

Shared Stewardship



*Shared
Responsibilities,
Shared
Solutions*



NAC Director's Corner

A commentary on the status of agroforestry by Susan Stein, NAC Director

The USDA Forest Service works across land ownerships and uses in following its motto of “caring for the land and serving people.”

More recently, the Forest Service has begun taking a “[shared stewardship](#)” approach to addressing forest management challenges, such as catastrophic wildfires, increased public demand, degraded watersheds, and outbreaks of insects and disease. Shared stewardship involves working with land managers, including state and federal agencies, Tribes, conservation organizations, and private landowners across property lines and jurisdictions to accomplish shared management goals. Through its [shared stewardship strategy](#), the agency is following three key principles: working at scale across landscapes, developing cross boundary solutions, and jointly setting priorities.

Agroforestry practices can also be implemented across land uses and ownerships to create environmental, economic, and social benefits. This is often accomplished with partners to achieve shared goals. This issue of “Inside Agroforestry” highlights resources and examples for those interested in taking a shared stewardship approach to achieving agroforestry goals. Forest Service Chief Vicki Christiansen has said that “shared stewardship is about working together in an integrated way to make decisions and take actions on the land.” In agroforestry, again and again, we see people working together to make decisions and take action. This newsletter provides some of these stories.

Sincerely,
Susan Stein



Working Trees Information Sheets

The National Agroforestry Center has released two new “Working Trees Information Sheets” related to agroforestry land access:

- “How can agreements for long-term land access achieve multiple goals?”
- “Can innovative land access strategies for agroforestry provide more land management options?”

These information sheets are available for download on the “Business and Economics” page of the [National Agroforestry Center](https://www.fs.usda.gov/nac/topics/business-economics.php) website: <https://www.fs.usda.gov/nac/topics/business-economics.php>.

Shared Stewardship Strategy

To learn more about the Forest Service’s [shared stewardship strategy](https://www.fs.usda.gov/managing-land/shared-stewardship), visit <https://www.fs.usda.gov/managing-land/shared-stewardship>.



Conservation Through Collaboration: Rural Action and Wayne National Forest Team Up To Protect At-risk Species

Tanner Filyaw, Rural Action Sustainable Forestry Program

The mixed mesophytic forests of the Appalachian region are among the most biologically diverse temperate forest ecosystems in the world. Of particular interest are the dynamic herb communities that carpet the forest floor and thrive in the deeply shaded forest understory. Among these herb communities are several commercially and culturally important edible and medicinal species, including American ginseng (*Panax quinquefolius*), goldenseal (*Hydrastis canadensis*), and ramps (*Allium tricoccum*) to name a few.

Unfortunately, overharvesting of herbs, coupled with the loss of forest habitat, wildlife damage, and low reproductive rates, have adversely impacted herb populations across their native range, creating the need for proactive conservation and restoration strategies. The forests of southeast Ohio provide ideal habitat for these and many other edible and medicinal plant species. Plant harvesting is a traditional form of recreation in the Appalachian region, and there is a strong cultural connection with many valuable and useful herb species. Because of this legacy and the number of stakeholders involved, it is important to develop proactive management strategies that balance conservation goals with recreational use to ensure the long-term sustainability of botanical resources.

It is through this lens that Rural Action and the Wayne National Forest developed a partnership to help support the sustainable management of American ginseng on the national forest through the establishment of long-term research and monitoring plots. This research is one of the few long-term data collection projects that have been conducted for this species, and it has helped forest managers to establish appropriate harvest regulations and make better informed management



⬆ Ginseng berries.
(Photos by Rural Action)

⬆ Measuring goldenseal
populations.

decisions. Each population is visited twice per season to take measurements (stem height, leaflet length, number of compound leaves, number of fruit/seeds), as well as locate new seedlings that have been recruited into the populations. Since its inception in 2008, this project has grown to include 18 distinct populations across three forest districts.

In 2014, with support from the National Forest Foundation, Rural Action and the Wayne National Forest increased their data collection and restoration efforts to include two additional commonly harvested herb species: ramps and goldenseal. Through these efforts, an additional 50 priority populations have been identified, inventoried, and monitored to date.

Population inventories simply consist of counting the number of plants in a given population and categorizing them based on their stage of development (i.e., juvenile/reproductive, 1-prong/2-prong/3-prong, etc.) These activities have provided a better understanding of herb community dynamics on the Wayne National

Forest and have helped forest managers identify and document potential threats that may hinder their development, such as encroaching non-native invasive plants, unsanctioned ATV trails, illegal harvesting, and frequent predation by animals.

