



NFWF



Accelerating and Sustaining Longleaf Conservation on Private Lands

- Final Report -

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Project Period: 9/15/2011 – 9/30/2015

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Deliverables Identified in Grant Agreement:

Landowner Outreach	Restoration	Networking
350 landowners contacted by technical assistance providers	4,200 acres of longleaf pine planted	4 workshops of technical assistance providers conducted
70 landowners receive technical assistance in targeted geographic areas	5,000 acres of longleaf pine ecosystem burned	7 workshops of private landowners conducted
	2,100 acres of longleaf pine ecosystem treated for invasives	10 new resource professionals trained through the network

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Executive Summary

Through the *Accelerating and Sustaining Longleaf Conservation on Private Lands* NRCS CIG grant, the National Fish and Wildlife Foundation (NFWF) addressed two fundamental needs, as outlined in the proposal, to increase and improve the restoration of longleaf pine on private lands:

- 1) Expanding and coordinating longleaf pine ecosystem technical assistance providers with a focus on private lands; and
- 2) Establishing a framework for a monitoring and evaluation protocol to track conservation outcomes and enhance decision-making of managers and investors.

In addition to these two issues, NFWF and partners expanded the project scope of work to also address:

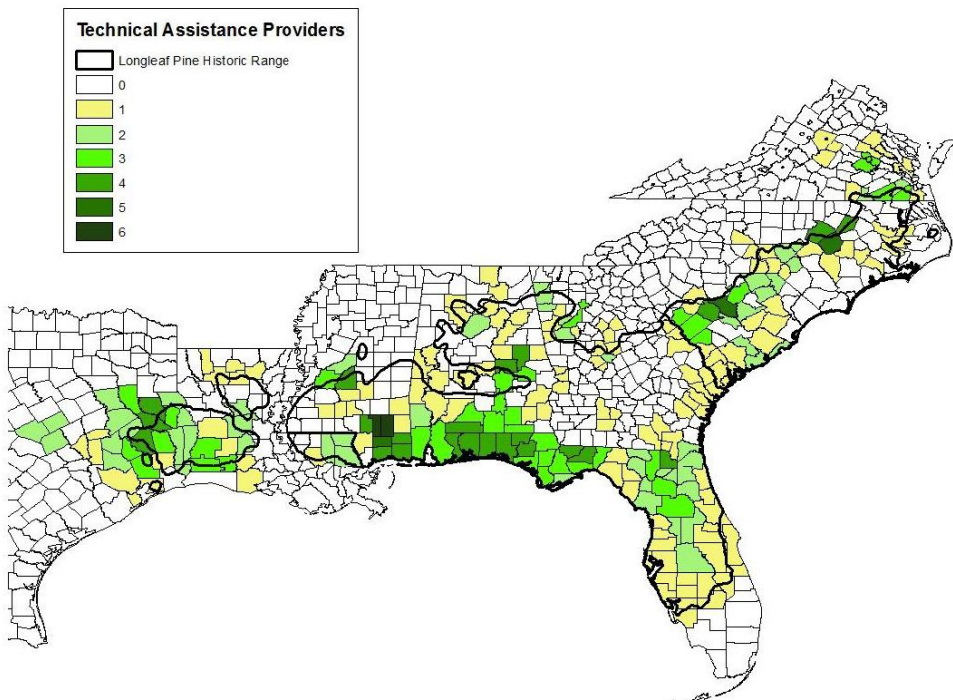
- 3) Key barriers to restoration and management of longleaf pine by private landowners, focusing primarily on economic barriers, and;
- 4) Supporting on-the-ground technical assistance and strategic restoration and management of longleaf pine on private lands across the longleaf range.

To address the needs listed above, NRCS CIG funds were leveraged through the Longleaf Stewardship Fund (Fund), a public-private partnership managed by NFWF with public funding from the USDA Natural Resources Conservation Service and Forest Service, U.S. Department of Defense, U.S. Fish and Wildlife Service, and private funding from Southern Company, International Paper's Forestland Stewards Initiative and Altria Group. During the project period, **18 projects** were selected to receive **\$604,884.77** of the CIG funding provided to NFWF. These funds were matched with **\$717,797** in other NFWF and grantee non-federal funds and leveraged an additional **\$2.2 million** in non-federal NFWF and grantee resources, for a total project impact of more than **\$3.5 million**.

Expanding and Coordinating Longleaf Pine Ecosystem Technical Assistance Providers

NFWF and partners strengthened the delivery of technical assistance to private landowners by increasing the number of technical assistance providers and improving coordination between providers across the longleaf range. **A total of 16 technical assistance providers were directly supported through this project, reaching more than 1,200 private landowners during the project period.** These providers primarily worked with the Local Implementation Teams (LITs) across the range, focusing on technical assistance delivery to private landowners within the Significant Geographic Areas (SGA) identified in the Range-wide Conservation Plan for Longleaf Pine. **In addition, a Longleaf Consul was hired to facilitate increased coordination and communication between the LITs, including sharing best practices for working with private landowners.**

To improve delivery and coordination between providers, an assessment of existing technical assistance capacity across the range was completed to identify gaps and opportunities for targeting resources. A range-wide map (Map 1), as well as maps for each state showing existing technical assistance capacity were developed based on surveys of technical assistance providers completed by the Longleaf Alliance. A database of the survey results and maps for each state, are included in the Appendices. Technical assistance brochures were also developed for each state listing the known technical assistance providers providing coverage and are also included in the Appendices.



