stay in contact with the SERPPAS Prescribed Fire Work Group and the Southeast Regional Strategy Committee of the National Cohesive Wildland Fire Management Strategy.



SERPPAS, or the [Southeast Regional Partnership for Planning and Sustainability](#), is a six-state partnership of federal and state agencies that promotes collaboration in conservation management. SERPPAS has a very active and effective group working to promote prescribed fire throughout the longleaf range. As such, their activities cover most of the southern portion of the EGCP, focused primarily on longleaf pine. However, this Work Group has begun inviting members that are not from longleaf pine states to join their regularly scheduled calls. Although they are focused on longleaf pine, much of the group's prescribed fire work is applicable to

other fire-dependent ecosystems. They hold regular monthly calls and have several ongoing initiatives that could be expanded or replicated beyond longleaf. They have suggested a number of ways in which the EGCPJV can complement SERPPAS prescribed fire activities by focusing on wildlife and other habitats in addition to longleaf.

The Southeast Regional Strategy Committee is focusing on about 30 communications tasks identified in the [Southeast Regional Action Plan](#) (SERAP). A Strategy Committee member shared SERAP communications priorities as an opportunity for the EGCPJV to provide insight and assistance in their implementation. The Cohesive Strategy is federal, but because the majority of lands in the Southeast are private, the Strategy Committee recognizes that much of their communications must remain “unbranded” and focus on property protection and environmental management. While the National Cohesive Strategy focuses as much on wildfire prevention as prescribed fire, many of the SERAP communications priorities overlap with those of the EGCPJV. For example, one communications objective is to “Aggressively promote prescribed burning for wildlife through all conservation (fish and wildlife) programs for most forest types, not just longleaf.”

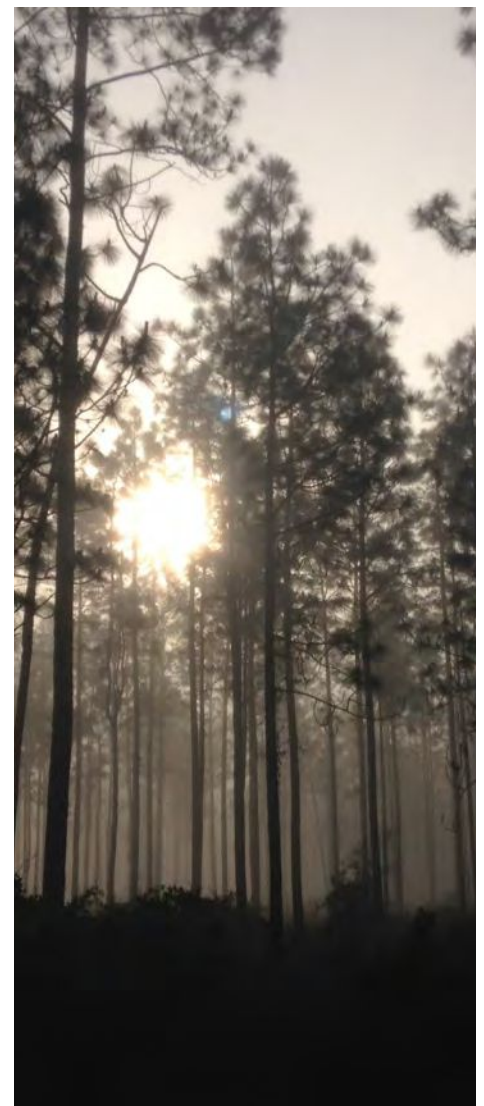
Areas of Opportunity for the EGCPJV

When viewing prescribed fire activities broadly across the South, in particular the East Gulf Coastal Plain, a varied picture emerges. While longleaf pine restoration has gained a high profile, there is a lot of ferment and activity focused on other habitats, which is quietly taking place. University programs in prescribed fire are increasing and scientific research publications are - to quote one academic - “through the roof.”

The year 2012 was a turning point, as it was the first time data showed that longleaf pine had actually increased over a 10-year period, halting its prolonged decline. Several experts suggested that the EGCPJV should focus on extending the successes of the Longleaf Initiative into other habitat types, in particular shortleaf pine systems. The EGCPJV, working with Prescribed Fire Councils, Joint Ventures, forestry community and other partners, is poised to contribute significantly to the rebirth of prescribed fire in key areas throughout the Southeast by concentrating on the following three “value-added” areas:

1. Planning and outreach about prescribed fire in shortleaf pine, pine-oak, oak woodlands, and grasslands/prairie systems. (Continue to collaborate, support and learn from longleaf pine initiatives.)

Given the success of [America’s Longleaf Restoration Initiative](#), which succeeded in planting 1.38 million acres of longleaf pine and conducting 1.1 million acres of prescribed burns in 2013, there is a need to replicate this success in other habitat types. A similar effort, the [Shortleaf Pine Initiative](#), has formed a diverse multi-agency work group and is working toward completion of a rangewide Shortleaf Pine Conservation Plan by September 2014. The Initiative notes that over the past 30 years, shortleaf pine systems ranging over 22 eastern states have lost 50% of their former acreage, with the most significant decline occurring east of the Mississippi River.



People and practitioners tend to recognize open pine systems, prairies and grasslands as fire dependent, but these systems still suffer significantly from lack of fire. The message is even more complex and controversial with respect to mixed oak forests, oak woodlands and savannas. As distance increases from the southern plains, where a Southern “fire culture” is still relatively strong, the issue is complicated still further as this former acceptance of prescribed fire has become a distant third generation memory. The challenge for the EGCPJV and many other organizations is to expand the recognition of fire’s ecological value - specifically its benefits to wildlife - in these systems and to foster a renaissance in the acceptance and practice of prescribed fire among practitioners, landowners, and outdoor recreationists.

2. Developing and providing science-based information on the wildlife (especially bird) benefits of prescribed fire.

Much of the messaging and training available for fire practitioners, land and program managers concerns the mechanics of applying prescribed fire, its role in preventing wildfire, and its importance to longleaf systems. While information does exist concerning the value of prescribed fire as an ecological process integral to southern landscapes, wildlife and habitat, it is less widespread. At the same time, this is a powerful message that almost everyone responds to, especially non-industrial private land owners and public land managers. A number of organizations, including the Oak Woodland Fire Consortium and SERPPAS, welcomed the idea of the EGCPJV taking on this collaborative role.

3. Developing and promoting the concept of fire landscapes for birds (and other wildlife).

There are benefits from concentrating habitat improvements on the landscape, and fire is no exception. Several southeastern planning efforts have made some effort to identify subregional priority landscapes for a variety of resource management objectives. These include quail management priority zones, the open pine model for lower coastal plain pine habitats, and the Significant Geographic Areas identified in America’s Longleaf Conservation Plan. Landscape Conservation Cooperatives are in the midst of a far-ranging process to develop conservation “blueprints” that will identify highest priority conservation sites and associated actions. An overlay of priority landscapes for focusing prescribed burning efforts to maximize benefits to birds and other wildlife is clearly needed as well.

Additional opportunities for partnering or contributing to ongoing activities that are particularly suited to the EGCPJV are highlighted throughout this Strategy and the Appendices.



SECTION II

Impediments to Prescribed Fire

The impediments to prescribed fire are well known and well documented. Virtually every expert consulted, as well as the National Prescribed Fire Use Survey, the National Cohesive Wildland Fire Strategy Southeast Assessment, and the [Comprehensive Strategy for Prescribed Fire to Restore Longleaf Pine in the Southeast U.S.](#) all agree on some variation of the following list as the primary impediments to prescribed fire. All of these factors contribute to increased difficulty in achieving prescribed fire at scales sufficient to provide desired ecological benefits.

- Capacity, which has three components - knowledge (particularly through direct experience), equipment and manpower - affects the ability to burn on both public and private lands, and can be a barrier to entry for landowners new to the use of prescribed fire.
- Liability concerns, stemming from reduced visibility on roadways or fire escape, arise due to lack of confidence in legal protections for prescribed burning and the high cost of insurance.



- Smoke management and its effects on air quality can lead to public health concerns, limits to burn days and negative press.
- Coordination is required on many fronts: at the burn level increasing habitat fragmentation and parcelization of land ownership into smaller holdings require greater coordination; support for prescribed fire often combines multiple federal and state conservation management programs; landowners managing for multiple objectives must navigate the tension between forestry and wildlife perspectives.
- Public perception/population growth contribute to an increasing lack of understanding of the right to burn and of the benefits of prescribed fire, which leads to alarm, complaints and political pressure to stop prescribed burning.
- The wildlife management/forestry gap, meaning the historical separation of these disciplines, has resulted in different perspectives toward land management and prescribed fire, which can confuse landowners and create barriers to effective land management.
- Climate change is projected to cause an increase in air temperatures and precipitation variability (droughts) in the Southeast, and it has the potential to increase wildfire occurrence while also restricting the number of burn days within current prescription guidelines. (Mitchell et al., 2014 in press and the Third National Climate Assessment)

The assumption is that advocating solutions to these problems will make prescribed burning easier and encourage its embrace by a broader spectrum of land managers and landowners. Some impediments and solutions vary significantly with respect to private versus public lands. Other impediments arise in publicly supported programs that primarily impact private lands. Still other impediments affect both public and private lands. The Table “Impediments to Prescribed Fire: Effects on Public vs Private Lands” contrasts the ways in which these impediments impact public and private land. The messages in Section III of this Communication Strategy address the audiences with power to tackle these impediments.

Impediments to Prescribed Fire: Effects on Public vs Private Lands		
	public lands	private lands
capacity	budget insufficiency; budget continuity; lack of staffing; lack of burn/habitat teams	lack of training (expertise); shortage of vendors, cost share & equipment
liability	fear of lawsuits; regulatory limits to support of burning on private lands	fear of lawsuits; cost of insurance
smoke	must coordinate with air quality authorities; fewer available burn days; potential for negative press	fewer available burn days; lack of “pollution” coverage in liability insurance
coordination	state forestry agencies are suppression oriented; agency fire control, prescribed burning, wildlife habitat, and timber management are all separate programs; difficulty incorporating “good fire” message with traditional suppression mission	inholdings & adjacent owners unable or unwilling to collaborate on burns; lack of knowledge & outreach in some programs that can support prescribed burns (such as CRP mid-contract management)
public perception/ population growth	negative perceptions & lack of understanding; complaints; lack of political support; friends groups resist prescribed fire on public lands	negative perceptions & lack of understanding; complaints; lack of political support; local burn prohibitions
wildlife management/ forestry gap	some forestry agencies have expertise in wildfire suppression but lack it in prescribed fire; some local forestry staff who are suppression oriented can block access to burn permits; lack of recognition of the ecological importance of fire in certain systems	many consulting foresters lack latest scientific evidence or do not advocate prescribed fire; emphasis on timber income over wildlife; REITs, TIMOs view prescribed fire as poor investment; some NRCS program staff lack knowledge of fire; difficulty obtaining burn permits
climate change	increased potential for wildfire occurrence, which could impact budgets and also restrict available burn days within current prescription guidelines	decreased opportunity to conduct prescribed burns if burn days are restricted; potential for increased property impacts/losses from wildfire

Public Lands

Capacity

Capacity to burn on public lands boils down to budgets. Budgets for state and federal programs that support personnel and resources devoted to prescribed burning have declined, in some cases precipitously, across the board over the past five years. For example, the Fish & Wildlife Service hazardous fuels budget in the Southeast region has declined by 42% since its peak in FY09, and current budget forecasts anticipate eliminating these expenditures by FY16. Every state forestry

agency within the East Gulf Coastal Plain, with the exception of the Florida Forest Service, has experienced budget declines that have impacted their ability to conduct prescribed burns. Program cuts impact not only manpower for conducting burns but also the ability to coordinate efforts and respond to demand for prescribed burn permits during the relatively narrow burn seasons each year. On the other hand, public land burns are more manageable than those on private lands because the ownership parcels tend to be larger.

Liability

Federal agencies are concerned about liability for the same reasons as private landowners: a reluctance to bear the risk of potential lawsuits. This concern has led to high standards for personnel and equipment conducting burns on federal lands, with concomitant costs. It has also led to regulatory limitations on their ability to conduct or provide support for prescribed burns on private lands. One aspect of this is the necessity to create fire breaks and protect all private inholdings within publicly owned land, even when the private landowner would be willing to cooperate in the prescribed burn. Such requirements can increase the cost of prescribed burning on public lands and make budget expenditures less cost-effective.



Smoke Management

The hazards presented by smoke are two-fold: (1) air pollution that potentially contributes directly to unhealthy air conditions or violation of EPA air quality standards and (2) reduced visibility on roadways that must be proactively managed to prevent hazardous driving conditions.

Limitations on burning that stem from air quality concerns translate into a loss of burn days during burn seasons that are already narrow. Public agencies have the ability to address air quality impacts by supporting the improvement of smoke models to prevent the loss of burn days. Coordinating with EPA, particularly in non-attainment areas under the Clean Air Act, may increase the ability of both public and private land managers to burn. State forestry agencies stressed the importance and benefits of good working relationships in coordinating their burn permitting processes with state air quality authorities. They also pointed out that prescribed fire as a fuels treatment is most needed in the wildland-urban interface, yet this is precisely where the issue of smoke is worst because

- most of the urban populace does not understand prescribed burning and is alarmed by smoke;
- past fire suppression may have allowed fuel to accumulate to dangerous levels, which results in greater volumes of smoke and longer duration fires, at least initially.

Reduced visibility can be proactively managed by closely monitoring weather and wind conditions and planning for any necessary road closures. However, the potential need for road closures, in particular, can be a disincentive for public land managers who may be leery of negative public reactions to the inconvenience.