The populations identified through this project have also provided a valuable source of seed that has been used to help restore at-risk populations. After five years of continued support for this project and more than 250 hours of volunteer service, more than 16,000 goldenseal seeds, 1,000 ginseng seeds, and 196,000 ramp seeds have been collected and planted on the Wayne National Forest.

A second component of the National Forest Foundation project has focused on educating forest landowners about how they can help support medicinal plant conservation and restoration on public lands by choosing to cultivate or manage these species in their forests. Forest farming, which

is the intentional cultivation of high-value edible and medicinal plants in the forest understory, can help to take pressure off commonly wild-harvested species by helping to satisfy market demand and raise awareness about conservation issues. Since 2014, Rural Action and the Wayne National Forest have convened seven forest farming workshops for landowners and community members, with more than 270 participants.

In 2019 the two organizations joined forces to conduct botanical surveys within the corridor of the Baileys Mountain Bike Trail, a proposed 88-mile long trail system that will be developed on the Wayne National Forest during the next several years. These surveys helped document potential forest health concerns, such as the presence of invasive plant species that could be further dispersed into the forest interior, as well as populations of forest herbs that may be affected by trail development. The information collected during these surveys will be a valuable asset for forest managers to treat and address management concerns (i.e., invasive trees, shrubs, and grasses/herbs), as well as protect sensitive plant communities during the trail-building process.

The results produced through these projects help underscore the potential for cross-organization partnerships and provide a good example of what can be accomplished through a collaborative approach to public land management and conservation. 🌲



📍 Rural Action staff collect data. (Photo by Rural Action)

Using Cow Power to Help Restore Longleaf Pine Ecosystems in Louisiana

Troy Mallach, Wildlife Biologist, NRCS Louisiana

Jason Nolde, Wildlife and Fisheries Program Manager, Kisatchie National Forest

John Pitre, State Resource Conservationist, NRCS Louisiana

David Daigle, Landowner and Conservation Member, Ragley, Louisiana

The longleaf pine forest was once one of the most extensive and biodiverse ecosystems in North America. It encompassed almost 90 million acres in nine southern states, including almost 4 million acres in Louisiana.

Its understory supported numerous early successional forbs, grasses, and legumes and provided excellent habitat for many species of wildlife, including large herbivores, such as bison and elk. While the bison found in the southeastern United States were likely smaller than bison found in the central and midwestern prairies, they were undoubtedly a significant factor in the ecology of the longleaf pine forest, and many ecologists agree that grazing is an important driver in natural grassland ecosystems.

By 2010, the original 90 million acres of longleaf pine were reduced to fewer than 3 million acres, and the bison and elk had been extirpated from those areas for hundreds of years. Other wildlife species that rely on longleaf pine ecosystems, such as grassland birds, northern bobwhite quail, and the red-cockaded woodpecker, had also declined, and proper management and restoration of the longleaf pine ecosystem became a priority for the U.S. Department of Agriculture.

The Longleaf Pine Initiative created in 2010 focused on replanting and prescribed burning to restore the diversity of this ecosystem. However, in his book “Forgotten Grasslands of the South,” Reid Noss identified fire and grazing by large herbivores as two major forces necessary in the development and maintenance of savanna and prairie ecosystems.

While prescribed fire is widely accepted as the most important management approach needed



⬆️ Daigle uses silvopasture management raising timber and beef together. (Photo by David Daigle)

to maintain the diversity of this ecosystem, fire and grazing are rarely used together in the management of natural resources today.

David Daigle, a private landowner and member of several nonprofit organizations, is focused on land management and conservation. Daigle’s litany of conservation memberships include the Calcasieu Soil and Water Conservation District, the Louisiana Association of Conservation Districts, the Grazing Land Conservation Initiative, the Longleaf Alliance, the Coastal Plains Conservancy, the Louisiana Forestry Association, The Nature Conservancy, the National Cattlemen’s Beef Association, and the Louisiana Cattlemen’s Association. He is spearheading a project proposed in partnership with the Department of Agriculture to restore longleaf pine ecosystems through a combination of prescribed grazing and burning on the Kisatchie National Forest. Specifically, Daigle submitted a proposal to the Calcasieu Ranger District of the Kisatchie National Forest in late 2020.

“The Kisatchie National Forest is extremely interested in a proposal to use herbivory as a critical tool for ecosystem restoration,” said Ranger Jonny Fryar, district ranger on the Calcasieu Ranger District. “Large ungulates played a vital role in establishing and maintaining open pine savannas. Mr. Daigle has demonstrated this process at a large

scale on property that he owns in southwestern Louisiana. He is currently managing longleaf pine flatwoods using herbivory and fire. This habitat structure is similar to the landscape we are managing on the Calcasieu Ranger District of the Kisatchie National Forest. We are always looking for ways to improve our management of the longleaf ecosystem which, in turn, will benefit the biotic community and improve our visitors' experience.”