Map 1. Technical Assistance Provider Distribution Across the Longleaf Range.

Establishing a Framework for a Monitoring and Evaluation Protocol

NFWF worked with the Joseph W. Jones Ecological Research Center, The Nature Conservancy, The Longleaf Alliance and other agencies and NGOs to begin developing a framework for monitoring and tracking longleaf restoration and conservation outcomes. Through this project four primary outcomes were achieved:

- 1) Developed wildlife habitat conservation outcome and performance metrics for longleaf pine restoration.
- 2) Development of a conservation plan template to guide planning within the SGAs.
- 3) Assessment of LIT conservation planning capacity.

- 4) Assessment of longleaf mapping needs to inform conservation business plans and development of strategic restoration priorities within the SGAs

Key Barriers to Restoration and Management of Longleaf Pine by Private Landowners

NFWF, the Jones Center and Larson & McGowin, Inc. collaborated on a literature review of longleaf economics and hosted a workshop of large-acreage landowners, industry, and agency representatives to gain a better understanding of the obstacles and potential opportunities to restore longleaf on large-acreage private lands. The following four major topics emerged from the discussion:

- Market Development.
- Growth and Yield, Tree Improvement and Silviculture.
- Incentives
- Motivations, Barriers and Opportunities for Longleaf Management

The final report with more detail on the outcomes of the literature review and workshop is included in the Appendices.

Based on the topics identified through the large-landowner workshop and recommended actions, NFWF worked with The Longleaf Alliance and Smarter Forestry, Inc. to complete an assessment of existing growth and yield models for longleaf pine. The assessment revealed a lack of existing growth and yield models for longleaf pine based on “real world” management, with most data coming from study plots maintained by academic institutions. A proposal was provided by Smarter Forestry, Inc. to establish plots and begin data collection on managed stands of longleaf pine. The final report developed by Smarter Forestry, Inc. is included in the Appendices.

Supporting On-the-Ground Technical Assistance and Strategic Restoration and Management of Longleaf Pine on Private Lands

These 18 projects receiving CIG funds increased the number of technical assistance providers, improved coordination and technical assistance delivery to private landowners and accelerated the restoration and management of longleaf pine on private lands.

These projects addressed several NRCS priorities identified through the Longleaf Pine Initiative (LLPI), which align with the strategies, objectives and goals of the America’s Longleaf Restoration Initiative (ALRI). Specific priorities outlined in the LLPI Plan and addressed through this project include:

- Maintaining existing longleaf ecosystems in good condition;

- Improving acres classified as “longleaf forest types” and with longleaf trees present, but missing significant components of understory communities and fire regimes to support representative communities of longleaf ecosystems, and;
- Restoring longleaf pine forests to suitable sites currently in other forest types or land classifications.

The following measurable outcomes were achieved during the project period, meeting or exceeding a majority of the targets established in the original proposal:

Outcomes	Goal	Actual	% of Goal
Acres of Longleaf Established	4,200	5,246	125%
Acres of Longleaf Improved with Prescribed Fire	5,000	27,356	547%
Acres of Longleaf Improved through Invasive Species Removal	2,100	1,474	70%
Acres of Longleaf Improved through other Management Practices*	0	4,523	--
Private Landowners Reached by Technical Assistance Providers	350	1,207	345%
Landowners Receiving Technical Assistance	70	141	201%
# Private Landowner Workshops	7	20	285%
# Technical Assistance Provider Workshops	4	6	150%
# New Resources Professionals Trained	10	19	190%

* Mid-story control and over-story thinning outcomes were not identified in the proposal, but significant outcomes were achieved by leveraging CIG funds with other project and partner resources.

Recommendations include continuing to support the development, expansion and coordination of technical assistance to private landowners and increase communication and collaboration with NRCS to ensure technical assistance providers are addressing NRCS needs, and assisting with the implementation of existing NRCS programs.

Conservation plans for each Significant Geographic Area should be completed to ensure that limited funding resources are strategically invested to maximize conservation outcomes and support the objectives of the Range-wide Conservation Plan for Longleaf Pine and mission of the partners. To support the conservation planning process and develop goals and track restoration outcomes, accurate and consistent baseline data on the location and extent of existing longleaf pine must be developed.

To increase longleaf restoration on private lands, especially large-acreage landholdings, better growth and yield data must be developed, as well as incentives for private landowners that do not qualify for NRCS or other cost-share programs. Premium markets for longleaf products must also be developed to incentivize landowners to plant and manage longleaf pine versus other species that have lower establishment and management costs.

Introduction

Through this grant, NFWF and partners addressed two fundamental needs across the historic longleaf pine range: 1) expanding and coordinating longleaf pine ecosystem assistance providers with a focus on private lands; and 2) establishing a framework for a monitoring and evaluation protocol that can be used to track conservation outcomes and enhance decision-making of managers and investors in restoration and protection initiatives.

In addition to these two issues, NFWF and partners expanded the project scope of work to also address: 3) key barriers to restoration and management of longleaf pine by private landowners, focusing primarily on economic barriers, and; 4) supporting on-the-ground technical assistance and strategic restoration and management of longleaf pine on private lands across the longleaf range.