Coordination

The State Wildlife Action Plans, or SWAPs, from all six EGCP states list altered fire regime or fire suppression as a general threat, and they all call for more prescribed fire to address this threat. Moreover, State Forest Action Plans also address wildfire, fuel loads, urbanization and prescribed fire. A central focus of the EGCPJV should be working in collaboration with other joint ventures, state fire councils, and state wildlife agencies to achieve State Wildlife Action Plan and Forest Action Plan prescribed fire goals, particularly where those goals or priority zones for fire management overlap. [Appendix 1](#) contains a detailed list of fire-adapted habitats/communities identified in state SWAPs and prescribed fire conservation actions by state.

The 2012 Prescribed Fire Use Survey states, “The most successful prescribed fire programs, no matter the location or level of difficulty, are the result of collaboration.” [The Rangewide Conservation Plan for Longleaf Pine](#) states that “Frequently, agencies manage programs like fire control, prescribed burning, wildlife habitat, and timber management or plant ecology as separate, segregated programs without explicitly . . . accounting for the interrelated nature of land management.”



Forestry/fire control agencies generally fail to address wildfire in the context of a need for prescribed fire; however, the National Cohesive Wildland Fire Management Strategy, Phase II National Report lists “Restore and Maintain Landscapes” for increased resilience as one of three national goals with respect to wildfire management. This need for integration of prescribed fire and wildfire response at the state and local level is noted by many experts, SERPPAS, and the Longleaf Range-wide Conservation Plan. SERPPAS is actively addressing this issue through its Prescribed Fire work group, which includes representatives from the Southern Group of State Foresters and National Coalition of Prescribed Fire Councils.

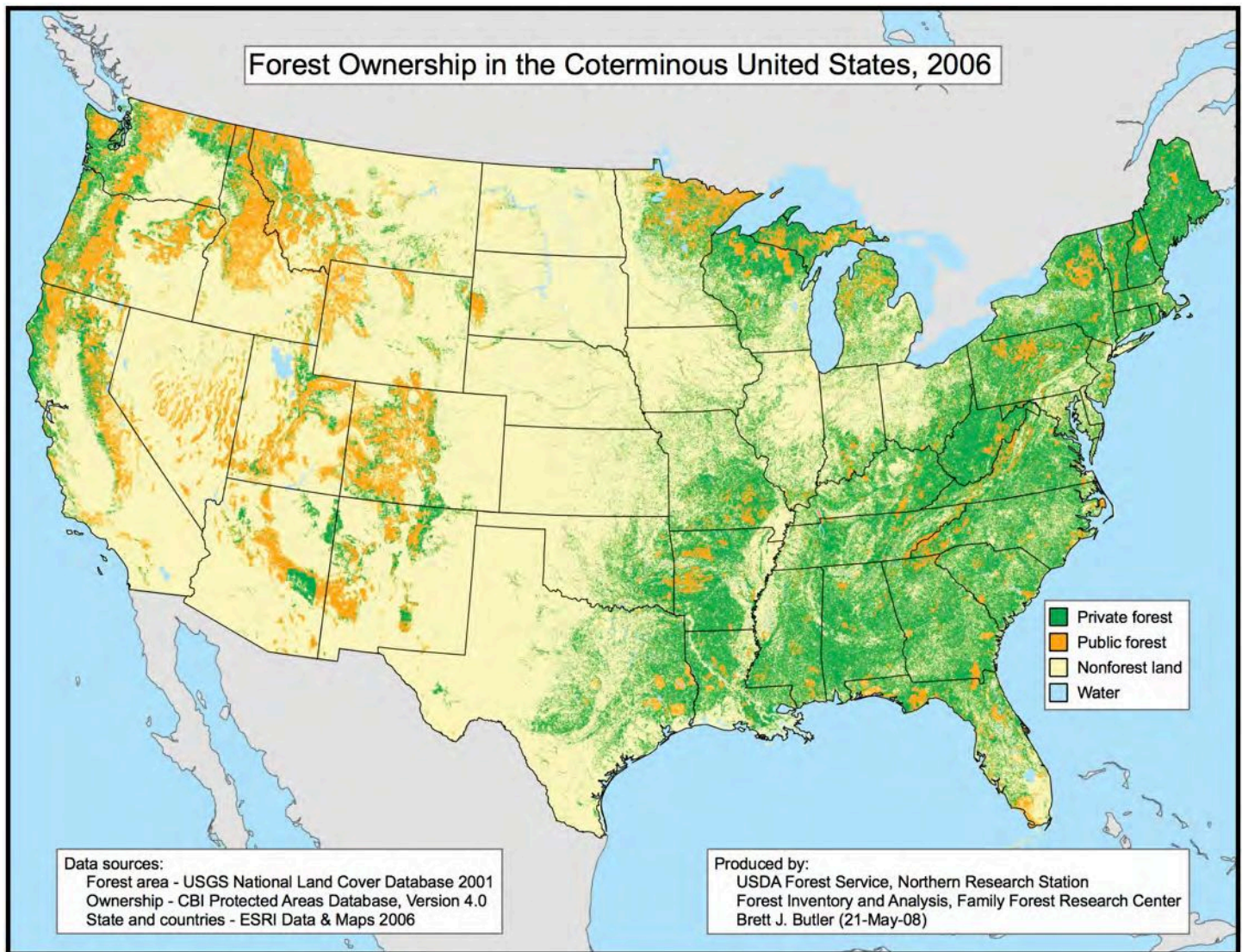
Increased interagency coordination can address a variety of problems, including:

- the current inability to burn across state/federal jurisdictional boundaries due to the fact that states and agencies do not generally recognize one another’s fire certifications (As of publication, the SERPPAS Prescribed Fire Work Group is investigating a pilot project to have Dept. of Defense firefighters become state certified in conducting prescribed fire to assist state agencies.)
- inability for some federal/state land managers to allow well-equipped and highly trained Nature Conservancy (TNC) fire crews to operate on public lands;
- disconnect between wildfire and prescribed fire messaging within state fire programs;
- lack of fire control, prescribed fire and wildlife habitat program integration, which decreases efficiency and can work at cross-purposes on the ground.



Public perception

Publicly owned sites can have difficulty achieving buy-in on prescribed burn plans if their local “Friends Group” is against prescribed burning. In hardwoods habitat, such friends groups tend to be anti-thinning as well. Education and outreach efforts can address this lack of understanding, and in such cases there is a distinct advantage in having a specific communications audience - and usually one that values wildlife - with the potential to make an immediate impact. Federal sites often have row crop agriculture immediately adjacent, which is not conducive to burning.



Private Lands

Nearly 90% of forestland in the Southeast is privately owned, with about two-thirds of this in the hands of private non-industrial landowners. There is no question that implementing prescribed fire across the Southeast at a scale capable of sustaining ecosystem health will require building capacity aimed at private landowners. Impediments affecting private landowners stem from both intrinsic factors, such as knowledge and attitudes, as well as extrinsic factors, such as the market availability of burn practitioners or the availability of public support in the form of training, services, equipment, or matching funds. Impediments to achieving ecological benefits include the increasing fragmentation of habitats and parcelization of land. Parcelization is the trend for increasingly small size of

ownership parcels, even in the absence of habitat fragmentation. Parcelization increases the planning and coordination burden of prescribed burns and can limit their size and effectiveness on a landscape scale.

Capacity

Many experts assert that the demand for prescribed fire in EGCP states is increasing while the capacity to burn is not. The supply of technical service providers and burn practitioners is insufficient virtually across the board. There is also an increasing need for training/certification of private landowners, many of whom could eventually implement prescribed fire on their own. Capacity may be the single most important issue to address in promoting prescribed fire.



Many experts agree that cost-share and technical assistance are important to landowners who are new to burning, those who have limited resources, or those who are not convinced that it is essential. Prescribed fire councils are active in organizing, targeting and promoting training courses for landowners. Once landowners have received training and participated in a few burns, their confidence level often leads them to burn independently, without the need for cost-share or technical support -- a result that is crucial to landscape scale application of prescribed fire.

Coordination

Fragmented landscapes make prescribed burning at scale very difficult, particularly on private lands. Habitat fragmentation and parcelization (increasingly small size of ownership parcels) increases the need for coordination - whether across jurisdictional or ownership lines. Prescribed Burn Associations, which are one means of increasing landowner capacity to burn by sharing resources, can also provide an effective means of organizing larger burns across property lines. State Forest Action Plans cite goals for addressing prescribed fire in the context of increasing urbanization and wildland-urban interface fuel loads, often with an emphasis on greater outreach to private landowners.

Liability

One of the biggest and most intractable impediments to an expanded use of prescribed fire by private landowners is fear of law suits. Although every state in the EGCP has provided some degree of prescribed fire liability protection, these protections cannot prevent people from suing. A series of "Laws and Liability for Prescribed Fire" in Southeastern states were prepared by the Univ. of North Carolina School of law in 2013 (See [Appendix 13](#)). The summaries of EGCP states available at time of publication included AL, LA, and MS.



In our litigious society, landowners are concerned about the time and cost of potential law suits even if ultimately they are not held liable. This is an issue that concerns both individual, non-industrial private land owners as well as lands managed commercially for income by timber companies, TIMOs (Timber Investment Management Organizations) and REITs (Real Estate Investment Trusts). A TIMO is a management group that aids institutional investors - often pension funds - in managing their timberland. A REIT is a company that owns and, in most cases, operates income-producing real estate - including but not limited to timberlands - for the purpose of reducing corporate taxes. In fact, large corporate owners may have stronger liability concerns because they can feel like a lucrative target for law suits.

One potential solution to this problem is liability insurance. The issue then becomes one of cost and availability - currently affordable insurance for prescribed fire is hard to find and policies often do not cover "pollution" or smoke impacts from prescribed fire.

Whether at a state level or through individual Prescribed Burn Associations, affordable group liability insurance coverage is one of the key components necessary to encourage more controlled burns on private lands in the South. This is an activity that the SERPPAS Prescribed Fire Work Group is actively pursuing, and they have provided [a list of insurance options](#) in collaboration with NC State Extension.

Liability concerns also limit the delivery of public resources in support of prescribed fire on private lands. For example, USFWS agency regulations prohibit the Partners for Fish & Wildlife (PFW) program from funding any prescribed burns on private lands because that would constitute liability. PFW can provide support in the form of equipment and manpower, but the burn must be led by another organization and planned and conducted according to [National Wildfire Coordinating Group](#) (NWCG) standards, which are high. In KY, most PFW-supported burns are led by The Nature Conservancy.

Smoke management/air quality

A private landowner's ability to use prescribed fire can be circumscribed by regulations designed to protect air quality when burn days are whittled away. The result is that much of the demand for prescribed burn practitioners and support is funneled into a narrower and narrower range of available burn days.

Public and Private Lands

Public perception

The lack of public understanding of the importance of fire is widespread and affects the ability to burn on both public and private lands. There is little quantitative data on the awareness, attitudes, and behaviors of various target audiences toward fire-dependent ecosystems and management. Yet,



according to the Southern Wildfire Risk Assessment, “The South is one of the fastest growing regions in the nation, with an estimated population growth of 1.5 million people per year. The South also consistently has the highest number of wildfires per year.” According to Alabama State Forestry, recent surveys conducted across the South have established that the general public does not understand the concept of prescribed fire, prescribed burning, or controlled burning. All three terms are equally confusing and are viewed negatively by most people.



When people do not understand or care about prescribed fire, they will react with fear or alarm to smoke, which can ultimately translate into pressure to restrict fire, such as county-wide burn restrictions. To prevent increasing resistance to smoke in the general populace, conservationists need to expand existing education campaigns to promote tolerance of smoke from prescribed fires. The Southern Group of State Forester’s “One Message, Many Voices” campaign in support of prescribed fire recommends couching messages in terms of forest health and maintaining a forest in balance. As part of this campaign, the [Visit My Forest](#) website was developed to expose outdoor-oriented public audiences to the [Good Fire](#) message. Messaging for people living in the wildland-urban interface, where fire risk is often greatest, should include safety information about how to respond to smoke. Public understanding of this would benefit both public and private lands.

Controlled burning traditions can fade or be lost to the onslaught of rapid ex-urban development. Only proactive efforts to engage landowners and maintain an educated populace can address this issue. The National Cohesive Wildland Fire Strategy: Southeastern Regional Assessment of 2011 emphasizes the need for continuous education and outreach to landowners - as do many experts interviewed. In particular, nontraditional or new landowners are a key audience because they often purchase property for the enjoyment of scenery and wildlife, yet they tend to be most unfamiliar with prescribed fire. Experts recommend educational materials and incentives to encourage landowners to actively manage land for wildlife and include fire. Educational materials could potentially be delivered through rural realtors and NRCS/state wildlife agencies when landowners seek technical assistance.

Wildlife Management/Forestry Gap

There is at times fundamental disagreement between, on one side, state forestry agencies and consulting foresters and, on the other, the state, federal and private entities that support wildlife habitat management. State forestry agencies are admittedly suppression oriented, as they were established with a specific mandate to limit and manage wildfire. A lot of foresters see prescribed fire as a tool for site preparation, but beyond that the use is considered more recreational, i.e. to benefit wildlife.



Yet, since the invention of Smokey Bear, the scientific community's understanding of fire's place in the ecosystem has vastly expanded. This information has spread into the wildlife management community, which has largely embraced prescribed fire as an ecological imperative; meanwhile the technical ability to apply prescribed fire and manage smoke with precision has increased. Frustration arises because, in general, the forestry community has been slower to adopt prescribed fire: they do not generally see fire as a lost and necessary ecological function, rather as just another land management tool. More than once experts explained that if area or county foresters wield power over granting burn permits but do not support prescribed fire, they can limit the number, type and timing of burns. However, this is not the case in Mississippi and does not apply in all states.



