



GOPHER TORTOISE
WORKING LANDS FOR WILDLIFE
FY17-18 IMPLEMENTATION STRATEGY

IMPLEMENTATION STRATEGY

The gopher tortoise (*Gopherus polyphemus*) is a keystone species of America's longleaf pine forests. It is the only land tortoise native to the eastern United States, living primarily in longleaf pine savannahs of Louisiana, Mississippi, Alabama, Florida, Georgia and South Carolina. The gopher tortoise dwells in pine forests with deep, well-drained, sandy soils and an open understory that provides plant foods and nesting sites.

The gopher tortoise is a unique and iconic species that creates habitat niches critical to the survival of many different animals. As its name implies, the gopher tortoise digs burrows of up to 40 feet in length that allow escape from danger and hot weather. Gopher tortoise burrows are a unique climate resiliency feature of Southeastern landscapes, harboring up to 360 other wildlife species.

Fire suppression, lack of forest management, conversion to other forest types, urban development, and overgrazing all cause loss and fragmentation of longleaf forests, which centuries ago spanned from eastern Texas to southern Virginia.

The At-Large Effort

The shrinking of once expansive longleaf forests has led to declines in gopher tortoise and other native wildlife populations like bobwhite quail. Biologists have been concerned about the range-wide decline of the gopher tortoise for some time, and the Gopher Tortoise Council formed in 1978 for collaborative research and conservation. The U.S. Fish and Wildlife Service (FWS) listed the gopher tortoise as threatened under the federal Endangered Species Act (ESA) in the western part of its range (areas of Louisiana, Mississippi and Alabama) in 1987. In 2011, FWS determined the gopher tortoise is a candidate for listing in the rest of its range (areas of Alabama, Florida, Georgia and South Carolina).

Many states have also added additional protections or are considering them. As regulations have increased, landowners' concern for economic impacts to production on working lands has grown across the six-state region. The Working Lands for Wildlife (WLFW) partnership, led by USDA's Natu-



Reducing threats. Landowners use prescribed fire to encourage fresh growth of longleaf pine and herbaceous food plants.

ral Resources Conservation Service (NRCS), directly addresses the practical need for development of a win-win scenario for managing gopher tortoise on working lands, without further regulation.

Since the late 1990s, a number of partners have made incremental progress toward conservation of both the longleaf pine ecosystem at-large and the gopher tortoise. The FWS released the Range-wide Conservation Strategy for the Gopher Tortoise in 2013, identifying habitat destruction and degradation on private lands as a landscape-level threat. The FWS noted that longleaf conversion to other silvicultural types and neglected longleaf stand management were primary concerns throughout the range of the gopher tortoise. In coastal areas, urban development has had serious impacts on tortoise populations. And in longleaf pine forests where sound timber management practices have been neglected, degraded habitats no longer support the gopher tortoise. There are additional opportunities to restore and protect habitats on grazing and rangelands to benefit the species.



Landowners part of the solution. Private landowners are making gopher tortoise-friendly improvements to their working lands.

Restoring and Protecting Longleaf Pine Forests on Private Lands

Private landowners are contributing to the broader effort to help the gopher tortoise, managing for healthy forests, and incrementally reducing the need for further regulatory protections. Farm Bill programs offered by NRCS provide landowners with tools to systematically address specific habitat and timber stand improvement needs. WLFW is the agency's science-based wildlife conservation effort to engage landowners and conservation partners to:

- Establish and manage longleaf pine stands, especially in areas where larger populations of gopher tortoise currently occur;
- Work with our partners to better document strong gopher tortoise populations across the landscape;
- Identify and support cutting-edge science for decision-making; and
- Contribute significantly to precluding the need to expand the ESA listing for the gopher tortoise through strategically implementing landscape-scale habitat improvements.