By focusing on these four needs across the longleaf pine ecosystem, NFWF and partners supported the implementation of the Range-Wide Conservation Plan for Longleaf Pine, improved coordination and tracking of restoration implementation on a region-wide basis, and helped to ensure that CIG funds and other future public and private investments (including through the Longleaf Stewardship Fund) are targeted and contribute to the strategic acceleration of longleaf conservation. In addition, the project identified key barriers to longleaf restoration on private lands, especially large-acreage private holdings, which will be critical to furthering range-wide longleaf restoration goals.

Expanding and Coordinating Longleaf Pine Ecosystem Technical Assistance Providers

Through this project, NFWF invested in new longleaf pine technical assistance providers through the Longleaf Stewardship Fund. NFWF and our funding partners matched NRCS CIG funding in order to hire these new assistant providers.

Technical assistance providers were hired by leading conservation organizations or the states and coordinated directly with the state NRCS field offices. NFWF and its partners supported technical assistance providers working in regions with great landowner interest and available natural resources, combined with expertise and commitments to achieve measurable on the ground results.

The technical assistance providers were provided with the latest resources and information available for longleaf conservation and restoration and transferred this information to landowners so that they were aware of and connected to NRCS programs applicable to longleaf pine ecosystem restoration and protection. The assistance providers assisted NRCS in implementing the Longleaf Pine Initiative and provided technical assistance to private landowners enrolled in conservation programs (e.g., WHIP, EQIP, CCPI, HFRP, LI and Partners for Wildlife). Additionally, these technical assistance leaders provided educational opportunities

to private landowners about habitat management in longleaf systems, technical expertise to landowners and other partners on restoration practices, including prescribed burns, and helped to remove landowner barriers that impeded their participation in U.S. Department of Agriculture (USDA) programs.

This project also supported the development of a network of technical assistance providers across the range, by collecting information on existing technical assistance provider capacity and supporting Local Implementation Team Coordinators and a Longleaf Consul position, dedicated to increasing coordination and information sharing between the Local Implementation Teams. NFWF established a network of technical assistance providers with a goal of sharing results, data, and lessons learned and building from the successes of those in the field. The network also served as an opportunity for training on the latest restoration techniques.

Establishing a Framework for a Monitoring and Evaluation Protocol

To complement the longleaf technical assistance network and to strengthen region-wide longleaf conservation efforts, NFWF and its partners worked with key federal and state leaders and nonprofit organizations and academia to begin developing a protocol for monitoring and evaluating conservation outcomes and overall progress toward conservation goals. The vast majority of restoration activities are not monitored nor are they evaluated in a broader, regional restoration context. Without such systems, the ability to apply new and innovative restoration practices and to accelerate restoration is weakened.

Central to this work was establishing a common language and a set of metrics that could be applied at various scales and used by government agencies, funders, landowners and nongovernmental partners. NFWF worked with the Jones Center to complete a literature review and consulted with longleaf experts to identify a suite of indicator species representative of a healthy longleaf ecosystem and core wildlife habitat metrics that can be used to evaluate the potential for projects and restoration actions to support these preferred species.

In addition, NFWF developed a conservation plan template, which serves as the foundation for developing conservation plans for each Significant Geographic Area (SGA). These plans will define measurable, large-scale longleaf restoration and enhancement goals and expected conservation outcomes; detail strategic actions and target priority locations; list near-term implementation actions and associated costs; and describe methods for monitoring and evaluating progress. The Local Implementation Teams (LIT) began completing conservation plans for their respective SGAs, with components of draft plans submitted to NFWF through the 2014 and 2015 Longleaf Stewardship Fund grant cycles.

NFWF developed and disseminated a survey to the LIT Coordinators to collect information on any barriers to completing conservation plans and to identify any capacity and technical needs that could potentially be addressed through future Longleaf Stewardship Fund grant cycles.

One of the most significant barriers identified was a lack of accurate, comprehensive data on the location, extent and condition of existing longleaf pine across the range. This information is needed to establish a baseline of current longleaf conditions in order to measure restoration progress over time.

To address the lack of longleaf baseline data, NFWF, The Nature Conservancy and other partners convened a workshop with GIS and other data experts as well as longleaf practitioners to identify existing data sources, as well as information gaps for developing baseline information on longleaf pine. Based on recommendations from the meeting, NFWF developed a request for proposals (RFP) for a pilot project that will lead to the development of accurate and consistent information on existing longleaf location and extent for Significant Geographic Areas (SGAs) within the longleaf historical range, as well as establish guidelines for assessment of longleaf condition. The RFP was developed with input and guidance from the Longleaf Stewardship Fund federal partners, including NRCS. NFWF awarded a grant in November 2015 and anticipates the pilot mapping project will be completed by November 2016. This project is being funded by other resources outside of this NRCS CIG grant.

Key Barriers to Restoration and Management of Longleaf Pine by Private Landowners

With nearly 90% of all forestland in the Southeast in private ownership, private landowners are instrumental to the recovery of the longleaf pine ecosystem and achieving the goals of the Range-wide Conservation Plan for Longleaf. Understanding the economic barriers to private landowners, especially large landowners that may not qualify for NRCS or other cost-share programs to restore longleaf is important. NFWF, the Jones Center and Larson & McGowin, Inc. collaborated on a literature review of longleaf economics and hosted a workshop of large-acreage landowners, industry, and agency representatives to gain a better understanding of the obstacles and potential opportunities to restore longleaf on large-acreage private lands. The following four major topics emerged from the discussion:

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stands of longleaf pine. The final report developed by Smarter Forestry, Inc. is included in the Appendices.