The good news is that perception of this gap in perspective may be greater than the reality. In the past few years, some forestry and wildlife groups have begun to seriously discuss and tackle these differences. One expert noted:

"We (most of us from land grant universities) are paying the price, since Pinchot's time, of having treated forestry and wildlife as two different professions. But we both manage succession. Half the time we have the same customers on the same land. A lot of difference lies in how information is packaged and proposed. Over time, as state forestry associations and fire councils are getting foresters and biologists in the same room together, we're realizing that the gap is not that great."



Climate Change

While many experts recognize the potential for impacts from climate change, there is still difficulty in linking down-scaled climate projections with site-specific effects. Moreover, it is difficult to distinguish climate model uncertainty from predicted future variability in climate. Mitchell et al. (2014, in press) reviewed climate change-fire interactions in the Southeast and conclude, "The uncertainty surrounding climate projections will dominate planning for future fire management in the Southeast U.S. . . This region has the greatest area burned by prescribed fire, the highest number of wildfires in the continental U.S., and contains globally significant hotspots of biodiversity, much of which is dependent on frequent fire." Because fire is weather-dependent and prescribed fire has a mitigating role in the risk for wildfires, severe droughts could result in more wildfires while simultaneously limiting the ability to conduct prescribed burns. These changes, in turn, could have strong impacts on the ability of Southeastern forests to provide ecosystem services, such as water supply and carbon sequestration. The authors suggest a range of options that include landscape-scale strategies, such as burn prioritization, which may be important for mitigating the undesirable effects of a decreasing ability to apply prescribed fire across the region.

Regional Variation in Impediments

Several experts from each of the six EGCPJV states were interviewed in developing this strategy. Collectively, their comments highlight regional variance in people's attitudes toward prescribed fire, the extent to which the tradition of burning still exists, and the general types of messages or assistance that would be most likely to motivate them. Inland states at distance from the coast with hillier topography tend to have less of a burn culture. These factors contribute to less support for prescribed fire from agencies in Tennessee and Kentucky, but even that is changing.



- Florida panhandle - This region has a well-established culture of prescribed burning and large programs in place to burn regularly.



- Gulf coastal communities - Vacation and seasonal residents tend to have very little understanding of prescribed fire and are often alarmed and resentful about smoke if it occurs during their limited vacation time.

- Coastal plains of Alabama - Burning is still a part of the culture; there is more demand from landowners to burn than can be met; the amount of prescribed burning is limited by availability of resources for cost-sharing.

- Montane Alabama - Not as much burning occurs here. Landowners

are apprehensive. Many landowners are new or nontraditional, purchasing property as a lifestyle choice. This audience is likely to respond to messages about managing for wildlife.

- Mississippi - Attitudes toward controlled burns vary in the state. Many places no longer have a fire culture, but in others significant demand exists. More burns could occur with more resources, including personnel to spearhead the formation of Prescribed Burn Associations.
- Southeastern Louisiana - Fire is no longer a part of the culture, and prescribed burning is increasingly more difficult due to urbanization and shifting landowner management philosophies. Also, landowners tend to be skeptical about the benefits of burning and concerned over liability issues associated with prescribed burning activities.
- Most of TN and KY, parts of northern MS, montane AL and the parishes of southeast LA - All have lost or nearly lost their fire culture.
- TN and KY - Forestry agencies in these states generally do not promote prescribed fire. While they recognize the value of prescribed fire in some cases, there is still skepticism as to its value in oak or mixed oak forests. They generally leave it to their partners to promote and implement prescribed burning. TN passed a "right to burn" law in 2012, which includes a burn certification training program. Prescribed burning is concentrated in the grasslands/prairies/oak woodlands of western TN and KY, not oak forests. A fire culture could be regained in this region with sufficient support. In KY there tends to be a fear of fire, possibly due to a high arson rate and many small tracts with people living on site.



SECTION III

Prescribed Fire Messages, Audiences & Communications Products

It has been said that fire in the Southeast is as natural as rain, wind, and sunlight - and just as essential to ecosystem health. Yet alone among these elements, fire in the Southeast is a process that in large part is dependent upon humans to occur. Native American use of fire largely drove the extent of burning throughout the East Gulf Coastal Plain, with the exception of coastal areas and Florida, where many ignitions from lightning occur. Because fire dependent ecosystems require human actions for their maintenance today, it is not enough to remove impediments to the use of prescribed fire. Rather than viewing prescribed fire as just another tool in the toolbox, society must recognize and embrace its role in providing fire as an essential ecosystem process.

The EGCPJV's Prescribed Fire Communications goals for policy, outreach and education are aimed at achieving just that. What follows is a list of communications messages aimed at specific and appropriate audiences. Messages are listed only once, although some messages will be useful in achieving more than one goal (for example, "fire is a science-based cost-effective land management tool" is a policy argument as well as an educational message).



EGCPJV communications concerning prescribed fire will be ongoing and multi-faceted. As such, the Joint Venture board and staff will select the type and the phasing of communications activities and audiences according to their organizational, partnership and scientific priorities. Six communications projects of high priority to the EGCPJV are identified on pages 52-53. The messages in this section are organized according to the goals they are aimed at achieving, providing a "menu" of the most important points to make with appropriate audiences. Messaging may be reworked for various purposes. The detailed information provided in the discussion section of each message, as well as in the Appendices, provides abundant raw material for a diversity of communications products. The choice and phasing of communications should also be responsive to opportunities that arise, and external factors that could influence, delay, or increase the urgency of specific communications activities (such as wildfires in the news).

POLICY GOAL: Support and advocate the establishment and/or strengthening of laws, policies, budgets and regulations required to consistently allow and apply prescribed fire across the Southeast.

The EGCPJV can play a role in achieving policy goals by helping to formally build consensus about the need for increased prescribed fire, the ramifications of insufficient support for prescribed fire and its links to other urgent policy issues, such as listed species and community safety. The Joint Venture is in a position to align the communications of a broad group of organizations with an interest in wildlife. This group includes private nonprofit organizations who are best suited to conveying policy messages directly to target audiences. Target audiences consist primarily of government representatives and agencies at various levels.



1. Message: Every state in the Southeast needs to establish, define and protect the right to use prescribed fire, and seek to do so as consistently as possible.

Audience: State legislatures, county governments

Discussion

The right to burn and freedom from fear of lawsuits are the prerequisites for any meaningful expansion of prescribed fire. Generally, every state in the EGCP region has a law that defines the legal negligence standard to which prescribed burn practitioners will be held in the case of a law suit. However, the degree of negligence varies. The standard of negligence that is most desirable is gross negligence, which “dramatically reduces the burden on defendant (i.e., landowner or burner in the case of prescribed fires.” ([Liability of Using Prescribed Fires on Forestlands and State Legislation Evolution](#)).

Prescribed Fire Councils throughout the Southeast have been instrumental in establishing or improving prescribed fire legislation. Every state except Kentucky has laws that define standards for burning which

include some type of permitting as well as certification and training of the responsible party. However, the Kentucky Prescribed Fire Council is working to establish such legislation. Permitting requires that landowners plan burns and obtain permission to burn on the day of the burn. Certification defines the level of knowledge and skill that burn practitioners must achieve before they are allowed to lead burns and usually includes state-sponsored training programs. Both of these requirements often go hand-in-hand with liability laws, by defining the standards considered sufficient to have acted in a responsible (i.e. not negligent) manner.

It is beyond the scope of this Communications Strategy to provide a detailed and accurate picture of prescribed fire law in all states. SERPPAS is working with University of NC law interns who at time of publication have nearly completed a summary of burn law for each of the Longleaf states, including burn rules, liability protections related to smoke and fire (levels of negligence) and examples from case law. These documents can guide detailed communications on this topic. ([See Appendix 13.](#))

Furthermore, the degree to which states allow county level jurisdictions to impose burn bans also varies. For example, [Kentucky law](#) states that “a city or county may enact an ordinance banning all open burning during periods of extraordinary forest fire hazard or fire occurrence.” On the other hand, in Mississippi while municipalities may ban burning, any county seeking to enact a burn ban must first seek approval from the Mississippi Forestry Commission (MFC). MFC provides for exemptions, including prescribed fire, to such local regulations.

2. Message: Increase state forestry/wildlife agency budgets for prescribed fire.

There is often greater public demand for prescribed fire than state agencies can meet!

Audience: State legislatures; executive leadership of state resource agencies



Discussion

State forestry experts almost uniformly stated during the course of their interviews that prescribed fire activities had been affected by budget cuts or personnel reductions in recent years. The Florida Forest Service alone appears to have come through the recession without staffing cuts, but even their budget has tightened as the costs of running equipment have risen. Additionally, many state agency interviewees - whether forestry or wildlife agency personnel - as well as NRCS program staff said that the demand for prescribed fire exceeds the ability to supply it. State forestry agency services, private vendors, and on-the-ground training for landowners who wish to undertake prescribed burning themselves are insufficient to meet demand in many places.

Leaders at the Alabama Forestry Commission expressed the need for a burn coordinator such as those employed by the states of Georgia

and Florida. A coordinator would increase the agency’s ability to organize and provide training, promote prescribed fire, and manage airsheds during the busy burn season of February/March when demand for burn permits is routinely 600 to 800 per day. The state has been hit with budget reductions that have affected equipment availability and the ability to conduct prescribed burns.

Appropriations in the state of Mississippi have gone down since 2008 with Forestry Commission personnel cut by 35% from approximately 650 to 420 employees. At the same time, more and more people are signing up for hazard mitigation/proximity burning. Mississippi has an acreage tax based on forested acres, required by 1972 legislation, which provides a revolving account for equipment purchases. While the tax income has stayed fairly constant over time, equipment costs have increased.

The Louisiana Department of Agriculture & Forestry likewise has lost 50% of its budget and 50% of its people over the last 5 years; this has led to reductions in the amount of prescribed burning the agency conducts.

In the past few years, the state of Kentucky has placed a cap on its full-time employees in the Department of Fish & Wildlife Resources (KDFWR), which has directly impacted their ability to manage seasonal burn crews while the Kentucky Division of Forestry has lost 24 full-time personnel, which translates into a loss of over 60 firefighters (managed by the FTEs).

The Tennessee Division of Forestry 2012 “right to burn” law established certification criteria. Additional funds to support this training could accelerate the program to meet demand, which is increasing at least in part thanks to the Tennessee Wildlife Resource Agency’s [Farm Wildlife Habitat program](#) and NRCS programs.

3. Message: Increased budgets for state resource and forestry agencies will ensure states can retain all of their Pittman-Robertson federal matching dollars.

Audience: State legislatures



Discussion

Pittman Robertson (P-R) federal aid disbursed to states requires a 25% non-federal match, and states have a 2-year window within which to find the requisite match. States want to spend all those P-R dollars. Since P-R dollars have gone up in the current administration, state agencies are hard pressed to provide sufficient match to retain all those dollars in-state. P-R dollars are essential for state wildlife habitat restoration and management projects, including prescribed burns. If states cannot find sufficient match, those P-R dollars go back to the federal treasury. One expert who works directly with EGCP states said some state agencies lack the staff to match the dollars they could receive, although they are stretching and trying to think creatively, collaborating with a diverse array of non-government partners. Given the relatively small and declining allocations for conservation activities within federal and state budgets, allowing P-R dollars to return to the federal treasury is something that should never happen!

4. Message: Increase federal budgets for prescribed fire; increase federal agency program expenditures in support of prescribed fire. There is an ecological imperative for prescribed fire on lands that are legislatively mandated to be managed for the "conservation and protection of wildlife resources" or "multiple uses," and it is not



being met. Lack of fire has direct consequences on ecological health, listed species, and hazardous fuels build up.

Audience: Congress; executive leadership of federal resource agencies (to the extent they have authority to vary budget expenditures)

Discussion

Both the US Fish & Wildlife Service (USFWS) and the US Forest Service (USFS) have suffered significant cutbacks in funding for prescribed fire in recent years. The USFWS pays for prescribed fire out of its hazardous fuels budget, which pays for treatments that reduce the risk of catastrophic wildfire to people, communities, and natural resources. According to the USFWS, prescribed fire "mitigates hazards, and improves or maintains natural resource conditions outside the wildland-urban interface on Department of Interior lands that provide critical habitat for species at risk and listed species."

- FY09: USFWS hazardous fuels reduction (HFR) funding in the Southeast region peaked at \$7.57.
- By FY13, the HFR budget had been reduced by 42%.
- FY16 budget forecasts predict elimination of the HFR budget.

Fire budget reductions have forced Service leaders to cut operations and reduce program size, which has resulted in an agency that is now way behind the level of support required to maintain the ecological health of its lands in the Southeast. In this region of temperate climate and high rainfall, vegetation (fuels) grow rapidly. The USFWS needs to burn over 400,000 acres/year. At peak 2010 budget levels, the agency got about 200,000 acres done. At 2013 budget levels, the agency can only burn about 40,000 to 50,000 acres, and this will undoubtedly decrease significantly if the HFR budget is zeroed out. In FY13, some

National Wildlife Refuges such as Noxubee in Mississippi were using their own base funds to get their burning done.

Likewise, the US Forest Service has had overall declining budgets in recent years. Its FY14 budget for Hazardous Fuels is projected to result in a reduction of 14% in acres treated compared to 2013. Insufficient appropriations in recent years has made "[fire borrowing](#)" a common practice; borrowing involves taking funds from other Forest Service programs to pay for wildfire suppression.