Assistance for Landowners

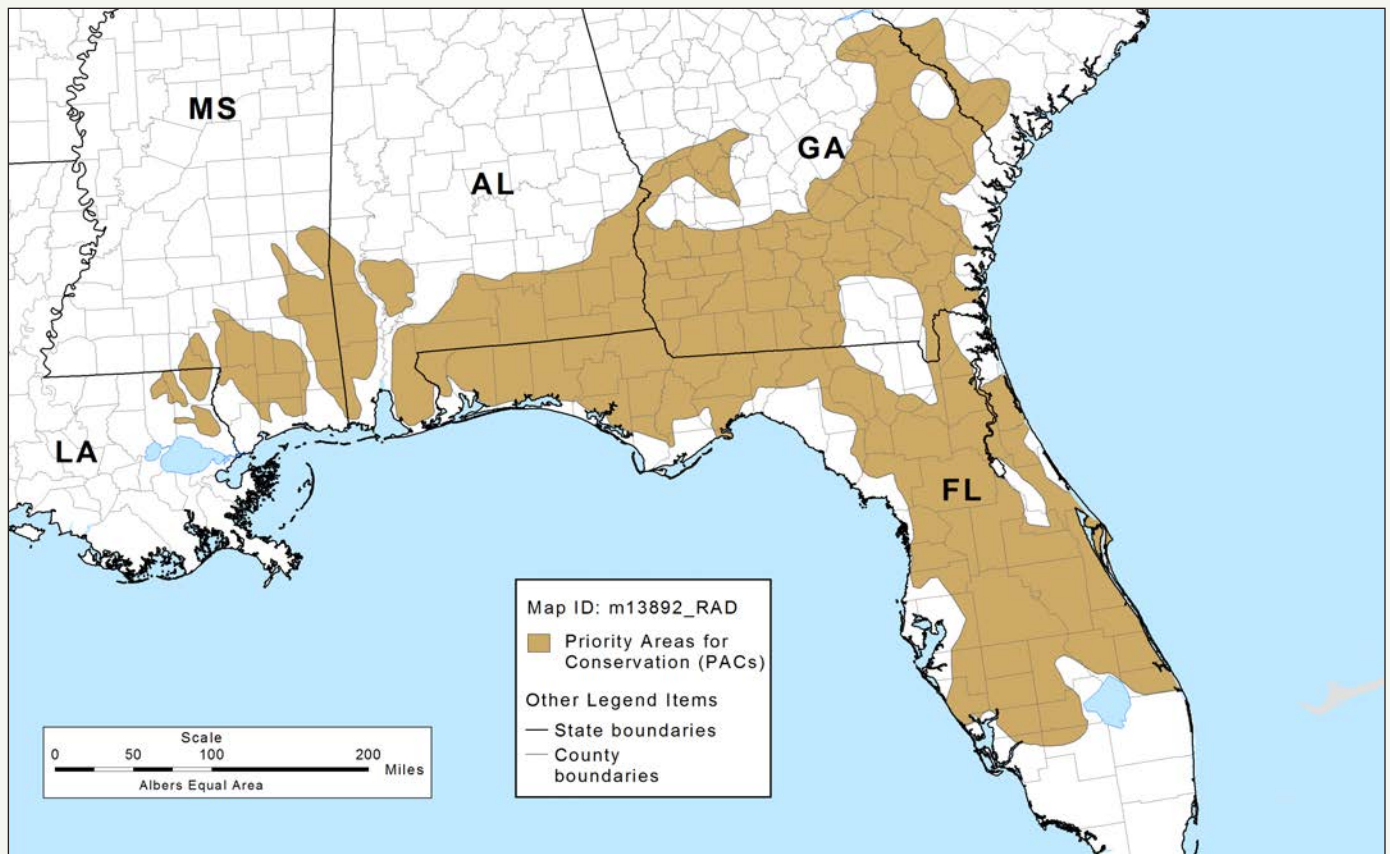
NRCS provides technical and financial assistance that help landowners voluntarily plan and implement a variety of conservation practices that improve management of longleaf forests. Conservation practices

provided to private landowners by NRCS are cost-shared to assist communities in re-establishing healthy longleaf pine stands and managing those stands to maximize a balance of wildlife and economic returns. Since 2012, landowners have restored and protected more than 278,000 acres to support gopher tortoise goals through WLFW.