Supporting On-the-Ground Technical Assistance and Strategic Restoration and Management of Longleaf Pine on Private Lands

Projects receiving CIG funds increased the number of technical assistance providers, improved coordination and technical assistance delivery to private landowners and accelerated the restoration and management of longleaf pine on private lands.

These projects addressed several NRCS priorities identified through the Longleaf Pine Initiative (LLPI), which align with the strategies, objectives and goals of the America’s Longleaf Restoration Initiative (ALRI). Specific priorities outlined in the LLPI Plan and addressed through this project include:

- Maintaining existing longleaf ecosystems in good condition;
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- Restoring longleaf pine forests to suitable sites currently in other forest types or land classifications.

The following project goals were outlined in the proposal:

Landowner Outreach	Restoration	Networking
350 landowners contacted by technical assistance providers	4,200 acres of longleaf pine planted	4 workshops of technical assistance providers conducted
70 landowners receive technical assistance in targeted geographic areas	5,000 acres of longleaf pine ecosystem burned	7 workshops of private landowners conducted
	2,100 acres of longleaf pine ecosystem treated for invasives	10 new resource professionals trained through the network

NRCS CIG funds were leveraged through the Longleaf Stewardship Fund (Fund), a competitive grants program managed by NFWF to expand, enhance and accelerate longleaf pine ecosystem restoration across longleaf pine’s historical range. Since the project start date in 2011, NFWF increased the funding available for longleaf restoration, adding several new partners, including private corporations. These new funding partners contributed to the nearly 4:1 leverage of CIG funds through this project, as described in the project findings section. Corporate funding partners that joined the Longleaf Stewardship Fund during the project period include International Paper through the Forestland Stewards Initiative and Altria Group.

Project and grant administration was coordinated by the following NFWF staff:

- Suzanne Sessine – Assistant Director, Southern Regional Office
 - 12 years managing conservation programs in the Southeast, including NFWF’s Longleaf Stewardship Fund.
 - Bachelor’s degree in environmental policy and behavior, University of Michigan’s School for Natural Resources and Environment
 - Master’s degree in environmental management from the Yale School of Forestry and Environmental Studies.

- Jon Scott – Manager, Southern Regional Office
 - 12 years managing conservation programs in the Southeast, including NFWF’s Longleaf Stewardship Fund.
 - Bachelor’s degree in wood products from North Carolina State University.
 - Master’s degree in natural resources policy and administration from North Carolina State University.

Background

The longleaf pine ecosystem once encompassed more than 90 million acres of the North American landscape. These forests represented an extraordinary diversity of cultural, ecological and social-economic values that made them some of the greatest coniferous forest of the world. Today, longleaf pine forests are a mere remnant of that total, with only three (3) percent of the original acreage remaining. A number of threatened and endangered species depend on these remnant areas for their existence.

However, much progress has been made to reverse the decline of the longleaf ecosystem. In 2009, the Range-Wide Conservation Plan for Longleaf Pine was published by a cross-section of government, academia and non-profit partners. The report set out a 15-year goal to increase longleaf from 3.4 to 8 million acres, with half of this acreage directed to 16 “significant landscapes.” In 2010, the Departments of Agriculture and Defense, and the U.S. Fish and Wildlife Service signed a memorandum of understanding to work collaboratively to achieve the Conservation Plan goals. In 2014, the America’s Longleaf Restoration Initiative celebrated the first five years of the implementation of the Range-Wide Conservation for Longleaf Pine, including an increasing trend in longleaf pine habitat restoration.

For more than a decade, the National Fish and Wildlife Foundation (NFWF) has actively worked with federal, state and local government partners, the business community, private landowners and non-profit leaders to restore the longleaf pine ecosystem. In 2012, NFWF expanded our longleaf partnership to establish the Longleaf Stewardship Fund, bringing greater resources to longleaf restoration by leveraging public and private funds and technical resources. Since 2012, the Longleaf Stewardship Fund has supported the establishment of more than 47,000 acres of new longleaf pine, the improvement of more than 550,000 acres of existing longleaf habitat

and has engaged more than 6,200 private landowners through technical assistance and outreach.

According to the Longleaf Pine Range-wide Conservation Plan, success of the restoration effort rests, in part, on our collective ability to better deliver technical assistance to private landowners and to establish a region-wide evaluation framework to track conservation progress and outcomes. More than 90% of the land within the Southeast and historical longleaf range is in private ownership. In order to achieve the objectives of the Range-wide plan and improve longleaf habitat, more private landowners must restore and manage longleaf pine. Moreover, additional technical assistance providers focused on private lands is critical to fulfilling the goals of the NRCS Longleaf Pine initiative to sustain, enhance and restore the longleaf pine forest.

Many agencies and organizations provide technical assistance to private landowners, but with limited capacity and financial resources available for landowner outreach and assistance, improved coordination amongst technical assistance providers is important to avoid duplication and maximize conservation impact. The focus of this project was to increase the number of technical assistance providers and improve coordination between providers to increase efficiency and engage more private landowners in longleaf restoration, including implementation of NRCS cost-share programs.