The 2012 Interior appropriations bill began a process to reorganize the way in which Forest Service funds would be appropriated and spent by the agency. "[Integrated Resource Restoration](#)" takes a holistic approach to addressing the broad spectrum of restoration work by bringing it together under one budget line item." Funding for many formerly separate line item activities is being combined on a pilot basis in Regions 1, 3 and 4 - including the non-Wildland-Urban Interface (WUI) portion of the Hazardous Fuels budget. This new flexibility is a double-edged sword that could allow for increased or decreased support for prescribed fire. Under Integrated Resource Restoration, agency line officers have the flexibility to prioritize and implement projects, and collaboration with stakeholders is emphasized.

The bottom line is that lower federal budgets limit the capacity to burn. In Tennessee, there are four certified burners at NRCS for all of TN. Out of a total ~90 burn days per year, they may actually get to burn 10 of those due to weather limitations for certain prescriptions and the ability to provide manpower at the right times. Furthermore, the limited size of most landowner parcels means that unless it is possible to burn multiple tracts, they cannot get much done because it takes the same effort, whether burning 5 or 500 acres.

5. Message: Maintain State Wildlife Grant and Pittman Robertson expenditures, and allow states to apply these funds toward prescribed burning projects

Audience: Congress, State resource agencies



Discussion

Since 2001, State and Tribal Wildlife Grants (SWG) have been effectively promoting science and land management to benefit wildlife. It is the only federal program with the explicit goal of preventing endangered species listings. Since 2005, SWGs have addressed priority conservation needs outlined in [State Wildlife Action Plans](#). However SWG dollars in EGCP states have been declining pretty steadily since 2001, with FY13 receiving the second lowest SWG allocations in all six states, and FY11 being the lowest year in all cases.

State Wildlife Grants may be used to support habitat management, including prescribed fire. SWG dollars have been the source of funding for some innovative programs, such as the Prescribed Burn Initiative (PBI) in Louisiana. Since 2008, SWGs have supported regionally-focused PBIs, one in the West Gulf Coastal Plain and two in the East. The EGCP PBIs hire private contractors to conduct the burn work, and since 2010 they have burned more than 9000 acres. See [Appendix 3](#) for more information on Louisiana's PBI.

The Wildlife Management Institute has begun working with southeastern states to pool both SWG and P-R funds to address rangewide conservation issues. P-R dollars are essential for state wildlife habitat restoration and management projects, including prescribed burns. It is critical that all states allow the expenditure of P-R dollars for prescribed fire.

It is also critical to maintain robust funding for the SWG program. See [Appendix 2](#) for an overview of SWG expenditures from FY01 to FY13.

6. Message: Fire is a safe and cost-effective science-based land management tool.

Audience: State resource management agencies/local government/landowners/the public



Discussion

Experts agree that prescribed fire is the most cost effective tool for managing undergrowth, controlling fuel levels and promoting native species in many habitats throughout the Southeast. Prescribed fire beats the cost of mechanical treatments and herbicides. Most experts cited prices ranging from \$25 to \$40 per acre. Several federal programs, such as the Conservation Reserve Program (CRP) and the Environmental Quality Incentives Program (EQIP) - which now includes the Working Lands for Wildlife (WLFW) program - will pay for the cost of a prescribed burn, along with some state programs. If a landowner does his/her own burning, their costs are substantially less.

NRCS program personnel pointed out that the agency “likes fire” because it is very cost effective and can return land with invasives or offsite species to a more naturalized plant community.

7. Message: Prescribed fire reduces the risk of wildfire and costs much less than wildfire. Prescribed fire must be managed as an integral part of wildfire suppression and fuels reduction. We need to stop devoting our resources to



emergency room treatment and start spending them on preventive medicine. Prescribed fire is the medicine that can help to reduce the frequency and intensity of wildfires as well as accelerated species listings in the Southeast.

Audience: Congress, federal and state resource management agencies, land managers, local government, resource-dependent commercial enterprise, the public

Discussion

In the words of one state forestry agency leader: “We need to find ways to spend funds to facilitate prescribed burns to control fuels instead of spending huge amounts to fight wildfires after fuels become too much.” The Longleaf Rangewide Conservation Plan also states, “Neither the essential, ecological role of fire nor the tradeoffs between fire management smoke and wildfires is universally recognized.”

Considered in the light of future climate change projections for the Southeast - a region with the highest application of prescribed fire and also the highest number of wildfires in the lower 48 states - prescribed fire will only become more important. Any future limitations to prescribed burning or increase in the severity of fire regimes will likely have strong impacts on ecosystem services, such as water supply, provided by forests of the Southeast. (Mitchell et al., 2014, in press)

Opportunity: A well-managed consistent prescribed fire program can reduce the risk of wildfire, yet there is little geospatial data or analysis of the preventive benefits of prescribed fire in the Southeast. A [few studies in recent years](#) have sought to show how prescribed fire reduced the size of wildfires, with one of those from the Southeast ([Merritt Island, FL](#)). Likewise there is a dearth of cost-benefit or policy analyses on the tradeoff between the smoke/costs of prescribed fire versus the

smoke/costs of wildfire, which can be much greater. Such an analysis for the Southeast comparing the costs and benefits of prescribed fire vs. wildfire would provide a powerful argument for the integration of wildfire response and prescribed fire, as well as public acceptance of prescribed fire. One expert suggested the EGCPJV could spearhead such a study by assisting with fundraising and oversight.

The Prescribed Fire Manager for the Florida Forest Service indicated one means of conducting such an analysis:

“When we know who is responsible for a wildfire (either accidental or intentional) we charge them with a suppression bill. This is calculated by applying an hourly rate for our employees and equipment to the amount of time they spent suppressing the fire. One example of this is a 280-acre wildfire near Orlando. This fire generated a suppression bill of \$32,000.00 (it took six days to control). If FFS had contracted to burn that same area at \$25.00/acre the cost would have been \$7,000.00 (and would have been completed in one day).”

8. Message: It is critically important that wildlife habitat improvement, and specifically prescribed fire, be incorporated into guidelines for EQIP and other conservation programs of the Agricultural Act of 2014. We need to expand the partnership between NRCS, resource agencies and private landowners to ensure that the EQIP program will support prescribed fire as a stewardship practice to benefit species of conservation concern, game species, and overall ecosystem health.



Audience: NRCS State Conservationists and staffs, State Technical Committees of the Natural Resources Conservation Service, National Forest Resource Coordinating Committee, USFS State & Private Forestry, State Resource agencies and Joint Ventures

Discussion

Fire is as essential to southern ecosystems as water, wind and sunlight. The conservation title of the Farm Bill is the primary means by which federal and, via partnerships, state agencies can incentivize landowners to use prescribed fire in a safe and beneficial way. Congress recently renewed the legislation by passing the [Agricultural Act of 2014](#). This legislation rolled the former Wildlife Habitat Incentives Program (WHIP) into the Environmental Quality Incentives Program (EQIP). The 2014 guidelines for EQIP expenditures set a minimum of 5% of expenditures (or more) toward “restoration, development, protection, and improvement of wildlife habitat on eligible land.”

EQIP will likely continue to support the “Working Lands for Wildlife,” (WL4W), program which is restricted to T&E species and in the Southeast is focused on gopher tortoise habitat. This innovative program supports prescribed fire in longleaf pine, but not other habitat types. For example, in Louisiana the WL4W program is restricted to 2 1/2 parishes with gopher tortoise soils. The Conservation Reserve Program (CRP), which suffered reductions in the 2014 Farm Bill will pay for prescribed fire as a mid-contract management activity, as will EQIP.

NRCS program staff point out that it is important that programs such as Environmental Quality Incentives Program (EQIP) have true wildlife-beneficial practices - including

prescribed fire explicitly - as a mandate. To this end, Louisiana Department of Wildlife & Fisheries officials are meeting with NRCS with the goal of ensuring that EQIP reflects wildlife values, and other EGCP states could benefit by conducting similar outreach.

The 2014 Farm Bill explicitly states with reference to EQIP expenditures, "In determining the practices eligible for payment . . . the Secretary shall consult with the relevant State technical committee not less often than once each year." The state Technical Committees and NRCS State Conservationists are therefore key audiences who need to embrace the importance of prescribed fire for natural habitats.

As an entity focused on birds and habitat conservation, Joint Ventures need to consider expanding JV-NRCS interactions. A first step would be to invite the NRCS to attend EGCPJV Board meetings.

9. Message: The "farm bill biologist" model works and should be considered in states that do not currently employ this model of stewardship.



Audience: Natural Resource Conservation Service state conservationists and staffs

Discussion

Several states (including MS and KY) within the East Gulf Coastal Plain have successfully implemented partnerships between the Natural Resources Conservation Service (NRCS) and the state wildlife agencies or NGOs to create positions commonly known as "Farm Bill biologists" or sometimes, "private lands biologists" (not to be confused with state agency staff who work on private lands). Generally, the partnerships are a 50-50 cost-share between the state agency or NGO and

the NRCS. Whoever comes to the table with matching dollars is usually the one that officially employs the staff, though they are often located elsewhere. For example, in KY many Farm Bill biologists work under the state resource agency but operate out of NRCS offices. These positions usually write wildlife management plans and provide linkage between the two organizations.

NRCS contracting workloads are such that technical staff welcome the additional support that Farm Bill biologists provide. State agencies have technical expertise, but often lack the programmatic resources that NRCS can offer to private landowners. These partnership positions combine the strengths of the agencies and increase their overall ability to work on private lands effectively. They have also been very beneficial in promoting prescribed fire and grassland restoration.

10. Message: Multi-state analyses of both State Wildlife Action Plans and State Forest Action Plans, focusing on landscapes across boundaries and the overlapping priorities in

these plans, would be tremendously useful in helping agencies and partners focus their conservation efforts. State Wildlife Action Plans should more explicitly recognize the need for prescribed fire when describing specific habitat types and species of concern.

Audience: State wildlife and forestry agencies, nonprofit conservation partners

Discussion

In addition to SWAPs, all states now have [Statewide Forest Resource Assessments and Strategies](#), or Forest Action Plans, as a result of requirements in the 2008 Farm Bill. Similar to SWAPs, but with a focus on forests within state



boundaries, Forest Action Plans develop strategies to address threats and improve forest health. They analyze forest conditions and trends and delineate priority forest landscape areas. They offer practical, long-term plans for investing state, federal, and other resources where they can be most effective in achieving national conservation goals.

An analysis of state wildlife and forest action plans to identify common priorities would foster expanded cooperation and leverage resources for conservation. Such an analysis could include an overlay that identifies priority landscapes for focusing prescribed burning with the goal of maximizing benefits to birds and other types of wildlife. One logical partner in this effort would be the [U.S. Endowment for Forestry & Communities](#), which focuses on forestry issues to “advance systemic, transformative and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities.” This analysis is one aspect of the broader need to plan for fire landscapes and conservation at the landscape scale (see p. 42, Outreach Message #3).

State Wildlife Action Plans developed by the six states of the EGCP do an admirable job, on the whole, of discussing the ecological role of fire and the importance of prescribed fire in key habitats. The extent to which every specific habitat type is identified as fire dependent varies widely, however. For example, some habitats may include no discussion of fire, but may list “altered fire regime” as a threat. In every case where fire must be managed or reintroduced to protect or restore habitat, this should be explicitly stated and explained.

11. Message: Agencies should seek to include privately held inholdings in prescribed burns on public lands.

Audience: US Forest Service, US Fish & Wildlife Service, state resource agencies

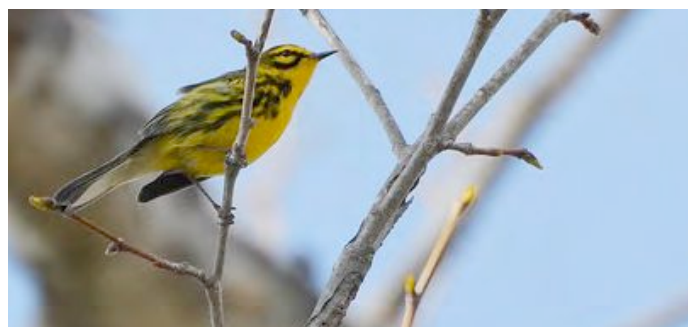


Discussion

One forestry consultant said he had clients with inholdings in Forest Service and National Wildlife Refuge lands, both of which conduct burns quite a bit on their own lands. If there were a way for landowners to piggy back with public agencies during their burns, it would save everyone money and succeed in getting more acreage burned with minimal effort. Right now the federal agencies have to plow fire lanes to keep the fire off the private lands. Other experts pointed this out as well.

In Louisiana, private land previously owned by Willamette Industries is being burned by the USFS under the [Wyden Amendment](#), because it borders a national forest. This mechanism could potentially be more widely used to promote burning on buffer lands that border national forests.

The Florida Forest Service commented they recognize that in order to achieve several of their objectives on Wildlife Management Areas, having the ability to include adjacent lands in their burn program is very important. They are also aware of numerous obstacles that inhibit them from doing this, but are always looking for ways to overcome them. While this is likely a long-term process, they say any help in this regard would be beneficial.



12. Message: Much of the demand for prescribed burning expertise and support is being funneled into a narrower and narrower range of available burn days due to both variable/



changing weather patterns and burn permitting standards. Land managers are also being forced to burn smaller pieces of land to mitigate smoke impacts. Available burn days can be increased by changing smoke dispersion requirements and/or the season of burning.

