

A landowner's guide

Managing habitat for gopher tortoises



The Nature Conservancy



**Florida Fish and Wildlife
Conservation Commission**

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A fire-dependent species

Gopher tortoises are land turtles that typically live on uplands with well-drained sandy soil. The sandy soil allows gopher tortoises to easily excavate burrows that protect them from predators and extreme temperatures. The gopher tortoise is considered a keystone species because its burrows are used by more than 350 other species. Tortoises spend most of their time in their burrows or close by, feeding on grasses and other non-woody plants. They live in parts of all 67 Florida counties in a variety of habitats, including sandhill, scrub, pine flatwoods, dry prairies and coastal dunes.

Land management activities can greatly affect gopher tortoises and their habitat. Suitable gopher tortoise habitat depends on a regular interval of prescribed fire to reduce shrub and hardwood encroachment and to stimulate growth of soft-stemmed plants as ground cover. Appropriate management of gopher tortoise habitat is critical to the survival of this threatened species. This guide provides private landowners with information about habitat management, available resources and incentives to manage and restore habitat for gopher tortoises. Managing habitat for gopher tortoises benefits numerous species, including game species such as deer, turkey and quail.



Florida Park Service

Gopher tortoise habitat management

The Florida Fish and Wildlife Conservation Commission (FWC) highlights the following activities as options available to landowners for managing gopher tortoise habitat. Landowners should evaluate their land management objectives and current condition of their site, research management activities specific to their natural communities, and then choose the most appropriate management activities.

Habitat maintenance

Several management activities can enhance the condition of natural communities and benefit the gopher tortoise. The most beneficial and cost-effective habitat maintenance activities are prescribed burning and timber thinning. These management tools increase the amount and diversity of ground cover used for gopher tortoise forage and provide open, sunlit sites for tortoise basking and nesting. The Florida Natural Areas Inventory (FNAI) provides a Guide to Natural Communities of Florida, containing information on appropriate management activities for specific sites and natural communities. Visit fnai.org to download this guide.

Prescribed fire resources

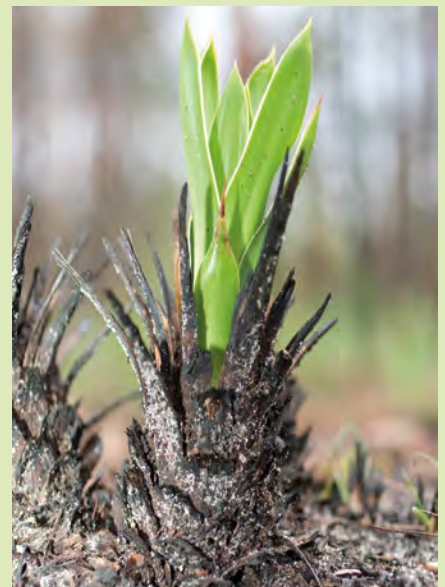
Many resources are available to private landowners to assist in implementing prescribed burning, including those on lands bordering urban areas. The Nature Conservancy Resource Management Support Team and the National Interagency Prescribed Fire Training Center provide on-the-ground technical assistance for landowners such as fire line installation and vegetative fuel reduction. The Southern Fire Exchange and Florida's Prescribed Fire Councils also provide a forum for landowners and land managers to share knowledge and resources that helps to promote and continue the safe application of prescribed burning throughout Florida.

Prescribed fire—A safe way to apply a natural process, ensure ecosystem health, and reduce wildfire risk

Prescribed burning is the most important habitat management tool used to maintain suitable gopher tortoise habitat. Historically, natural fires helped maintain many of Florida's unique habitats. Today, land managers use prescribed burning as a safe way to apply a natural process, ensure ecosystem health, and reduce wildfire risk. Typically, suitable gopher tortoise habitat can be maintained by frequent prescribed burning. The frequency and timing of a prescribed burn is a major contributing factor to maintaining plant species richness and an open forest canopy. The time of the year and how often burns are conducted are important for maintaining lands that contain suitable gopher tortoise habitats. Information regarding appropriate fire regimes for specific natural communities is outlined in the Gopher Tortoise Management Plan.



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Timber thinning

As tree canopy becomes denser, less sunlight reaches the ground and this limits the growth of forage used by gopher tortoises. Timber thinning is a management activity that opens the canopy and allows sunlight to reach the forest floor, which stimulates the growth of soft stemmed plants. Timber thinning activities knock down excessive shrubs and hardwood in the forest stand, which also benefits the gopher tortoise. This creates a more suitable environment for prescribed burning.

Habitat enhancement

Ideally, gopher tortoise habitat can be maintained with prescribed burning. However, lands that have not received regular prescribed fire may require other techniques separately or in conjunction with prescribed burns. Comprehensive guidance on maintaining or improving land to enhance gopher tortoise habitats, along with details of the habitat enhancement activities mentioned below, can be found in the Gopher Tortoise Management Plan.

Roller chopping

Managers can consider roller chopping for lands with excessive shrubs, palmettos, or other heavy fuels that create unsafe conditions for prescribed burns. This technique reduces large thickets of shrubs and palmettos. Chopping may be preferable over mulching or shredding which leave a dense mat of mulch that may hamper desirable ground cover response. Whenever possible, a prescribed burn should follow on lands that have been roller chopped.

Mulching or shredding

Mulching or shredding may be used to reduce excessive shrubs, palmettos and young hardwoods. Following this technique with a prescribed burn will promote the growth of soft stemmed plants and reduce the risk of accumulating a thick mulch-like material. Mulching or shredding may be used as a pre-treatment to areas being planted to restore native ground cover.