In addition, efforts to monitor and track longleaf restoration efforts were primarily occurring on a local or regional scale, with different standards and metrics being used to measure outcomes. This project addressed the need to develop a comprehensive framework to monitor and evaluate conservation outcomes and align the framework with the America's Longleaf Restoration Initiative and Longleaf Partnership Council, who work with the States to collect annual longleaf restoration outcomes from agencies, non-profits and other organizations working with public and private landowners.

Review of Methods

The *Accelerating and Sustaining Longleaf Conservation on Private Lands* project is an innovative approach to increasing longleaf restoration on private lands. This project utilized the leveraging potential of the Longleaf Stewardship Fund to bring together significant public and private financial and technical resources to increase the number of technical assistance providers and improve coordination between providers to maximize both financial investment and conservation outcomes. The project also addressed the need to develop a framework to monitor and track longleaf restoration outcomes and better evaluate the ecological benefits of restoration investments. Key barriers to longleaf restoration on private lands were also investigated, including economic impediments.

To address these issues, NFWF and partners invested NRCS CIG funds and other resources available through the Longleaf Stewardship Fund into eighteen (18) strategic projects (Map 2) across the longleaf pine range. Final reports have been received for eight (8) projects that have

closed, as well as ten (10) reports from projects that remain active but have completed their objectives under the agreement, are attached. All funds have been expended, with project accomplishments to date outlined below:

1) Engaging Limited Resource Landowners in Longleaf Restoration (AL) #32447:

Federation of Southern Cooperatives/Land Assistance Fund, Inc. in partnership with the Longleaf Alliance; USDA; the National Wildlife Federation; and Auburn, Tuskegee and Alabama A&M Universities, provided outreach and technical assistance to limited-resource and socially disadvantaged landowners, restoring longleaf pine. Partners increased capacity by hiring a Longleaf Specialist and two Field Outreach Coordinators to assist with private landowner outreach and technical assistance.

Accomplishments

- 200 private landowners reached through technical assistance and outreach
- 500 acres of longleaf established and managed on private lands

2) Development of Implementation Team for Longleaf Restoration (SC) #32445: The Nature Conservancy, South Carolina in cooperation with NRCS, US Forest Service, US Fish and Wildlife Service, Joseph W. Jones Ecological Research Center, South Carolina Partners for Restoration of Native Plant Communities, South Carolina Wildlife Federation, National Wild Turkey Federation and Charleston County Council, create the Sewee Local Implementation Team to restore longleaf on private land surrounding Francis Marion National Forest. TNC partnered with the Jones Center to provide technical assistance to private landowners interested in restoring longleaf.

Accomplishments

- 11 private landowners reached through technical assistance and outreach
- 1,000 acres of longleaf established on private lands
- 4,900 acres of longleaf enhanced on private lands

3) Ft. Stewart/Altamaha Longleaf Pine Restoration Partnership (GA) #32054: Georgia Department of Natural Resources, in partnership with the Department of Defense, the Georgia Land Trust and the Longleaf Alliance, developed a longleaf implementation team, planted longleaf and implemented prescribed burns on lands in the Altamaha corridor and on Army Compatible Use Buffer (ACUB) lands close to Ft. Stewart. Partners hired a Project Coordinator to provide technical assistance to private landowners.

Accomplishments

- 85 private landowners reached through technical assistance and outreach
- 1,755 acres of longleaf enhanced on private lands

4) Pineywoods Longleaf Restoration (LA) #31770: The Nature Conservancy, Louisiana, worked with the West-Central Louisiana Ecosystem Partnership to expand longleaf ecosystems through restoration, technical assistance, and outreach and demonstration sites on private lands anchored by the Fort Polk/Kisatchie National Forest Significant

Geographic Area. Partners hired a Project Coordinator and two Project Technicians to provide technical assistance to private landowners.

Accomplishments

- 61 private landowners reached through technical assistance and outreach
- 267 acres of longleaf established on private lands
- 391 acres of longleaf enhanced on private lands

5) DeSoto-Camp Shelby Longleaf Implementation Team (MS) #32148: The Nature Conservancy, Mississippi, created a local coalition to determine longleaf restoration goals areas around DeSoto National Forest and Camp Shelby. Partners increased capacity by hiring a Fire Team Lead to assist with prescribed burning on private lands.

Accomplishments

- 200 acres of longleaf established on private lands
- 1,282 acres of longleaf enhanced on private lands

6) Developing Metrics for Longleaf Pine Restoration (GA) #34011: The Joseph W. Jones Ecological Research Center (Jones Center) partnered with the National Fish and Wildlife Foundation (NFWF) to convene a collaborative working group of longleaf professionals to synthesize the current state of longleaf knowledge and develop a set of longleaf pine conservation outcomes and performance metrics. This information will be used to evaluate the effectiveness of investments made through NFWF's Longleaf Stewardship Fund grant program and be provided to funding partners.

7) Cape Fear Arch Longleaf Initiative (NC) #36933: The Nature Conservancy's North Carolina Chapter, in partnership with state agencies and private landowners as part of the Cape Fear Arch Conservation Collaboration, expanded longleaf restoration and prescribed fire capacity on public and private lands and tested new approaches to burning in the coastal plain. The project supported an LIT Coordinator who assisted with private landowner engagement.