Audience: State or local environment, air quality and/or forestry agencies

Discussion

It is important to protect public health from smoke impacts, yet this is a balancing act because prescribed fire also has public health benefits in the form of reducing wildfire risk and promoting general forest health. In MS, smoke dispersion standards were lowered to allow greater flexibility in issuing burn permits. Another alternative is to expand the timing of prescribed burns beyond the typical burning season. For example, growing season burns are often desirable from the standpoint of wildlife benefits as well.

Technological advances have increased the precision of models that predict smoke behavior based on forecasted weather conditions, which can also lead to an increase in the range of burn days available.

13. Message: Affordable prescribed fire insurance is sorely needed, and it may also represent a business opportunity.



Audience: Insurance companies

Discussion

More affordable liability insurance for prescribed fire is a need across the South, a need recognized by many experts and in the SERPPAS Comprehensive Plan. The demand for prescribed fire is increasing while the supply of those who can provide the service is insufficient to meet that demand. The TN Division of Forestry Fire Chief pointed to the cost of liability insurance as a deterrent to vendors and landowners alike.

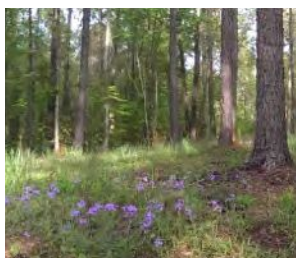
While state fire councils continue striving to put laws in place that will decrease landowner liability, many states already have laws on the books. These laws generally require that prescribed burners obtain training and certification. ([See Appendix 13](#)) These highly professional training programs greatly reduce the risk of smoke impacts or an escaped fire. Insurance companies may be recognizing that the certification of prescribed fire is an asset that can make such insurance policies less risky.

Pooled insurance can help meet the demand for more affordable liability insurance. Prescribed Fire Councils and Prescribed Burn Associations (PBAs) in several southeastern states have obtained or are seeking to obtain liability insurance policies that can cover all of their members to make costs more affordable. For example, PBAs working through State Prescribed Fire Councils in Oklahoma, Kansas and Texas are seeking to pool their markets for liability insurance to secure coverage. Another recent example is the [Longleaf Alliance insurance program](#) to cover private landowners conducting prescribed burns on their own property, provided through Outdoor Underwriters.

However, one expert from Mississippi noted that prescribed fire liability policies generally exclude “pollution,” which is where smoke is covered. Smoke is the greatest liability risk

associated with prescribed fire. Yet, like certification training, weather models can accurately forecast and predict the behavior of smoke 24 hours in advance, greatly decreasing risk. These models are being updated and improved all the time.

Prescribed fire is in demand across the South, and many organizations are working toward a “break out” in the public consciousness that recognizes its importance. Insurance companies have a role to play in this process.



14. Message: [Visit My Forest](#) should be a prominent link on all State Forestry websites, and wildlife agency websites as well. This website is the public interface to the “[good fires](#)” message, developed through the One Message Many Voices campaign. However, in many cases information about prescribed fire and the Visit My Forest weblink are still absent or hard to find on resource agency websites.

Audience: State resource management agencies, EGCPJV Management Board members

Discussion

Various experts in state agencies as well as observers agree that forestry and resource agency websites can be difficult to navigate to find prescribed fire resources. These are the sites that arguably reach more of the potential “prescribed fire” market than any others. A consistent prescribed fire message that is more uniformly visible or easier to find would be a big step toward educating both private landowners looking for stewardship information as well as the public and other interested parties. A first step is to provide a home page link to the [Visit My Forest](#) website.

Examples of this problem include: Florida provides a direct link to the [Visit My Forest](#) website - developed as a backdoor to the “good fires” message by the OMMV campaign - and a direct link to “[Good Fires](#)” on its prescribed fire page. However, even in Florida - as in most other state forestry agencies, one must search and click at least 3 levels down from the homepage to find information on prescribed fire. The Mississippi Forestry Commission has a link to prescribed fire training on their homepage, but does not seem to describe burn information (including burn permits) using the term “prescribed fire” anywhere else on their site. Kentucky appears to have no information about prescribed fire.

Good news is that the MFC is about to redesign their site with some creative program development funding obtained from an FY2013 USFS Redesign Grant. Entitled “Longleaf Pine: An Ecosystem Created by Fire and Upgrade of MFC Website to Mobile Device Compatible Version with Online Burn Permit and other Applications,” the funded project includes a landowner prescribed fire education program that will conduct participatory demonstration burns and a website redesign. The website redesign will include a more prominent prescribed fire message on the site’s homepage.



15. Message: County and municipal governments in the Southeast have a significant role to play in the protection of their local forests’ health, quality of life, and management of wildfire risk through measures that protect the continued use of prescribed fire.

Audience: County and municipal governments, land use planning departments, prescribed burn associations

Discussion

A number of examples of successful local initiatives across the South demonstrate how the ability to use prescribed fire can be preserved. As noted earlier, the Mississippi Forestry Commission reviews all locally proposed burn bans and preserves the right to exempt prescribed fire from such bans. Prescribed Burn Associations and other local organizations are excellent vehicles for bringing the message about protecting prescribed fire to county governments.

The Mississippi Prescribed Fire Council is seeking a mechanism for reaching out to all of the state's counties to secure "Resolutions in support of prescribed fire." This is an idea borrowed from Georgia (see [Appendix 12](#)).

"Smoke corridors" are another solution that have been implemented in Florida. Such county-wide local ordinances create smoke corridors for the parks within their jurisdiction.

The Sarasota County Smoke Corridor ordinance establishes and delineates a smoke transport and dispersion trajectory for prescribed burns within a park. Developers are then required to give potential buyers of downwind lots a copy of the ordinance, stating that the lot is located in a smoke corridor and will occasionally be impacted by smoke from "ecological fire." (Brenner, 1995)

Effective means of outreach to local governments include:

- highlighting effective local programs (what they are doing "right") within the context of local ecosystem dynamics and management needs;
- recognizing officials who have supported effective local programs;
- focusing on ways to avoid the negative impacts of fire; and
- pointing to the success of "beacon sites" (see [Appendix 4](#)).



OUTREACH GOAL: Foster the adoption and increased application of prescribed fire among EGCP resource program and management communities by providing science-based information and training and by focusing on achieving ecological, wildlife, and habitat benefits. Include a focus on recruitment and training of professionals and consultants to increase overall capacity for conducting prescribed burns.

One definition of outreach is "A systematic attempt to provide services beyond conventional limits, such as to particular segments of a community." This outreach goal seeks to bring more consistent, specific or technical information about prescribed fire to an audience that in some cases may already be informed: staff of government assistance programs for private land stewardship, foresters, fire control experts, state and federal resource agencies, wildlife consultants, and consulting foresters. However, additional information is often needed to promote greater recognition of fire dependent habitats, the ecological value of prescribed fire, and the benefits of landscape scale planning to enable greater application of prescribed fire when managing habitats.

1. Message: The wildlife community wants to work more closely with the forestry community to integrate conservation, management and prescribed



fire information and technical assistance with the goal of improving our overall effectiveness on-the-ground.

Audience: US Forest Service and national forests, state forestry agencies, forestry extension offices, the forestry science community, consulting foresters and wildlife consultants

Discussion

Because there are some areas of disagreement among the wildlife management and forestry communities, many experts agree that it is important and effective to get the two groups working together to share information, learn from one another, gain new perspectives and focus on common interests with respect to land management and prescribed fire. Such outreach between the two communities has and is occurring, and should be increased.

Experts interviewed cited the following as effective means of increasing collaboration between the wildlife and production forestry perspectives:

- collaborative development of “desired forest conditions for wildlife” silvicultural and fire guidelines;
- collaborative development of management protocols to achieve SFI ([Sustainable Forestry Initiative](#)) certification standards in industrial forests;
- management prescriptions that benefit a diversity of wildlife;
- wildlife accreditation for foresters;
- low-cost or free workshops for both audiences, providing professional CEUs;
- greater exchange at the university level among forestry and wildlife programs

(longleaf ecology is still taught mostly in wildlife, not forestry);

- testimonials and examples of what has worked for both communities;
- development of business plans with consulting foresters (who make less in the current economy from timber sales compared to about 5 years ago); newer versions of plans can recognize the need for fire and section private land management plans in order to burn a portion every year. In this way, foresters/consultants can greatly increase their business opportunities.

Some of the subjects that should be tackled include:

- silvicultural options for incorporating fire into forests managed primarily for timber - these are not well known or practiced by resource managers;
- the use of both warm season and cool season burns; some forestry agencies still promote cool season burns, primarily based on timber management concerns; however, open pine and grasslands historically burned primarily in summer and the results of focusing on cool season burns can be different;
- when to use pre-commercial thinning vs prescribed fire to promote habitat regeneration - in some cases thinning may actually be more expensive than burning.

Views between wildlife biologists and foresters are not that far with respect to prescribed fire; they differ most when the goal is timber management. General areas of agreement include use of prescribed fire for native warm season grasses; site preparation for conversion to pine; understory burning (dependent on topography and potential for scorching); and wildlife management and fuel reduction in the wildland/urban interface.

Wildlife and production foresters can differ more on the frequency of burns - wildlife foresters tend to want more frequent burns, while production foresters prefer them less frequently. Wildlife foresters often prefer more growing season burns because they can be more effective in opening up the ground to sunlight, which promotes the herbaceous understory. Timber foresters want to avoid the damage that hotter growing season burns may cause their crop. There is a definite need for more science-based agreements and education about prescribed fire's compatibility with production forestry.



Industrial timber management using prescribed fire

In the South, production pine forestry generally does not use burning for silviculture primarily for economic reasons. The cost of prescribed burning has increased from ~\$10 to \$12 /acre to ~\$25/ acre in recent decades due to the costs of liability insurance, as well as rising costs of labor and fuel. In addition, with budget cuts, state agencies no longer provide the same level of prescribed burning service, and they also charge for it (is used to be free) so as not to compete with local vendors. One consulting forester who manages over 175,000 acres of pine in Mississippi said that on pension fund lands, often owned by TIMOs, there is generally no burning for wildlife habitat. There may be greater potential for collaboration on prescribed fire with timberland companies who seek SFI certification for their timberlands.

There are two cases in which plantation pine operations tend to use prescribed fire, and they are both site preparation: (1) when a lot of debris prohibits planter access or (2) when there are germinant pine seedlings that need to be eliminated (to be replaced with new faster-growing genetically modified varieties). Herbicides that kill pines are not as effective as a good fire, and they are more expensive.

Industrial foresters may also burn for pre-commercial thinning needs. When trees have grown beyond mechanical thinning, a prescribed fire will kill the weaker trees in an overstocked stand. This also provides some wildlife benefit as well.



Issues specific to hardwood forests and oak woodlands

The use of fire in oak woodlands is a controversial issue that deserves more clarification and attention in the form of strategic landscape scale planning, research and conservation. It is unlikely that prescribed fire will ever attain its former scale within hardwood forests of the East Gulf Coastal Plain. Therefore, choices must be made that take into consideration limited resources, the lingering effects of historic land uses, the importance of areas to wildlife and rare species, future effects of climate change and the matrix of ownerships and land uses within which fire will be applied and managed. This issue highlights the central role of humans in ecosystems - it is up to people to maintain conditions on the landscape that are desirable - and there are many different perspectives about what is desirable.

While practitioners and scientists agree that oaks are dependent upon regular disturbance, fire is often seen as just one form of disturbance. Fire was widespread in the northern portions of the EGCP (northern AL and MS, TN, KY) in presettlement times and likely of more anthropogenic origin than in the coastal plains where lightning is more common. However, fire has been largely missing during the development of many extant oak forests in the eastern US today. The production forestry community, in particular, does not regularly use or recommend the use of prescribed fire in oak forests because they view mechanical substitutes as equally effective, with less risk of damage to their product.

On the other hand, scientific understanding of fire in oak systems is increasing, with fire often seen as necessary to address problems in oak regeneration and the “mesophication” of eastern forests. (Mesophication is the process of conversion to more mesic species such as maple and sweetgum that are also less desirable for wildlife and timber and harder to burn.) Wildlife managers see prescribed fire as useful for establishing new oak seedlings, reviving a diverse and open understory of native plants, converting closed canopy forest to a more open woodland or savannah community, and restoring mixed oak/pine back to open pine.

Opportunity: The fire consortia are a good way to investigate and disseminate integrated forestry/wildlife science-based messages. The consortia do much more than publicize science; they provide outlets for groups such as the EGCPJV. They have many means for sharing information: face to face, print, video, even town hall meetings. The consortia have indicated their willingness to collaborate in such efforts with the Joint Venture.

2. Message: The EGCPJV is willing to lead or contribute to the development of science-based wildlife- and ecosystem-centric information about the need for fire on the landscape and the ecological results of prescribed fire.

Audience: State natural resource agencies, federal and state program staff (NRCS, USFS, USFWS), forestry/wildlife consultants, prescribed fire vendors, private landowners



Discussion

Many experts agree that the EGCPJV is well-suited to provide and disseminate science-based wildlife- and ecosystem-centric information about the importance of prescribed fire. In particular, the EGCPJV is an authoritative source for cataloguing and disseminating the benefits of fire to birds, including the benefits of growing season fire.

Because so many southeastern habitats are fire-adapted, restoration without the use of prescribed fire is likely to be suboptimal. Alternate forms of management may replicate elements of fire, but the results will not be identical. Herbicide can be useful to facilitate restoration, but does not replace fire. The details of this message vary according to the habitat.