Conservation technical assistance (CTA) is free to producers. The agency's staff of experts and conservation partners work side-by-side with producers to develop site-specific conservation plans. Financial assistance comes from a variety of Farm Bill programs, such as the Environmental Quality Incentives Program (EQIP) and Agricultural Conservation Easement Program (ACEP), and these programs cover a portion of the costs for adopting conservation practices (for perpetual easements, up to 100 percent of the practice costs).

In addition to technical and financial assistance, WLFW also provides regulatory peace of mind. NRCS completed an ESA consultation with FWS on behalf of private landowners who sign up for WLFW, agreeing on measures to safeguard tortoises and tortoise habitat while installing and maintaining conservation practices. As a result, when landowners use NRCS-recommended conservation practices and measures, they are free from regulation under the ESA for recurring habitat conservation actions for up to 30 years.

IMPLEMENTATION STRATEGY



4

Targeted approach. NRCS is focusing its conservation efforts in these new priority areas for conservation, which were developed with state and federal agencies, non-government organizations and universities in 2016.

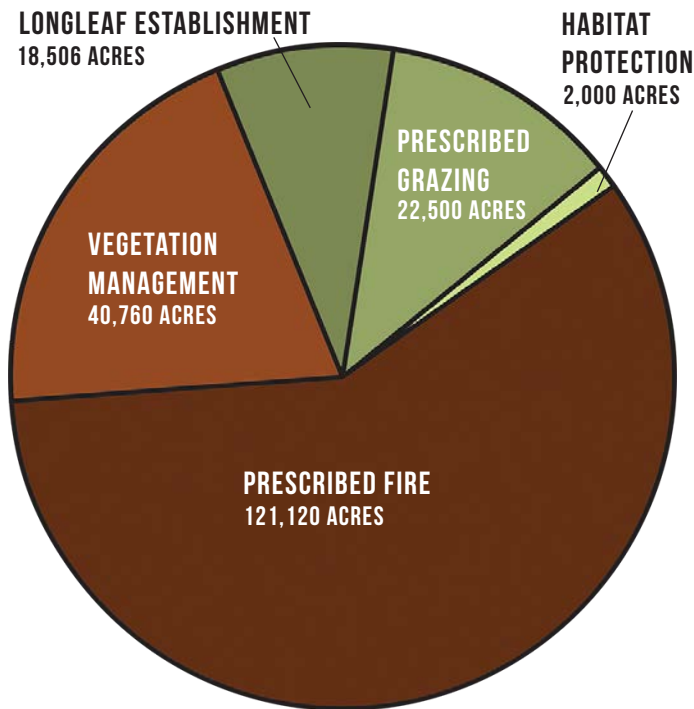
New Priority Areas for Conservation

To better target Farm Bill investments through WLFW, NRCS worked with conservation partners in 2016 to develop new priority areas for conservation (PACs) to increase the effectiveness of our partnership's on-the-ground habitat development efforts. About three dozen experts from state and federal agencies, non-government organizations and universities collaborated to develop the PACs. PACs were developed using population data from FWS, soils models from NRCS, and land-use mapping developed using geographic information system (GIS) tools. For population data, FWS assembled raw population data from state and other partners, including the location of minimally viable populations, the smallest number of individuals required for a population to persist long-term. The maps developed from this collaboration are a critical piece of this implementation strategy.