Accomplishments

- 100 private landowners reached through technical assistance and outreach
- 1,076 acres of longleaf established on private lands
- 17,111 acres of longleaf enhanced on private lands

8) Longleaf Pine Model Forest Development and Outreach (GA) #37052: The Chattahoochee Fall Line Conservation Partnership accelerated and demonstrated longleaf pine conservation in west Georgia and east Alabama within the Fort Benning Significant Geographic Area (SGA). The project developed a model forest, providing demonstration sites for private landowners and information on management results and the costs and benefits of longleaf, both economic and ecological. In addition, the project expanded the use of prescribed fire across the SGA, and conducted private landowner outreach and assistance.

Accomplishments

- 554 private landowners reached through technical assistance and outreach
- 999 acres of longleaf established on private lands
- 4,864 acres of longleaf enhanced on private lands

9) Okefenokee/Osceola Implementation Team Creation and Outreach (GA/FL) #36659:

The Conservation Fund, in coordination with federal and state agencies and private landowners, created an Implementation Team to organize and drive the public-private, multi-state longleaf establishment and understory management on public and private lands in Georgia and Florida as part of the Okefenokee/Osceola Significant Geographic Area.

Accomplishments

- 40 private landowners reached through technical assistance and outreach
- 21 acres of longleaf established on private lands
- 253 acres of longleaf enhanced on private lands

10) Ocala Regional Implementation Team (FL) #37221: The Nature Conservancy worked with the Florida Forest Service, Florida Park Service and others to establish an Implementation Team centered on the Ocala Landscape involving public and private partners. Project supported an LIT Coordinator to assist with private landowner outreach and technical assistance.

Accomplishments

- 497 acres of longleaf established on private lands
- 29 acres of longleaf enhanced on private lands

11) Apalachicola Longleaf Initiative (FL) #36802: The Apalachicola Regional Stewardship Alliance (ARSA), including the Nature Conservancy, Florida state agencies and others, and in partnership with Tyndall Air Force, advanced longleaf pine ecosystem improvement and establishment on state, federal and private properties in a portion of the Florida panhandle managed by the members of ARSA. Project supported an LIT Coordinator to assist with private landowner outreach and technical assistance.

Accomplishments

- 99 private landowners reached through technical assistance and outreach
- 300 acres of longleaf established on private lands
- 462 acres of longleaf enhanced on private lands

12) Expand ALERT team and Accelerate Longleaf Restoration (AL/FL) #36888: The Longleaf Alliance and the Nature Conservancy established and improved longleaf pine by increasing acres of prescribed fire, and enhancing restoration delivery across public and private lands in Alabama and northwestern Florida. The project built partnerships, trained practitioners, provided technical assistance and outreach to private and public land managers, and increased the effective application of prescribed fire on private lands.

Accomplishments

- 414 private landowners reached through technical assistance and outreach
- 199 acres of longleaf established on private lands
- 5,490 acres of longleaf enhanced on private lands

13) Advancing Longleaf Conservation in East Texas (TX) #37162: The Nature Conservancy and partners advanced the range-wide goals of America's Longleaf Restoration Initiative by implementing important longleaf restoration work in two Significant Geographic Areas (SGAs) in east Texas. In the Big Thicket National Preserve SGA, the project conducted reforestation, prescribed burning, mechanical and chemical treatments on the Roy E. Larsen Sandyland Sanctuary. Work included longleaf regeneration, mid-story control and prescribed burning. In addition, a Texas Longleaf Program Coordinator was hired to advance coordination of the public and private efforts for longleaf conservation in east Texas.