Prescribed fire in the South is important for many reasons. The heart of the issue is that fire is required to maintain ecological health and integrity. Lack of fire has degraded open pine systems and grasslands to the point where there is a disturbing parallel between the number of terrestrial species that are listed or proposed for listing in the Southeast and those that are dependent upon fire. Many such listed

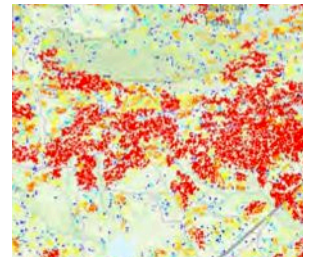
or [rare and declining species come from fire-adapted habitats](#), such as the red-cockaded woodpecker, gopher tortoise, eastern indigo snake, Brown-headed nuthatch, Bachman's sparrow and Henslow's sparrow. Northern bobwhite quail, an iconic game species that has declined precipitously in recent decades, also benefits from prescribed fire because these birds require relatively open native grass stands, which can only be managed with fire.

Opportunity: The SERPPAS Prescribed Fire work group is currently developing an online Prescribed Fire Curriculum focused on the Southeast, with some training modules focused specifically on longleaf, but others focused more generally on prescribed fire techniques. Jennifer Evans, the Prescribed Fire Extension Assistant for SERPPAS, is developing the curriculum in consultation with the SERPPAS Prescribed Fire Work Group and the Southeastern fire chiefs. The goal is to help integrate curriculum from the nine longleaf (SE coastal) states while helping them to save training resources that could be reallocated toward field work.

The new course modules will be housed at campus.extension.org along with "Basic Prescribed Fire Training" (developed by John Weir), which focuses on rangelands. They are hopeful that the new training could be used by NRCS to meet their prescribed fire training requirements. SERPPAS indicated that as currently planned, a woodlands focus is lacking in these training modules. Another opportunity is for the EGCPJV to contribute by developing a training module that provides the perspective of wildlife benefits from prescribed fire. Adding some modules focused on different habitats would benefit other players including NRCS.

3. Message: To achieve the full benefits of prescribed fire across the Southeast, landscape scale planning for fire should be a priority.

Targeted delivery of prescribed fire in key regions will provide synergistic benefits with other conservation planning initiatives.



Audience: Federal and state resource agencies, USDA state conservationists, USDA State Technical Advisory committees, NRCS county-level working groups, program managers, land managers, Landscape Conservation Cooperatives and conservation biologists, conservation planning nonprofits, and any organization that conducts conservation planning

Discussion

There are benefits from concentrating habitat improvements from fire on the landscape. Research on soil, wildlife, and forests generally shows that targeted programs are more effective at producing good outcomes than those that are broad and diffuse. Several southeastern planning efforts have made some effort to identify subregional priority landscapes for a variety of resource management objectives. These include quail management priority zones, the open pine model for lower coastal plain pine habitats, and the Significant Geographic Areas identified in America's Longleaf Conservation Plan.

[Landscape Conservation Cooperatives](#) are in the midst of a far-ranging process to develop conservation "blueprints" that will identify highest priority conservation sites and associated actions. An overlay of priority landscapes for focusing prescribed burning efforts to maximize benefits to birds would be a good addition to the mix.

Landscape scale planning takes into account myriad factors and often, projections of future change, to designate geographic areas, habitat

management practices and species management priorities for the long-term. Long-term planning for habitat connectivity and migration in response to climate change effects should also include considerations related to the long-term viability of prescribed fire. Corridors and priority management zones appear to affect the character of prescribed fire. For example, a [study in 2012](#) (Brudwig, LA et al., 2012) found that corridor connectivity and associated edge effects, including a wind-driven “bellows effect,” in shrubby/herbaceous habitat within a longleaf pine plantation resulted in hotter fire temperatures. These same areas supported higher bunch grass cover during the field season after burning. This study found no evidence that corridors changed patterns of fire spread.

Landscape planning involves the identification of priority sites and/or management for conditions that support wildlife. A familiar example is the concentration of water quality improvement measures in priority watersheds. Focused application of prescribed fire in priority zones could contribute to the maintenance of species diversity, including rare species. It may also protect some ecosystem services provided by Southeastern forests, for example water supply, by maintaining ecosystem health and limiting the increase in wildfires that is currently projected to occur under future climate scenarios. Prescribed fire priority zones may allow larger, more cost-effective burns, also making it more likely that a fire regime could realistically be continued into the future.

Although such prioritization seems straightforward, in practice it can be difficult for agency staff to prioritize landowner assistance program expenditures geographically unless the priority areas are incorporated into program criteria. Most state agencies use federal dollars for state programs and must therefore follow

federal guidelines. State funded programs have more discretion in how they prioritize their expenditures but remain subject to pressure from taxpayers.

The USFS [State & Private Forestry Redesign](#) funding allocation assumes that “collective efforts will be most effective if available resources are focused on issues and landscapes of national importance and prioritized, using state and regional assessments, on activities that promise meaningful outcomes on the ground.” Several experts within state forestry agencies expressed openness to the idea of taking a landscape approach, working with landowners and managers to assess large areas. Working with groups of landowners can also provide efficiencies of scale (it requires the same effort whether burning 5 or 500 acres.)

4. Message: Program staff in state and federal agencies who administer cost-share and grant programs for private landowners will provide better service to



landowners, taxpayers and the environment when they understand both the ecological and economic value of prescribed fire.

Audience: State resource and forestry agencies, USDA state conservationists, NRCS staff

Discussion

A number of experts noted that “often times the ecological value of fire is misunderstood or under-appreciated” among the program staff who could be supporting prescribed fire. While state forestry agency staff may be very knowledgeable about fire, it is usually in the form of fire suppression. State foresters and conservation planners within NRCS and the landowners they work with would all benefit from prescribed fire training or certification.

Some NRCS state offices require that their conservation planners receive prescribed burning certification training. For example, in TN upwards of 150 NRCS staff receive an in-house prescribed fire certification course developed in collaboration with Oklahoma State University. This gives staff the basic knowledge they need to make the best land management planning decisions. In Alabama, NRCS previously required their non-forestry staff to take the state prescribed fire certification course, but this has lapsed, and still other states have never required it.

Support for restoration should be coupled more closely with support for long-term management which includes regular controlled burns at appropriate intervals. As recommended in the [SERPPAS Comprehensive Strategy](#), NRCS/FSA programs that support restoration of fire-dependent habitats should include an educational component for landowners concerning the importance of prescribed fire for healthy forests, diverse plant communities and wildlife in general.

Opportunity: Several experts mentioned the need to highlight how Conservation Reserve Program (CRP) mid-contract management payments can be applied toward prescribed fire. In Mississippi and throughout the East Gulf Coastal Plain, landowners have approximately 400,000 acres of land enrolled in CRP. Many farmers managing these CRP grasslands use mowing simply because they are unaware of the wildlife benefits of prescribed burning. In many cases, it may be easier or cheaper for such farmers to burn than mow. They need to be educated that fire is a valid management option: it is all eligible for burning, but very few landowners are aware of this. In this case, simple acquisition of knowledge may result in a change in behavior. Outreach to NRCS program staff concerning this issue could be incorporated into a

prescribed fire training/certification course as a means of spreading this message to CRP enrollees. (Even though CRP is a Farm Services Agency program, NRCS staff write the management plans that guide the implementation of CRP contracts).

5. Message: Consulting foresters and traditional forestry

assistance programs can expand and improve the assistance they provide landowners by focusing on the wildlife benefits of prescribed fire in forest management. Expertise in prescribed fire can provide a competitive edge to consulting foresters, wildlife consultants, tree vendors and Technical Service Providers. There is a high unmet demand for professionals trained and certified to conduct burns in the EGCP states; there are also federal cost-share programs that can help landowners defray the costs of planning or conducting prescribed burns.



Audience: Forestry/wildlife consultants; Rx fire vendors; resource program managers

Discussion

Several experts, including at least two consulting foresters, spoke positively about the business benefits of prescribed fire:

- it helps consultants (and landowners) make money by saving on costs;
- it is in demand;
- landowners are changing and many want wildlife values from their property;
- consultants run the risk of losing business if they do not “change with the times”;
- landowners and consultants need to understand that not burning is a choice, and there are negatives associated with that choice.

Experts agree that wildlife is very important to small landowners, and that importance seems to be growing. However, many landowners also want income from their property. Even forestlands managed primarily for timber can derive a premium from hunting leases if their habitat is well-managed for wildlife. For these reasons, there is a real need for more people in the “middle” to talk wildlife and forestry.

Consulting foresters traditionally derive their income from a percentage of timber harvest receipts. From a business standpoint, consulting foresters need to look at how they charge for their services (i.e. embrace fee for service) because that will make it easier to change their practices along with the changing landowner base.

Some experts cautioned that in some agencies, the “old guard” - particularly those who control fire resources - are against prescribed fire. They recommended reaching out to the younger generation of foresters and consultants who are more open minded about management practices. They cited examples of skeptical foresters who became proponents of fire when they saw how it works on the landscape. The bottom line is that research about the negative effects of fire on timber production is inconclusive, but no one debates the benefits of prescribed fire for wildlife and native plants.

Technical Service Providers and CAPs

In recent years, NRCS has been recruiting Technical Service Providers or TSPs. TSPs are nongovernment vendors who must become certified to get into the NRCS system and help plan/implement on-the-ground programs. TSPs can write plans for private landowners once certified.

NRCS requires [conservation activity plans](#), or CAPs, as a first step toward applying for some forms of financial assistance needed to implement conservation practices. Three CAPs are particularly important to wildlife: [CAP 112](#), new in FY2014, supports site-specific prescribed burns; CAP 142 supports wildlife habitat management; and CAP 106 supports forestry. Prescribed fire is one of the practices that can be supported through CAP 142 and 106. The 142 plans were newly introduced in FY2013 in the Southeast. In 2013, National Wild Turkey Federation biologists were the only TSPs in the nation certified to develop CAP 142 plans!

6. Message: The East Gulf Coastal Plain states need more “habitat teams” and/or “fire strike teams,” particularly in KY and TN.

Audience: State wildlife agencies, nonprofit organizations such as The Nature Conservancy, National Wild Turkey Federation, Pheasants Forever and others; habitat technicians and prescribed fire vendors



Discussion

Habitat teams have been used successfully in some EGCP states, both in the past and currently. At one point in time, Quail Unlimited led habitat teams in the midwest that would provide services, including prescribed fire, on private lands for a fee that was covered by CRP mid-management contract payments. A number of regional prescribed fire “strike teams” have developed and are slated to increase under the Longleaf Initiative. The Gulf Coast Plains Ecosystem Partnership is the model for these “implementation partnerships.” It is structured to meet the needs of the landscape regardless of the 11 ownerships within it. See [Appendix 3](#) for a

detailed discussion of this successful model.

7. Message: Significant opportunities exist for state forestry and wildlife extension departments to play a role in developing prescribed fire education and outreach programs aimed at foresters, conservation practitioners and private landowners.



Audience: State land grant university extension systems and personnel, state forestry and resource management assistance programs

Discussion

Extension systems vary from state to state, but they can make good partners for outreach. A former head of Forestry Extension at Mississippi State University, recommended that the Joint Venture approach the Extension Programs in each state to share prescribed fire information with their Extension networks and membership.

Opportunity: There may be the potential to collaborate with Mississippi Extension to set up outreach programs specifically for prescribed fire. In Mississippi, Forestry Extension is different from most other states. They rely on direct contacts, face to face programs and visits because they have more people. They are able to get boots on the ground more often than anyone else in the Southern US.

Landowners are increasingly interested in the wildlife benefits of management activities. Therefore, traditional federal and state forestry assistance programs have the potential to increase the reach of their programs by providing landowners information about the benefits of fire to birds and other forms of wildlife.

Another potential conduit through which to disseminate prescribed fire training and information is state forestry associations. Every state in the EGCP has a private nonprofit forestry association. The Mississippi Forestry Association has county level associations, which not all states have. They present several hundred programs per year primarily to landowners, and they also have a logger education program. They charge small fees for their programs.

The Florida Forestry Association is a supporter of prescribed burning, and the Florida Forest Service works with them to assist in making changes to the laws, rules and policies regarding prescribed burning.

8. Message: Local fire departments can assist in making their communities safer from fire and gain valuable experience in managing fire by helping to conduct prescribed burns.



Audience: Local fire departments, county and municipal governments, prescribed burn associations

Discussion

Several experts agree that local fire departments represent a large relatively untapped resource for assistance with prescribed fire. One expert explained that it takes a local person approaching the local fire department. There is tremendous variation among departments in their attitudes toward prescribed fire. Prescribed Burn Associations are also logical partners for local fire departments in conducting burns. Prescribed burning can represent a win/win/win: “free” fire training/practice for local fire departments; increased support for ecological management using prescribed fire; and increased cost-effectiveness of both.



EDUCATION GOAL: Promote an increased societal awareness of and demand for safe, science-based application of prescribed fire in support of community safety and ecological health. In particular, focus on training for landowners to achieve fire capacity and application at a large scale.

Audiences for this goal are private landowners and various segments of the general public. Landowners need to be informed about prescribed fire, trained, and given assistance to conduct prescribed burns. Landowners own nearly 90% of forestland in the Southeast, and without a critical mass of educated and engaged landowners, there can be no large-scale application of prescribed fire. Various segments of the public must be educated so that they will either actively support prescribed fire or refrain from complaining on the occasions when they experience smoke or other inconvenience.

1. Message: "Good fires prevent bad ones." "Prescribed fire lowers the risk of wildfire." "Prescribed fire is not destruction but renewal." "Prescribed fire for a forest in balance." "The effects of prescribed fire in a forest are kind of like mowing the grass." "Fire is as natural as rain, wind, sunshine and blue skies."