Measuring Outcomes

Evaluating the cause and effect of how wildlife responds to management actions helps NRCS refine conservation to maximize beneficial outcomes. In 2016, NRCS and the University of Georgia (UGA) signed an agreement to assess how site management influences tortoise habitat suitability. This information will be used by NRCS to adapt future conservation actions. Meanwhile, through a grant from NRCS' Conservation Effects Assessment Project, UGA is rounding out financial support for a partnership among the FWS, Department of Defense and Southeast Conservation Adaptation Strategy to analyze new information for the gopher tortoise and four additional at-risk longleaf-dependent species to maximize the community benefits of WLFW actions. WLFW target species, such as the gopher tortoise, represent ecosystem needs and multi-species benefits.

ADDRESSING SITE-SPECIFIC THREATS



By the end of 2018, NRCS plans to work with landowners to adopt conservation practices that address threats to gopher tortoise on more than 205,000 acres.

FY17-18 Implementation Strategy

NRCS staff from the six-state range of the gopher tortoise developed this implementation strategy for fiscal years 2017 and 2018 as part of the agency's long-term path forward for gopher tortoise conservation. This implementation strategy summarizes conservation actions that offset site-specific threats to the species, as well as objectives and milestones. Milestones achieved by fiscal year 2018 will contribute to longer-term goals to augment the acres of suitable habitat and contribute to conservation and recovery of the gopher tortoise.

Collectively for the six states involved, NRCS aims to restore, create and protect more than 205,000 acres of gopher tortoise habitat by the end of fiscal year 2018. To address site-specific threats, NRCS is focusing on five conservation actions:

- Promoting increased use of prescribed fire;
- Improving vegetation management;
- Re-establishing longleaf forests;
- Supporting prescribed grazing management; and
- Protecting existing quality habitats.

In this strategy, NRCS is expanding the available restoration tools by adding ACEP to WLFW efforts for gopher tortoise. Other Farm Bill easement and lease programs, such as the Conservation Reserve Program and Healthy Forests Reserve Program, have had well-documented landscape-scale successes for game and non-game wildlife. NRCS wants to increase use of voluntary conservation easements to benefit the gopher tortoise by securing habitat blocks, especially in rapidly developing areas.

In this strategy, NRCS has set a goal to double its on-the-ground accomplishments for fiscal years 2017 and 2018. NRCS has increased its commitment to on-the-ground conservation for the gopher tortoise in hopes of avoiding any further listing actions under the ESA that would negatively impact working lands. The focus is on developing a win-win outcome for both landowners and the gopher tortoise.



Biodiversity abounds. The floor of a longleaf pine forest is one of the continent's most biodiverse ecosystems.
Photo by Matt Hinderliter, U.S. Fish and Wildlife Service.

About 80 percent of the gopher tortoise range falls on private lands, making conservation efforts on working lands pivotal to the species' success.



CONSERVATION ACTION: PRESCRIBED FIRE

Site-specific Threat Addressed: Fire Suppression

Purpose and Need: Gopher tortoises depend on the open understories of pine forests for forage and nesting sites. Fires historically burned through the pine savannahs of the Southeast, controlling woody undergrowth and creating openings. Prescribed fire mimics those natural processes.

Objective: NRCS will increase the use of prescribed fire on private lands through technical and financial assistance to offset fire suppression, creating and maintaining an open understory to benefit wildlife and pine stand health.

- NRCS will develop conservation plans for private lands that recommend prescribed burning within the first 18 months post-planting, and then afterward on two-year rotations to encourage herbaceous-vegetated understories and tree growth in longleaf pine stands by reducing woody encroachment.
- NRCS will further encourage the effectiveness of prescribed fire through its project ranking process that favors burns during the growing season and in stands where use of prescribed fire has been neglected in recent years.

Funding Source: EQIP, CTA

Milestones: In fiscal years 2017 and 2018, NRCS aims to add an additional 121,120 acres of prescribed fire on private lands.



Prescribed fire. Longleaf pine trees are well-adapted to fire and grow better in regularly burned landscapes.