Mowing

Lands dominated by large pastures and fields can be maintained by mowing. The effectiveness of disked fire lines can be increased by mowing strips along fire lines prior to prescribed burns. To avoid injuring gopher tortoises, the mower blades should be at least 18 inches above the ground.

Herbicides

Herbicides can be used to treat and control invasive exotic plants such as kudzu and cogon grass. Invasive exotic plants left untreated can reduce native plants, restrict gopher tortoise movement, or interfere with other habitat management practices. Herbicides should be chosen that will target selected invasive exotic plants but not significantly reduce native soft stemmed plants.

Ground cover restoration

For completely altered lands, ground cover restoration can be used to reestablish a natural plant community and create suitable gopher tortoise habitat with sufficient forage. The ground cover should include a diverse selection of native plants and grasses. Successful regeneration of ground cover prior to longleaf pine restoration will create land that can be easily managed using prescribed burns.



The Longleaf Alliance

Incentives

Private lands play an increasingly important role in achieving the goals and objectives for gopher tortoise conservation in Florida, and private landowners have worked successfully in partnership with the FWC to conserve this threatened species. To encourage private landowners to apply conservation activities benefiting wildlife, several incentive programs are available from state and federal agencies. The Gopher Tortoise Management Plan outlines appropriate incentives for conserving gopher tortoises. Additionally, the FWC's Landowner Assistance Program provides cost-share opportunities and technical assistance for private landowners.

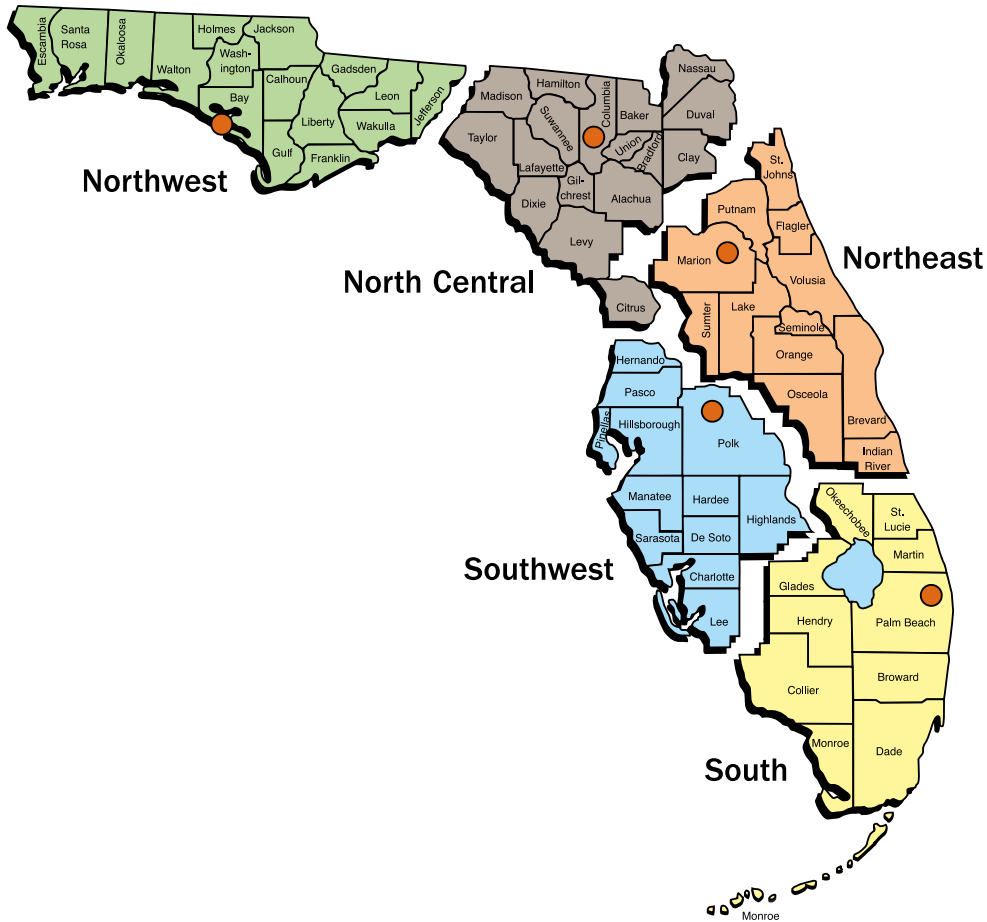
Resources

Gopher Tortoise Management Plan:
MyFWC.com/GopherTortoise

FWC Landowner Assistance Program:
MyFWC.com/LAP

FNAI Guide to the Natural Communities of Florida:
fnai.org/naturalcommguide.cfm

Regions of the Florida Fish and Wildlife Conservation Commission



Northwest Region

3911 Highway 2321 • Panama City, FL 32409-1658
850-265-3676

North Central Region

3377 East U.S. Highway 90 • Lake City, FL 32055-8795
386-758-0525

Northeast Region

1239 S.W. 10th Street • Ocala, FL 34471-0323
352-732-1225

Southwest Region

3900 Drane Field Road • Lakeland, FL 33811-1299
863-648-3200

South Region

8535 Northlake Boulevard • West Palm Beach, FL 33412
561-625-5122

For more information, call the gopher tortoise conservation biologist in your region or call the gopher tortoise program office at 850-921-1030. You also can visit MyFWC.com/GopherTortoise.