Working with the Kisatchie National Forest and the Louisiana Cattlemen's Association, Daigle would provide a specialized breed of cattle adapted to grazing in the longleaf pine ecosystem to specific sites on the forest that are currently being managed with prescribed fire. Those cattle, along with a prescribed grazing schedule, would be used to “bio-mimic” the large herbivores that historically grazed there and help restore an important part of the grassland ecosystem.

The project's goal is to provide more efficient management of the Kisatchie National Forest. Jason Nolde, Wildlife and Fisheries program manager for the forest, has observed Daigle's operation during conservation events, such as the Longleaf Alliance's field day that recently showcased Daigle's operation. All grazing allotments on national forests are monitored for success criteria, and if this proposal is approved by the Calcasieu Ranger District, a monitoring scheme and success criteria will be developed and followed.

If the proposal is given final approval, the Kisatchie National Forest would provide grazing allotments to allow targeted grazing to enhance and restore longleaf pine ecosystems. Cattle provided by Daigle would act as “mowing machines” for management of red-cockaded woodpecker, northern bobwhite quail, and the native vegetative communities, as opposed to hiring mechanical mowing contractors and implementing unnatural fire frequencies to deal with native and exotic vegetation invasion.



⤴ Daigle's longleaf pine ecosystem with herbaceous understory managed with fire and herbivory in Beauregard Parish, Louisiana. (Photo by David Daigle)

If successful and the project improves, enhances, and restores vegetative communities and grassland habitats on the Kisatchie National Forest, it could be expanded. On a larger scale, the cooperators in this proposed project hope this type of management strategy becomes commonplace across the historical ranges of both longleaf and shortleaf pine forests on both public and private properties. This would benefit landowners through increased and diversified production of food, fiber, fuel, and building components, but more importantly, would be of more benefit to society and wildlife than current conditions and markets.

Daigle maintains this type of a silvopasture operation on his own land in southwestern Louisiana, where he uses all available resources to ensure long-term sustainability. He produces beef and timber as efficiently as possible without sacrificing the native plant community or ecosystem. The primary focus of his cattle operation is to use available forage to produce beef with minimum inputs. Instead of running a cow herd with unnecessarily high maintenance requirements on forages that require extensive fertilization, he tailors his operation to fit the resources already available. His timber production focuses on high quality

products: poles and saw timber. Harvest using single tree selection or patch cutting allows natural regeneration of longleaf and improves diversity and quality of forage available to cattle and wildlife.

According to Daigle, management of this system is “all about the bushes — too many bushes on the savanna” and recommends a two-pronged approach of fire and grazing to control hardwood midstory (bushes) and promote the native grassland understory. Fire suppresses native brush species and allows grasses and forbs to flourish. Grazing creates natural disturbances that allow some plants to establish, while stressing others, maintaining biodiversity in the grassland ecosystem.

Many of the key plants, such as big bluestem, Indiangrass, Eastern gamagrass, and longleaf pine, are fire dependent. If properly managed, fire and grazing stimulate growth of those desirable plants and help to control or repress nonnative invasive species, such as Chinese tallow and privet. This type of management has promoted native herbaceous species to increase in both diversity and richness.

American chaffseed (*Schwalbea americana*), federally listed as “endangered” under the Endangered Species Act, is among the native species that has shown back up on his site due to the bio-mimicking management efforts. Burning also helps to manage fuel loads and prevent out of control wildfires.

Daigle’s use of cattle, which he terms “cow power,” helps him manage the native grassland understory and maintain a healthy longleaf pine ecosystem. According to Daigle, “cow power” (prescribed grazing on understory vegetation) is basically replicating what took place as this ecosystem evolved.

“I believe rotational grazing of native plants recreates a process that took place naturally for thousands of years,” he explains.

Historically, large ungulate animals, sometimes in large herds, would move through and graze longleaf pine savannas causing physical damage to brush from trampling. That hoof-induced soil disturbance also redistributed organic mulch to the soil, providing a good seedbed for desirable native species to germinate and establish. This would not only

maintain plant diversity, but would also help disperse seeds and reduce competition from invasive species.

While proper amounts of “cow power” are essential to stimulate regrowth and increase above- and belowground biomass, overgrazing on many areas in the past and today has led to significant long-term ecosystem degradation. As a result, grazing is often viewed negatively in the management of natural resources. This was not always the case. In fact, Daigle often quotes from a 1966 U.S. Forest Service manual that states “without grazing and fire, shrubs and scrub hardwoods drastically reduce grazing capacity.”