Accomplishments

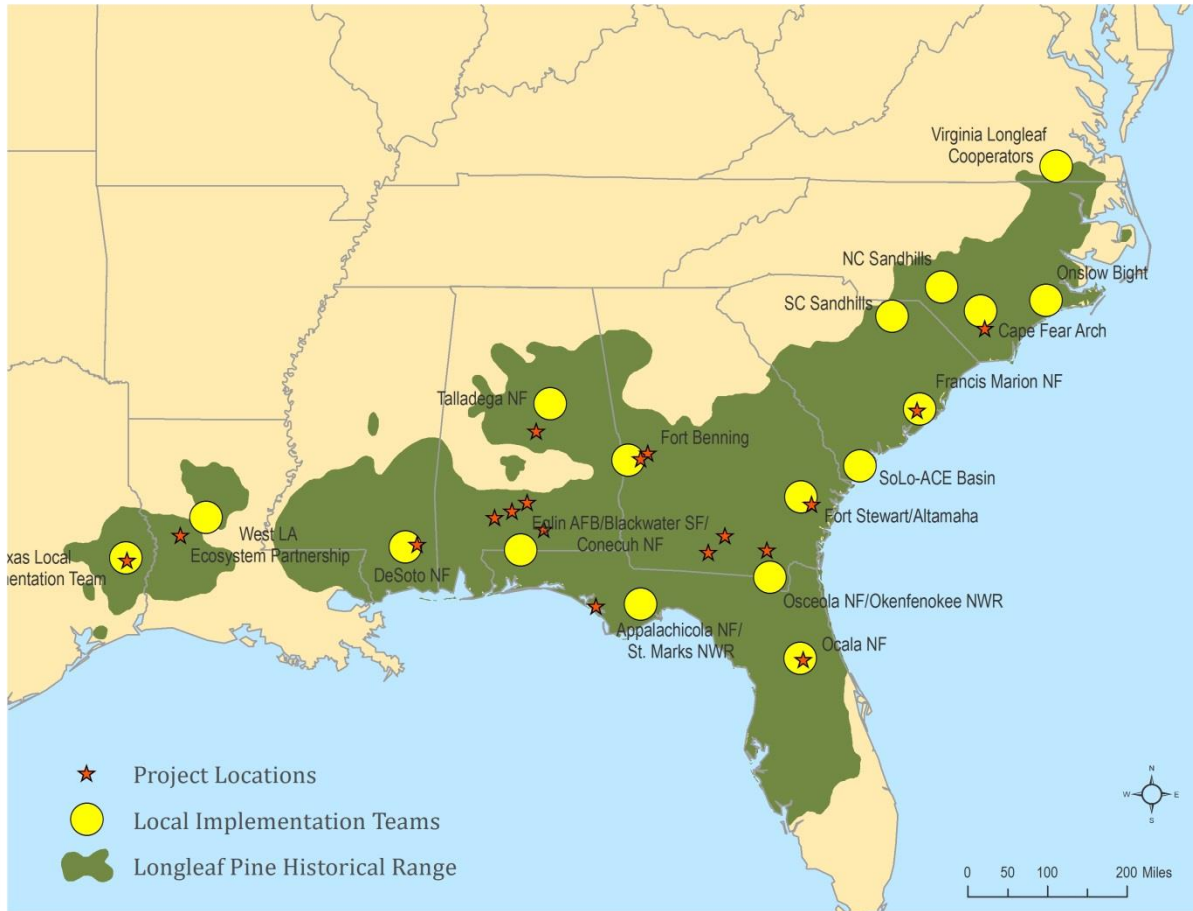
- 185 acres of longleaf established on private lands
- 2,700 acres of longleaf enhanced on private lands

14) Longleaf Economics Workshop #40686: The Joseph W. Jones Ecological Research Center, in partnership with Barrett McCall, President of the forestry consulting firm Larson & McGowin, examined some of the key economic issues related to accelerating longleaf restoration on private lands in order to meet the acreage goals of the America's Longleaf Restoration Initiative. The project focused on owners and decision-makers with management and oversight of medium and large acreage properties, ranging from family tracts to landscape-level holdings of TIMOs and REITs. These properties have received less attention historically in longleaf restoration programs, but may represent a significant opportunity for longleaf restoration due to their scale and capacity for longleaf management. Outcomes include a literature survey and synthesis of current economic analyses of forest management for southern pines; a workshop for subject matter experts and stakeholders affiliated with management and conservation of medium to large properties; and a report summarizing key issues identified, information gaps, opportunities, alternative views, and emergent areas of agreement for further work.

15) Longleaf Growth and Yield Model Evaluation #44566: The Longleaf Alliance coordinated a team of experts and modelers to review and evaluate existing growth and yield models to provide recommendations on how the models could be adapted and improved for longleaf pine. The project involved assembling a team of modelers with experience or interest in longleaf pine growth and yield models to locate the models currently available, assembled the data that are available to test the models, made suggestions as to what new models or components are needed and whether those can be developed from existing data or if new data will be required for their development. The project provided a proposal to collect data where needed and/or making model changes as necessary to provide robust yield models that can be used for new planted

stands or use inventory information from existing stands as a basis for beginning projections.

- 16) Longleaf Landowner Outreach and Technical Expert Database #41623:** The Longleaf Alliance developed the first database of individuals working to advance longleaf pine restoration and management on private lands. The database includes the individuals' contact information, respective work areas, percentage of time devoted, areas of expertise, sources of funding, roles and functions, and any existing working relationships with the Natural Resources Conservation Service (NRCS). Project focused on individuals working with private landowners and funded at least partially by NRCS.
- 17) Private Landowner TA Coordination and Outreach #49676:** The Longleaf Alliance hired a Longleaf Consul (Consul) position responsible for coordination and exchange of information between the 17 multi-partner local implementation teams (LITs), which are responsible for organizing, planning and delivering conservation actions to restore and enhance the longleaf pine ecosystem across the historic longleaf range. The Consul communicated within and among the LITs to support information sharing and identify and transfer best practices and approaches, including effective methods for providing technical assistance to private landowners to restore and enhance longleaf pine. The Consul served, and continues to serve, an integral role in assisting LITs with the development of conservation business plans for their respective Significant Geographic Areas, which will establish spatially explicit conservation priorities and outcomes. This project also supported the development and distribution of the Longleaf Leader, a quarterly publication that provides information on available technical assistance, resources and best practices for longleaf restoration to over 2,000 landowners and longleaf practitioners.
- 18) Coordinating Longleaf Mapping and Conservation Planning #48162:** The Nature Conservancy (TNC) coordinated efforts to develop longleaf pine baseline information for Significant Geographic Areas across the longleaf range, which is a priority identified in the Range-wide Conservation Plan for Longleaf Pine. This information will support the establishment of longleaf pine restoration and enhancement goals and provide a benchmark for measuring implementation success. TNC convened a workshop for local implementation teams, GIS experts and longleaf pine practitioners to identify potential data sources and make recommendations for mapping longleaf location and extent. Based on recommendations from the meeting, NFWF developed a request for proposals (RFP) for a pilot project that will lead to the development of accurate and consistent information on existing longleaf location and extent for Significant Geographic Areas (SGAs) within the longleaf historical range, as well as establish guidelines for assessment of longleaf condition.