PRESCRIBED FIRE

State	FY17-18 Acres
Alabama	41,840
Florida	41,000
Louisiana	23,230
Mississippi	15,050
TOTAL	121,120

Georgia and South Carolina included prescribed fire as part of the vegetation management conservation action (next page).

CONSERVATION ACTION: VEGETATION MANAGEMENT

Site-specific Threat Addressed: Understory Habitat Degradation

Purpose and Need: Gopher tortoises depend on the open understories of pine forests for food and nesting sites. Stand thinning, brush management and related practices support longleaf pine growth and create sunny wildlife openings with lush herbaceous forage.

Objective: NRCS will increase use of vegetation management to manage growth of native and non-native plants on private lands.

- NRCS will provide assistance for brush management in conjunction with prescribed burning to reduce high fuel loads, making burning safer and more effective at controlling undesirable woody vegetation and enhancing herbaceous groundcovers.
- In forests where existing tree stands require management to provide better gopher tortoise habitat, NRCS will provide assistance for thinning of forest stands to reduce canopy closure and encourage herbaceous understories while enhancing timber growth.
- In all landscapes, controlling undesirable and invasive plant species will be a priority through brush management, including mechanical and chemical control techniques.

Funding Source: EQIP, CTA

Milestones: In fiscal years 2017 and 2018, NRCS aims to add an additional 40,760 acres of vegetation control and management practices on private lands.

8



Vegetation management. Landowners manage for healthier longleaf ecosystems, such as this thriving wiregrass community. *Photo by Clay Ware, U.S. Fish and Wildlife Service.*

VEGETATION MANAGEMENT	
State	FY17-18 Acres
Alabama	11,240
Florida	12,700
Georgia	10,945
Louisiana	900
Mississippi	3,975
South Carolina	1,000
TOTAL	40,760

CONSERVATION ACTION: LONGLEAF ESTABLISHMENT

Site-specific Threat Addressed: Conversion to Other Agricultural and Forestry Uses

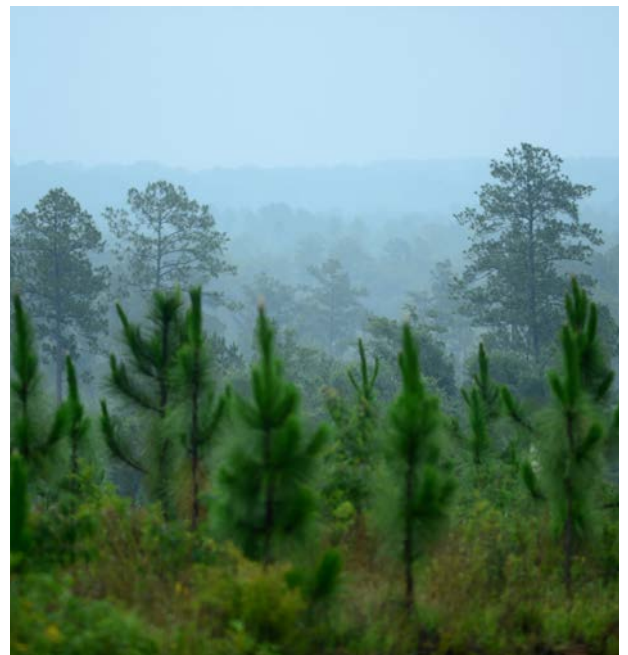
Purpose and Need: Gopher tortoises depend on healthy, expansive longleaf forests. To offset prior losses, establish or restore longleaf forests to increase available habitat for gopher tortoise and other wildlife.

Objective: NRCS will provide assistance to establish or restore longleaf pine in support of gopher tortoise habitat needs and regional longleaf pine partnership goals.