Daigle has found a way to diversify his production portfolio (growing timber and beef), insulating potential loss in one market by tandem agricultural production on the same acre, all while lowering his required inputs and management expenses. This is considered success, but if factoring in the intangibles of restoring native plant communities, enhancing wildlife habitat, and water, soil, and air quality improvements, it is a win for society also. 🌲

“Cow Power” helps manage...



Indian Grass



Big Bluestem Plant



Northern Bobwhite Quail



Red-cockaded Woodpecker

From Ideas to Action: A Guide to Funding and Authorities for Collaborative Restoration

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For nearly 20 years, the Rural Voices for Conservation Coalition has successfully advocated for the expansion and improvement of federal policies that support stewardship and restoration on public and private lands. An all-lands approach to collaborative stewardship recognizes the social, ecological, and economic interdependence that exists regardless of property and management boundaries and strategically

targets the larger benefits that can be achieved when working together at broader scales.

Dozens of programs and authorities enable this holistic approach to land stewardship, yet few people know about the federal resources at their disposal or how to navigate the agencies administering them.

This unfamiliarity, in combination with the increasing importance of implementing collaborative agreements, led the Rural Voices for Conservation Coalition to create a practitioner guidebook. The guidebook presents a menu of USDA Forest Service and Natural Resources Conservation Service tools and programs available to implement land stewardship on public and private lands, as well as insider tips and lessons learned.

It is intended to increase understanding of the options for effective collaborative restoration. While not exhaustive, this primer represents many of the key tools and programs available.

The Rural Voices for Conservation Coalition believes there is significant room for creativity, flexibility, and innovation within existing policies, programs, and authorities and that leveraging programs and unlocking efficiencies will lead to improved outcomes. 🌲

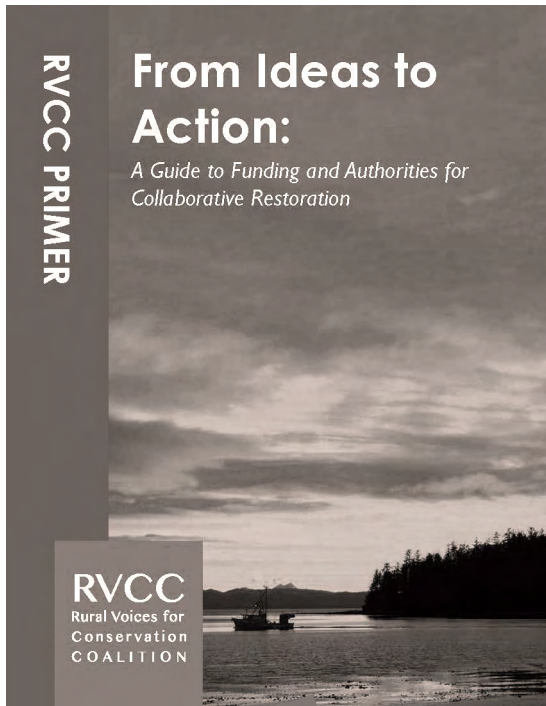


👤 Volunteers remove about one mile of fencing on the Humboldt-Toiyabe National Forest’s Spring Mountains National Recreation Area in 2016. (Forest Service photo)



👤 Collaborative stewardship strategically targets larger benefits that can be achieved when working together. (Photo by Ecosystem Workforce Program)

The RVCC Guidebook includes:



Programs

- Community Capacity and Land Stewardship Program
- Joint Chiefs' Restoration Partnership
- Environmental Quality Incentives Program
- Conservation Innovation Grants
- Conservation Stewardship Program
- Regional Conservation Partnership Program

Federal Authorities

- Good Neighbor Authority
- Stewardship Authority
- Wyden Authority
- Tribal Forest Protection Act

Agreements

- Challenge Cost Share
- Cooperative
- Cooperative Research and Development
- Joint Venture
- Participating



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Available Resources

[Savanna Institute Nutshell Webinars](http://savannainstitute.org/events.html): <http://savannainstitute.org/events.html>

[Conservation Webinars: NRCS Science and Technology Training Library](http://conservationwebinars.net/): <http://conservationwebinars.net/>

[Agroforestry Webinar Library](https://www.fs.usda.gov/nac/resources/webinar-library/index.php): <https://www.fs.usda.gov/nac/resources/webinar-library/index.php>

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National
Agroforestry
Center

NAC Mission

The USDA National Agroforestry Center (NAC) is a partnership of the Forest Service (Research & Development and State & Private Forestry) and the Natural Resources Conservation Service. NAC's staff is located at the University of Nebraska in Lincoln. NAC's purpose is to accelerate the development and application of agroforestry technologies to attain more economically, environmentally, and socially sustainable land use systems by working with a national network of partners and cooperators to conduct research, develop technologies and tools, establish demonstrations, and provide useful information to natural resource professionals.

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