Map 2. Project Locations Map

Overall the project met the objectives and goals outlined in the grant request, while also expanding the scope of work to begin addressing key barriers to restoring longleaf pine on private lands. The longleaf habitat metrics, conservation plan template, and assessment of conservation planning capacity and mapping needs are advancing the development of conservation plans for the significant geographic areas, which will support improved monitoring and tracking of longleaf restoration outcomes in the future.

In addition, the longleaf economics literature review and large-acreage landowner workshop provided important recommendations for addressing economic barriers to longleaf restoration on private lands, especially for landowners who may not qualify for NRCS or other cost-share programs with annual gross income (AGI) limits or other criteria that limit enrollment. This project led to the assessment of existing growth and yield models for longleaf, which revealed a lack of such data and recommendations for data collection to inform more robust models that reflect “real world” forest management scenarios.

Discussion of quality assurance

NFWF maintains a standard interim reporting process for the Longleaf Stewardship Fund, which is aligned with the America's Longleaf Restoration Initiative (ALRI) annual reporting protocol and timeframe, which follows the federal fiscal year (October 1 - September 30).

Accomplishments tracked through the Longleaf Stewardship Fund are provided to ALRI and are combined with reported outcomes from other federal, state and non-governmental sources to provide a cumulative accounting of annual accomplishments across the longleaf pine range.

NFWF, through the Longleaf Stewardship Fund, supports coordinators within each of the LITs, responsible for monitoring and reporting on longleaf restoration accomplishments on behalf of the overall partnership, as well as specific to activities supported directly by NFWF grants. Outcomes and quality assurance for this project were tracked through NFWF's annual reporting process and regular outreach to project partners. Requested adjustments to projects scope of work and budget submitted by grantees were reviewed by NFWF and revised as needed to align with the overall objectives of this project.

Findings

The following measurable outcomes were achieved during the project period, meeting or exceeding a majority of the targets established in the original proposal:

Outcomes	Goal	Actual	% of Goal
Acres of Longleaf Established	4,200	5,246	125%
Acres of Longleaf Improved with Prescribed Fire	5,000	27,356	547%
Acres of Longleaf Improved through Invasive Species Removal	2,100	1,474	70%
Acres of Longleaf Improved through other Management Practices*	0	4,523	--
Private Landowners Reached by Technical Assistance Providers	350	1,207	345%
Landowners Receiving Technical Assistance	70	141	201%
# Private Landowner Workshops	7	20	285%
# Technical Assistance Provider Workshops	4	6	150%
# New Resources Professionals Trained	10	19	190%

* Mid-story control and over-story thinning outcomes were not identified in the proposal, but significant outcomes were achieved by leveraging CIG funds with other project and partner resources.

NRCS CIG funds were leveraged through the Longleaf Stewardship Fund. A total of 18 projects were selected to receive **\$604,884.77** of the CIG funds provided to NFWF. These funds were matched with **\$717,797** in other NFWF and grantee non-federal funds and leveraged an additional **\$2.2 million** in non-federal NFWF and grantee resources, for a total project impact of more than **\$3.5 million**. This greatly exceeds the \$1.4 million total impact estimated in the project proposal.

Conclusions and Recommendations

Based on the longleaf restoration outcomes achieved through this project, increasing technical assistance to private landowners is critical to advancing longleaf restoration goals on private lands and this project demonstrates that efficiencies can be gained through improved coordination and communication between technical assistance providers.

With government budgets in decline, public-private partnerships such as the Longleaf Stewardship Fund will continue to be important to leverage financial and technical resources. In addition to increasing and maintaining a pool of qualified technical assistance providers, more private landowners should receive training on longleaf management, especially the delivery of prescribed fire, which is arguably the most important management tool for restoring and maintaining longleaf habitat. NFWF and partners have submitted a proposal to the NRCS Regional Conservation Partnership Program to increase the delivery of prescribed fire on private lands, including piloting innovative models for prescribed fire delivery, such as prescribed burn associations.

Although progress was made to develop a framework for monitoring and evaluating longleaf restoration, lack of accurate and consistent baseline data on longleaf location and extent remains a barrier to developing conservation plans for each SGA. Utilizing the recommendations received through the GIS-expert workshop convened by TNC, NFWF recently awarded a grant for a pilot project to map the location and extent of longleaf pine within four SGAs. In addition, the project will develop a protocol for monitoring the condition of longleaf pine habitat. These outcomes will support the development of SGA conservation plans and improve the tracking of longleaf outcomes across the range.

The cost of planting and managing longleaf pine is a significant barrier to restoring longleaf on private lands. The large-acreage landowner workshop hosted by NFWF, the Jones Center and Larson & McGowin identified the need for development of more markets for longleaf pine, especially markets that provide a premium for longleaf over other pine species. Participants also identified a need for more incentives for large-acreage landowners to offset or eliminate opportunity costs associated with longleaf.

Current growth and yield models for longleaf are largely built from data from academic studies. Better growth and yield models for longleaf pine are needed, which are important to understanding performance compared to loblolly and slash, which have been studied extensively.

Appendices