- In landscapes where pine stands were recently harvested, NRCS is working with landowners to prepare sites and plant with soil-appropriate trees, predominately longleaf pine trees. NRCS will use the land use history of sites in its ranking of applications, giving the most weight to former forest sites, moderate weight to pastureland and lowest weight to sites with cropping history.
- To maximize benefits, NRCS recommends trees plantings of 454 to 605 trees per acre.
- In plantings of greater than 500 trees per acre, NRCS recommends that wildlife openings equal to 15 percent of the planned area be left unplanted to support growth of herbaceous forage. If openings are linear in nature, NRCS recommends a minimum of 36 feet between tree rows.
- Wildlife openings will be planted in native grasses and forbs or left unplanted with one-third of the site managed annually with prescribed fire, herbicides, mowing or haying.
- Site plans will include daylighting roads; in other words, one row of trees left unplanted near roadsides. Note: This is a technique that benefits northern bobwhite, too.

Funding Source: EQIP, CTA

Milestones: In fiscal years 2017 and 2018, NRCS aims to add an additional 18,506 acres of longleaf plantings on private lands.



New Forests. NRCS works with landowners to plant and manage young longleaf pine trees.

LONGLEAF ESTABLISHMENT

State	FY17-18 Acres
Alabama	6,846
Florida	7,000
Louisiana	860
Mississippi	3,800
TOTAL	18,506

Georgia and South Carolina will focus all of their efforts on vegetation management in existing longleaf pine stands.

CONSERVATION ACTION: PRESCRIBED GRAZING

Site-specific Threat Addressed: Overgrazing of Pastures and Silvopastures

Purpose and Need: Gopher tortoises forage on soft plant materials available mostly as newer growth. Prescribed grazing supports healthy livestock and gopher tortoise populations.

10

Objective: NRCS will increase use of prescribed grazing plans that are supportive of successful livestock operations and gopher tortoise habitat needs.

- NRCS will develop prescribed grazing plans and provide technical and financial assistance to help landowners implement them. These plans balance grazing pressure around critical gopher tortoise habitats where foraging and nesting occurs.
- Facilitating practices such as fence, pipeline and watering facilities support management of grazing pressure and duration consistent with a prescribed grazing plan developed with the landowner.

Funding Source: EQIP, CTA

Milestones: In fiscal years 2017 and 2018, NRCS aims to add an additional 22,500 acres of prescribed grazing management on private lands, focused in Florida where large numbers of gopher tortoise co-occur with livestock. This approach may be used in additional states in future years.



Silvopasture. Managed, mature longleaf stands have lush understory vegetation that provides excellent forage for livestock and gopher tortoises.

PRESCRIBED GRAZING	
State	FY17-18 Acres
Florida	22,500
TOTAL	22,500

CONSERVATION ACTION: HABITAT PROTECTION

Site-specific Threat Addressed: Conversion to Non-Agricultural and Non-Forestry Uses

Purpose and Need: Gopher tortoise requires healthy, expansive longleaf forests and open habitats with diverse herbaceous cover. Voluntary conservation easements protect working lands for the long-term, improving habitat connectivity and securing ag ownership in rapidly developing areas.

Objective: NRCS will increase participation in Farm Bill conservation easement programs that help landowners restore and protect suitable habitats, especially those valuable to gopher tortoise recovery.

In all landscapes with potential suitable habitats, NRCS will pursue voluntary conservation leases and easements to protect and restore those sites to support the long-term survival of larger gopher tortoise populations. ACEP offers term and perpetual land protection options for agricultural lands and wetland/upland buffer complexes.

Funding Source: ACEP, CTA

Milestones: In fiscal years 2017 and 2018, NRCS aims to use easements to protect an additional 2,000 acres of gopher tortoise habitat on private land. Conservation easements on working lands inhabited by gopher tortoise will be initiated under WLFW in Florida, and NRCS may expand this in the future to other states with urban development pressure.



Easements. Some landowners take advantage of financial incentives to protect their working lands from urban development.

HABITAT PROTECTION	
State	FY17-18 Acres
Florida	2,000
TOTAL	2,000



Natural Resources Conservation Service

Helping People Help the Land

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