Audience: General public

Discussion

All of the above messages are ones that have already been used in prescribed fire outreach campaigns aimed at the public. All experts interviewed agree that education is necessary, particularly in places where the fire culture is lost, and particularly on the outskirts of urban areas where knowledge of prescribed fire is often low while the need is high.

Most experts agreed that it would be helpful if the EGCPJV conducted public outreach to educate people about prescribed fire, smoke, and why it should be tolerated. The primary



messages for the general public should be focused on safety and ecological health, although many of the general policy messages may also be appropriate.

One expert from a state forestry agency expressed strong support for professionally-produced television commercials to reach the public, as this is such a powerful medium of communication. He suggested that all available PSA (public service announcement) funds - and more - be directed toward such an effort. The reason for this is legislators and their urban, suburban, and non-forest landowner constituents are the key audiences with power to affect fire policy at many levels but for whom prescribed fire is unfamiliar or even threatening.

In the Southeast fuels grow quickly and can grow to dangerous levels in 3 to 5 years. Fire is the best management tool because it is inexpensive compared to mowing or herbicide or mechanical clearing, and it is best for healthy forests and wildlife. Prescribed fires protect both homes and wildlife.

Dr. Michael Stambaugh, Forestry Professor and prescribed fire expert at the University of Missouri, works with the [Oak Woodlands and Forests Fire Consortium](#) and is hopeful that prescribed fire can “break out” of obscurity and into the public consciousness. He is asking the fire science program to put up a billboard for prescribed fire so millions of people can see it.

Additional communications messages about prescribed fire developed by the Fire Learning Network and the USFWS are available in Appendices 7 and 8.

2. Message: People who care about wildlife are crucial allies in the struggle to reintroduce and apply prescribed fire where it is most needed. Fire is essential to the health of most southern ecosystems, but it has been suppressed for the past 150 years or so, and coordinated anti-fire campaigns began in the 1920s. Many species of birds, including the South’s iconic bobwhite quail, respond to the plant communities that follow fire.



Audience: Birders, hunters and other wildlife enthusiasts

Discussion

Some experts maintain that there is great interest in land management from people who love birds, while others feel the birding community is not very engaged. At a recent meeting of the National Fish & Wildlife Foundation, participants called for the mobilization of birders by making habitat management connections to species they care about.

“Mobilization” also requires identification of clear action(s) for enthusiasts to take. A series of actions could be identified to take at the national, state and local levels. Birders, hunters and others could also be engaged through

existing citizen science campaigns - making the link by encouraging and interpreting data from fire-dependent habitats. Bird trails, popular birding sites on public lands, Wildlife Management Areas and publications targeted at wildlife enthusiasts are all appropriate means to reach these audiences.

The birding/hunting audience is likely to be attuned to messages about the plight of fire dependent species and overall ecological health. Yet they may also be concerned about the effects of fire, particularly growing season fires, on birds and their nests. Messages may need to be nuanced, because frequent fire - like any ecological process - will favor some bird species over others. However, scientific data that demonstrate the long-term benefits to bird populations, despite short-term impacts of growing season burns, are likely to go a long way toward assuaging these concerns.

Good examples of communications products about prescribed fire and targeted at the birding/wildlife audience are available in [Appendix 9](#) and [Appendix 10](#).

Opportunity: The EGCPJV could identify a popular birding destination that has a Friend’s Group and is located on public lands where prescribed fire is ready to be introduced or expanded. The JV could work with the staff to develop interpretive materials that show how the prescribed burning fits into a larger regional plan for bird conservation. Such a program coupled with an onsite program such as tours of burned areas or mist netting would be especially effective.

Opportunity: Work with GCPEP and the Longleaf Council to incorporate the management needs of key bird species into their planning and education materials. The [Bird Education Alliance for Conservation](#), or BEAC, is the Education, Outreach and

Communications Working Group for Partners in Flight and could serve as a good source of information about birder education and outreach programs.

3. Message: Landowners must choose whether to use prescribed fire based on the benefits they desire from their land. Fire is a natural process essential to the health of most southern ecosystems, and wildlife species respond to the plants that sprout following a fire. There are public programs that provide cost-share for prescribed fire, which is also very cost-effective compared to mowing, mechanical thinning, and herbicides.

Audience: Private landowners

Discussion

The National Cohesive Wildland Fire Strategy: Southeastern Regional Assessment of 2011 emphasizes the need for continuous education and outreach to landowners - as do many experts interviewed. In particular, nontraditional or new landowners are a key audience because they often purchase property for the enjoyment of scenery and wildlife. They are also usually unknowledgeable about prescribed fire. Experts recommend educational materials and incentives to encourage landowners to actively manage land and include fire.

One private lands biologist recommended focusing on overall ecological value and wildlife habitat, rather than a strict focus on birds or game species. The possibilities inherent in local management on just a few acres must be emphasized. Private landowners may be interested to know that wildlife conservation groups such as the National Wild Turkey Federation, Pheasants Forever, and The Nature Conservancy all use prescribed fire.



Prescribed fire augments food plots for wildlife by providing early successional habitat good for reproduction as well as foraging. Also, it can be less costly. Landowners are currently spending hundreds of dollars annually on less than 2 to 3% of their land for food plots; yet a prescribed burn can cover a much larger area. There is still production oriented non-industrial private forestland, but even there hunting leases can provide a little extra income. More management alternatives to promote wildlife also translate into business opportunities for wildlife consultants. One expert suggested that the EGCPJV approach Mossy Oak or Techomonte to do an advertisement featuring the habitat value of native warm season grasses managed with prescribed fire.

Landowners now are changing; the person who wants to buy 100 acres is likely to be more interested in wildlife than production on their land. Disseminating information to new landowners through realtors may have some potential. To help sell a property, realtors will talk about available federal programs that help pay for land management.

Many landowners lack the knowledge or experience to conduct their own prescribed burns and prefer to hire contractors to do so. NRCS and some states have programs that support prescribed fire, such as the [Tennessee Farm Wildlife Habitat program](#).

4. Message: Landowners can learn to conduct their own prescribed burns safely by getting training or certification. By forming Prescribed Burn

Associations, landowners can share knowledge, manpower and equipment - cutting down on costs. Engaged well-trained landowners are essential to achieve prescribed burning at a



large scale because currently cost-share funds are insufficient for this purpose.

Audience: Private landowners

Discussion

With the exception of KY, every state within the EGCP provides a prescribed burning certification course for landowners and other practitioners. In addition, the SERPPAS Prescribed Fire Work Group is in the process of developing online training modules (see pp. 41-42, Outreach Message #2).

Landowners who can and will conduct burning themselves are the critical component to restore fire at a landscape scale. This is because there are not enough public funds to cost-share burning at a large scale. Many experts mentioned that once landowners learn about prescribed fire and gain experience in its application, they become willing and adept in applying fire on their properties without any additional support.

Roughly half of the prescribed burn advocates interviewed in developing this strategy mentioned the development of Prescribed Burn Associations (PBAs) to increase burn capacity among private landowners. PBAs are fundamentally grassroots organizations developed and led by local people, but with the crucial assistance of a knowledgeable “point person” to get them off the ground. PBAs pool labor and equipment; they can apply for grants; they may or may not obtain 501-c-3 status; and they can obtain liability insurance for their members. [Appendix 11](#) provides guidelines for establishing PBAs.

As PBA members gain knowledge and experience and are able to conduct successful burns, they in turn can become powerful advocates for fire within their local communities. PBAs have been successful in influencing local decision makers to exempt

prescribed fire from burn bans, based on the good track record they have established for successful burns. PBA members could possibly serve to influence larger coordination issues, such as the benefits of priority zones for fire or the need for state reciprocity for burn manager training.

Nature Conservancy (TNC) properties have provided nuclei for the formation of PBAs. Because TNC is already burning, they want to help their neighbors. WMAs with prescribed fire could also serve as nuclei for PBAs.



5. Message: Prescribed burning is an integral part of the cultural heritage of the Southern coastal plains going back to pre-colonial times. Prescribed burning is also a private property right. Prescribed fire is “good fire” that limits the risk of catastrophic wildfire, so its smoke is a signal that safety measures are taking place. Smoke from prescribed fire can be managed to reduce or eliminate its impact, and it will usually be far less than the smoke experienced from a wildfire.

Audience: New rural or vacation landowners and the general public

Discussion

Resistance and complaints about prescribed fire are problems that occur in Florida and coastal communities along the Gulf when transients or transplants from the Northeast buy or rent vacation homes. The vacation season (late winter/early spring) tends to overlap with burn season. Visitors do not understand the smoke from prescribed fires nor do they like it. They may particularly resent its presence during the few precious days or weeks that they are vacationing. This is an educational process that must be ongoing.

6. Message: Firewise presentations, which can be quite well attended, need to incorporate information about the role of prescribed fire in reducing wildfire risk.

Audience: State forestry agencies



most southern ecosystems, but it has been suppressed for the past 150 years or more. Many species of wildlife depend on the plant communities that follow fire. Prescribed fire is also a good tool for reducing the risk of catastrophic wildfires.

Audience: Students and their parents

Discussion

One forester observed that firewise presentations he had attended did not mention or explain prescribed fire, yet firewise outreach is a prime opportunity for such education to take place. The [Firewise](#) program “encourages local solutions for safety by involving homeowners in taking individual responsibility for preparing their homes from the risk of wildfire.” Firewise is promoted by state forestry agencies.



Discussion

This message is slightly more sophisticated than the one for the general public. Prescribed fire messages can fit into public school ecology/biology curricula. The [Fire in Florida's Ecosystems](#) curriculum is an excellent example of a curriculum tailored to the needs of a state. It is an interdisciplinary curriculum that includes hands-on materials for students and training workshops for teachers.

Project Learning Tree is a hugely popular off-the-shelf conservation biology curriculum that currently has [components that address fire ecology and prescribed fire](#).

7. Message: Fire is essential to the health of



Communications Tools & Products

Each of the EGCPJV prescribed fire communications goals and messages lends itself to delivery using a variety of tools and products. The form of delivery is best left up to the EGCPJV management board and staff, appropriate to activities as they are undertaken.

A general recommendation with respect to education of audiences with specific interests in wildlife and birds is to develop attractive well-illustrated and concise products that tell the story of prescribed fire and its value to wildlife. These products can then be shared online or directly by providing hard copies, DVDs, or via power point presentations. A general recommendation concerning prescribed fire messages targeted to a general and/or policy audience is to prepare for high profile media opportunities in advance. Basic messaging, stories and media contacts can be developed for key messages and disseminated quickly in response to crises that tend to garner a large share of public attention - whether it be wildfire, storms, insect infestations or climate change projections. The basic message about prescribed fire for a healthy forest can piggyback on high profile stories to gain traction and possibly counterbalance misinformation.



Priority prescribed fire communications products

The EGCPJV will undertake the development and dissemination of key education and outreach products to serve its 3-fold niche of focusing on (1) the interplay of fire, birds and forestry in a broad variety of habitat types; (2) fire's benefits to birds (and other wildlife); and (3) a focus on fire landscapes for birds.

1. Produce a pocket guide to the birds of fire maintained and dependent habitats of the South, similar to the [Pocket Guide to Sagebrush Birds](#) and the Fire/Breeding Birds booklet (see [Appendix 9](#)). This will serve as a bird identification guide for key species that use longleaf/open pine, prairies, oak habitats and other fire-adapted habitats. In addition to bird information, the guide will highlight the importance of fire in maintaining these habitats. The guide, or a version of the guide, could also list resources that are available to assist landowners with implementing prescribed fire.
2. Use and disseminate the National Bobwhite Conservation Initiative's DVD on quail as a means of educating landowners and hunters about the importance of prescribed fire in providing habitat for quail.
3. Develop a Joint Venture "canned" powerpoint focused on prescribed fire and its benefits to birds. This presentation, and variations of it, will be presented to or shared with birding groups, state wildlife agencies and bird/wildlife coordinators throughout the EGCP states.
4. Produce a synthesis of science related to the interplay of growing season burns and birds. This information is difficult to find for environmental assessments and other documents. One expert said that research appears to indicate positive effects of fire at the landscape level with some



negative effects at the stand level. The tradeoff of limited bird mortality/nest failure from burns weighed against the long-term value of improved habitat conditions and increased habitat availability to bird populations requires clarification. There may be the potential to then include this information in a “wildlife” module of landowner prescribed fire training webinars under development by SERPPAS (See pp 41-42, Outreach message #2).

5. With EGCPJV partners, initiate a cross-walk analysis of SWAPs and Forest Action Plans in the six EGCP states, with the goal of identifying overlapping priority areas and actions related to prescribed fire and fire dependent habitats.



General communications tools and products

The following is a more general and partial list of tools or products that could be useful to the EGCPJV in its prescribed fire communications. All of these products may be shared online in some form. The detailed information provided in the discussion of each message in Section III, as well as in the Appendices, provides abundant raw material for many of these products.

- News releases/journalist pitches: disseminate information and story opportunities to the press.
- Articles (online/print media): tell stories - a great way to engage practitioners, students and the lay public.
- Newsletters/campaigns (online/email): provide news, updates, links to many other forms of communications products.
- Blog: a first person account of information on a topic, designed to build a following of people with common interests.
- Fact sheets: provide a quick overview of most pertinent facts on a specific issue.
- Powerpoints/prezis/infographics: provide an illustrated overview or introduction on a single topic to a live or online audience.
- Case studies: examine a specific project or program in-depth, usually as a means of showcasing success and/or highlighting lessons learned. Farm Bill biologist positions would be a good case study topic.
- Webinars: a meeting or seminar online that incorporates information presented by one or more experts to an audience; most webinars allow for varying degrees of interaction with the audience.
- Wikis: a wiki is an online compendium of information on a topic maintained by a group of people.
- Fish and game shows: sponsored shows, typically well attended, that display information, equipment, technology and programs for hunters, fishers, landowners and other outdoor enthusiasts. For example, the wildlife show held annually in Nashville, TN attracts approximately 55,000 people.



- Field days: organized trips to sites in the field that allow direct observation, participation and personal interactions. A variant of this, peculiar to prescribed fire, is when a hazard mitigation or other prescribed burn is conducted close to a heavily populated area - this can become an opportunity to educate the people who come into contact with the burn.

- Scientific conferences and workshops: meetings that bring together researchers or practitioners to share information on a specific topic.

- Videos: good for engaging an audience, providing insights on a complex issue (such as the behavior of fire), that are impossible to

convey with images and words alone; music incorporated into the video can provoke an emotional response.

- Websites: a means of cataloguing, organizing, linking to and explaining information about specific organizations and topics. A website can contain or link to all of the other communications products listed here, provided they are posted online.
- Mass media: public service announcements on television, radio, and/or billboards. [PSAs](#) are free and can reach a lot of people; radio is relatively inexpensive; billboards can cost more than \$1000 per month, but permanent portable billboards with interchangeable messages and images can be put together for a fraction of that cost (see p. 13 for a portable billboard photo).



REFERENCES

Alabama's Longleaf Ecosystem Restoration Team (ALERT brochure).

Brenner, Wade James. 1995. [Florida's Solution to Liability Issues](#). USDA Forest Service General Technical Report PSW-GTR-158.

Brose, Patrick H. et al. 2012. A Meta-Analysis of the Fire-Oak Hypothesis: Does Prescribed Burning Promote Oak Reproduction in Eastern North America? Forest Science 2012.

Brudvig L.A. et al. 2012. [Corridors Promote Fire via Connectivity and Edge Effects](#). Ecological Applications 22(3): 937-46.

Burger, L. Wes Jr. 2006. Creating Wildlife Habitat Through Federal Farm Programs: An Objective-Driven Approach. Wildlife Society Bulletin 34: 994-999.

Burger, Wes and Leslie. 2006. Prescribed burning: Safely and Legally. Wildlife Trends v 6:2.

Burke, C. B. et al. 2012. [Synthesis Report: Current Work on Prescribed Fire Related to Longleaf Pine Restoration](#). North Carolina State University.

Burke, C. et al. 2012. Comprehensive Strategy for Prescribed Fire to Restore Longleaf Pine in the Southeast United States: a Vision for 2025 - in DRAFT. Southeast Regional Partnership for Planning and Sustainability or SERPPAS.

Butler, Brett J. 2008. Family Forest Owners of the United States, 2006. USDA Forest Service General Technical Report NRS-27.

Casey, L. S. 2010. Public Misconception of Prescribed Fire. Memorandum.

Changyou Sun. Liability of Using Prescribed Fires on Forestlands and State Legislation Evolution. Department of Forestry, Mississippi State University.

Coldwater Prescribed Burn Association. Coldwater Prescribed Burn Association By-Laws.

[Communication Framework](#) for a National Cohesive Wildland Fire Management Strategy

Daniel C. Dey et al., editors. 2012. [Proceedings of the Fourth Fire in Eastern Oak Forests Conference](#), Springfield.

East Gulf Coastal Plain Joint Venture. 2009. Longleaf Decision Support Tool DRAFT.

Hermansen-Baez, L. A. and E. K. Sommer, editors. 2008. Fire in the South 2, the [Southern Wildfire Risk Assessment](#). Southern Group of State Foresters.

Keyser, Patrick D. and W. Mark Ford. 2006. [Influence of Fire on Mammals in Eastern Oak Forests](#). Fire in Eastern Oak Forests: Delivering Science to Land Managers, Proceedings of a Conference.

Lahm, P. 2012. [Forest Service Update: Fire, Smoke and Emerging Issues](#). US Forest Service.

Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., 2014: Highlights of Climate Change Impacts in the United States: The Third National Climate Assessment. U.S. Global Change Research Program, 148 pp.

Melvin, M. 2012. [2012 National Prescribed Fire Use Survey Report](#), Technical Report 01-12. Coalition of Prescribed Fire Councils, Inc.

Mississippi Prescribed Fire Council. 2010. [Mississippi Prescribed Fire Council 2010-2014 Strategic Plan](#).

Mitchell, R.J., et al. 2014 in press. Future climate and fire interactions in the southeastern region of the United States. Forest Ecology and Management. <http://dx.doi.org/10.1016/j.foreco.2013.12.003>

National Cohesive Wildland Fire Strategy, Southeastern Regional Risk Analysis Report, Phase III Science Based Report.

National Cohesive Wildland Fire Strategy, [Phase III Southeast Regional Action Plan](#)

Southeast Regional Strategy Committee. 2013. National Cohesive Wildland Fire Strategy: Phase III Communications and Education Plan.

Regional Working Group for America's Longleaf. 2009. [Range-wide Conservation Plan for Longleaf Pine](#).

Joint Fire Science Program. 2009. [Eight Questions Answered: Social Science and Wildfire](#). Partners in Fire Education.

Nowacki, Gregory J. and Marc D. Abrams. 2008. The Demise of Fire and "Mesophication" of Forests in the Eastern United States. Bioscience 58: 123-138

One Message, Many Voices Project Campaign Status. 2009.

One Message, Many Voices Project Update. 2010.

Pyne, Stephen. 2009. [Missouri Compromise](#). Advances in Fire Practice, Wildland Fire Lessons Learned Center.

Stephens, S. L. et al. 2012. [The Effects of Forest Fuel-Reduction Treatments in the United States](#). Bioscience Vol. 62, 549-560.

Walsh, R. 2012. Resolution In Support of Prescribed Fire in Mississippi Counties. Personal communication.

Southeast Regional Steering Committee and Working Group. A National Cohesive Wildland Fire Strategy, [Southeastern Regional Assessment](#)

Weir, J. R. and T. G. Bidwell. [Prescribed Fire Associations](#). Oklahoma State University Cooperative Extension Service.

Southeast Regional Partnership for Planning and Sustainability (SERPPAS). 2011. Smoke Management Recommendations and Prescribed Fire Tracking. SERPPAS.

Southeast Regional Partnership for Planning and Sustainability (SERPPAS). 2011. [Synthesis Report: Current Work on Prescribed Fire Related to Longleaf Pine Restoration](#).

Southeast Regional Partnership for Planning and Sustainability (SERPPAS). 2012. Comprehensive Strategy for Prescribed Fire to Restore Longleaf Pine in the Southeast United States: A Vision for 2025.

Stephens, Scott L. et al. 2012. The Effects of Forest Fuel-Reduction Treatments in the United States. Bioscience 62: 549-560.

Stewart, D. [Prescribed Burning in Southern Pine Forests: Fire Ecology, Techniques, and Uses for Wildlife Management](#). Mississippi State Extension.

Strategies for Communicating about Fire. 2010. National FLN meeting, TX.

Sun, C., A.J. Londo. 2008. [Legal environment for forestry prescribed burning in Mississippi](#). Forest and Wildlife Research Center, Research Bulletin FO351, Mississippi State University. 22 pp.

U.S. Dept. of Interior Office of Policy Analysis. 2012. Wildland Fire Management Program Benefit-Cost Analysis, A Review of Relevant Literature.

Wildland Fire Leadership Council. 2012. [A National Cohesive Wildland Fire Management Strategy, Phase II National Report](#).

EXPERTS INTERVIEWED

Mike Black, National Bobwhite Conservation Initiative

Tony Black, Private Lands Biologist, Kentucky Dept. of Fish & Wildlife Resources

Leslie "Opie" Blackwell, Firewise Program Coordinator, Mississippi Forestry Commission

Russell Bozeman, Director, Fire Services/Information, Mississippi Forestry Commission

E.J. Bunzendahl, Assistant Fire Management Officer, Daniel Boone National Forest, US Forest Service

Wes Burger, Associate Director Mississippi Agricultural and Forestry Experiment Station, Associate Director Forest and Wildlife Research Center, Mississippi State University

Steve Butler, President, TimberCorp, Madison, MS

Howard Callahan, Consulting Forester, Southeast Louisiana

Tamara Campbell, Natural Resources Conservation Service liaison, Natural Resources Conservation Service, MS

Walter Cartwright, Forest Operations Division Director, Alabama Forestry Commission

Cody Cedotal, Farm Bill/Grants Coordinator, Louisiana Department of Wildlife and Fisheries

Vernon Compton, Gulf Coast Plain Ecosystem Partnership Director, The Longleaf Alliance

Dennis Dauterive, Fire Chief, Fire Services Division, Mississippi Forestry Commission

Jennifer Evans, Prescribed Fire Extension Assistant, Extension Forestry, North Carolina State University (outreach support for the SERPPAS Prescribed Fire Working Group)

Laurie Gharis, SERPPAS contractor, Department of Forestry and Environmental Resources, North Carolina State University

John Gruchy, Private Lands Program Coordinator, Mississippi Department of Wildlife, Fisheries and Parks

Jim Hancock, Grants Manager, Mississippi Forestry Commission

Lark Hayes, Senior Attorney, Southern Environmental Law Center, Longleaf Council Communication Committee

Bubba Hubbard, Strawberry Plains Director, National Audubon Society

Glen Hughes, Extension Forestry Professor, Mississippi State University Extension Service

Dan Jackson, Assistant State Forester, Alabama Forestry Commission

John Kirksey, Forest Resource Protection Unit Leader, TN Division of Forestry

Luke Lewis, NWTF Regional Biologist, National Wild Turkey Federation, Longleaf Pine Task Force

Andy Londo, Professor of Silviculture and Extension Forestry Coordinator at Mississippi State University

Alan Long, Southern Fire Exchange

Roel R. Lopez, Interim Director Texas A&M Institute of Renewable Natural Resources, Texas A&M University, Longleaf Council Education & Training Committee

Jason Lupardus, Regional Wildlife Biologist, National Wild Turkey Federation, Bowling Green, KY

Robin Mayberry, Natural Resources Conservation Service Cumberland Plateau, TN

John Morgan, Small Game Program Coordinator, Kentucky Department of Fish & Wildlife Resources

Ad Platt, Landowner Assistance Specialist, (Natural Resources Conservation Service liaison for FL/AL), The Longleaf Alliance

Chad Pope, Strawberry Plains Ecologist and Land Manager, National Audubon Society

Andy Radomski, Wildlife Biologist, Partners for Fish & Wildlife, U.S. Fish and Wildlife Service

John Saddler, Prescribed Fire Manager, Florida Forest Service, Florida Department of Agriculture and Consumer Services

Luke Saunier, Fire Management Chief, Kentucky Division of Forestry

Don Smith, Forest Protection Chief, LA Department of Forestry

Eric Spadgenske, AL State Coordinator of Partners for Fish & Wildlife Program, US Fish & Wildlife Service

Michael Stambaugh, Research Assistant Professor, Department of Forestry, University of Missouri – Columbia

Jared Stricklin, ISR Group, Savannah, TN

Matt Walker, Natural Resources Conservation Service State Biologist, TN

Russ Walsh, Private Lands Biologist, US Fish & Wildlife Service, Partners for Fish & Wildlife Program, MS

Randy Watts, Amite County Landowner, Southwest Mississippi Forestry Association

John Weir, Oklahoma State University

Sue Wilder, Regional Fire Ecologist for Region 4, US Fish & Wildlife Service

Chris Wolkonowski, Area Biologist, Natural Resources Conservation Service, Murfreesboro, TN

Traci Wood, Landowner Incentive Program Coordinator & State Wildlife Grants Coordinator, Alabama Dept. of Conservation and Natural Resources

Mike Zupko, of Zup Co., Inc., working with Southern Governors Association on the Cohesive Wildland Fire Strategy

Communications online

Clarence Coffey, Shoreleaf Pine Initiative

Kent Hanby, Prescribed Fire Consultant

Larry Heggemann, Central Hardwoods Joint Venture

Mark A. Melvin, Conservation Management/Education Technician, Joseph W. Jones Ecological Research Center, Chair, Coalition of Prescribed Fire Councils, Inc., GA

APPENDICES

[Appendix 1](#) - Fire dependent or fire-adapted habitat types for each state in the EGCP from state SWAPs

[Appendix 2](#) - SWG allocations FY01 through FY13

[Appendix 3](#) - Prescribed Fire Examples of Success and Sources of Funding

[Appendix 4](#) - EGCP Prescribed Fire "Beacon" Sites

[Appendix 5](#) - Major Online Resources about Prescribed Fire for egcpjv.org

[Appendix 6](#) - SERPPAS Prescribed Fire Resources

[Appendix 7](#) - Strategies for Communicating about Fire, FLN national meeting 2010

[Appendix 8](#) - USFWS Key Fire Messages with Talking Points, 2010

[Appendix 9](#) - Fire Breeding Birds Booklet

[Appendix 10](#) - CHJV Restoring Forgotten Ecosystems

[Appendix 11](#) - Prescribed Fire Associations - Oklahoma State

[Appendix 12](#) - Mississippi Prescribed Fire County Resolution

[Appendix 13](#) - Prescribed Fire Liability Assessments for Southeastern States (includes AL, LA and MS in the EGCP)

[Appendix 14](#) - Comprehensive Strategy for Prescribed Fire to Restore Longleaf Pine in the Southeast United States