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## Crossing boundaries to save sandhills and the gopher tortoise



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# Crossing boundaries to save sandhills and the gopher tortoise

*By Patricia Behnke*

**E**cosystems, habitats and wildlife know no boundaries made by man. Arbitrary lines drawn in the sand and on maps to mark cities, counties and states mean little in the natural world. That's why four states in the Southeast decided to band together as a strong united front to save an endangered habitat and prevent a keystone species from making the federal endangered species list.

Florida, Alabama, Georgia and South Carolina proposed a grant for sandhill restoration, a major habitat for the Southeast's unique gopher tortoise. As a result, the U.S. Fish and Wildlife Service awarded \$1 million

for the Multi-state Sandhill Restoration Project to restore declining sandhill habitat for the benefit of the gopher tortoise and other "species of greatest conservation need."

Over the next three years, the grant will fund a project that will restore more than 38,500 acres of sandhill habitat in the Southeast, including 16,600 acres in Florida. Georgia's Department of Natural Resources leads the partnership.

"We'll easily meet all of our targets," said Matt Elliott with GDNR. "And there's a good chance we'll do even more."

The targets include restoring fire regimes to the habitat, plant-

*The gopher tortoise is a keystone species because of the refuge offered by its burrows.*

and dry land for houses and agriculture.”

The gopher tortoise is called a keystone species for good reason. Its home is host to many others that depend upon the sandhill habitat. Those oval-shaped burrows in the sandy soil offer refuge to more than 300 other species. Rabbits, snakes, frogs and a whole group of insects and invertebrates depend upon the gopher tortoise doing its job. Some of these species are tortoise burrow obligates, which means they only are found in gopher tortoise burrows.

The sandhill habitat consists of a unique combination of wildlife and plant life, which depend on fire to survive. With the advent of human activities, fire suppression became a way of life. With that change went a way of life within the forest. Historically, annual summer fires burned through this ecosystem, burning plants closest to the ground, but leaving the tall longleaf pines intact. When fires are suppressed, the ecosystem balance becomes skewed. In the absence of fire, the open longleaf forest quickly becomes overgrown, limiting the wildlife and plant life that thrive in the forest.

Nicholas Sharp, with the Alabama Department of Conservation and Natural Resources, believes the key component to any restoration is fire.

“First and foremost, you must have fire on the ground,” Sharp said. “You have to get rid of the sand pine and the hardwoods before bringing back the longleaf.”

Since fire regimes are essential to re-establishing the habitat, the grant helps fund The Nature Conservancy’s Ecosystem Support Team. This team is a fire and land management strike team that provides additional trained personnel to help land managers in the western Panhandle with prescribed fire and



*Gopher tortoises dig their burrows in the sandy soil of the sandhill habitat.*

ing longleaf pine trees, removing invasive species specific to the region, and instilling good management practices among private landowners occupying sandhill habitats. These activities will create corridors for wildlife to travel unobstructed between habitats and restore wildlife habitat where it has become too overgrown for native wildlife species.

All of these targets are aimed at a common goal.

“It’s a proactive action to restore gopher tortoise habitat,” Elliott said. “This grant and its work will keep the gopher tortoise from being listed federally as endangered.”

The gopher tortoise is intimately tied to the disappearing habitat, and thus is in a direct line for extinction.

The story of the degradation and destruction of sandhill habitat is the story of Florida for more than a century, and it is the story of the connections among habitat, civilization and wildlife. Its study shows a section of the world at large and the challenges faced as a result of rapid urbanization and industrialization. The solutions show a way to conserve, protect, restore and prepare for an uncertain future filled with more challenges

as the climate changes and the human population increases.

Hanging on for survival in that habitat are hundreds of native species dependent on the soil, plants and trees of the sandhill. A sandhill habitat is a type of longleaf pine forest, which is considered among the most critically endangered ecosystems in the world. The gopher tortoise lives in burrows in the sandhill environment. In Florida, Alabama, Georgia and South Carolina, the gopher tortoise remains off the federal list of endangered species – barely. However, in Florida, it is listed at the state level as threatened. One thing threatens its continued survival – loss of habitat.

Longleaf ecosystems once covered most of the coastal plain of the Southeast. Today, they exist on only 3 percent of their former area because of urbanization, agriculture, industrial forests and lack of management to sustain the native ecosystem.

“Wildlife can’t always live in altered environments,” said Anna Farmer, FWC biologist and co-author of the grant. “And the sandhill habitat is now highly threatened by houses and agricultural interests because of the attractiveness of this high

other land management tasks. The money from the multi-state grant will support this team as it focuses on sandhill restoration needs in the Florida Panhandle.

“The major threat to the longleaf ecosystem is not enough fire on the ground,” said Vernon Compton of The Nature Conservancy of Florida. “The support team was formed to support all partners across the landscape. The team is highly trained and knowledgeable.

“Sandhill habitat is extremely unique,” Compton said. “The biodiversity is known to scientists across the world. Its very life depends on the fire – it’s like rain to the rain forest.”

Other states will work to restore public and private lands through fire as well. These restoration activities will build resiliency into the landscape, creating larger tracts of higher quality habitat and increasing the connectivity of habitat for wildlife. This restoration is particularly important in a habitat as crucially threatened as the sandhill because it will ensure that wildlife species continue to survive and thrive in the remaining habitat.

“By improving the quality of the habitat that’s out there, we reduce the stress on wildlife populations, making them better able to adapt to future climate changes,” Farmer said. “We also better connect the habitat and give them a chance to move as they need to.”

Part of this project will help create a natural corridor between Florida and Alabama, which will help species as they adapt to climate change by moving to climates that are more hospitable. Money from the grant will enable The Nature Conservancy to restore habitat within the Gulf Coastal Plain Ecosystem Partnership. This partnership of public and private landowners includes more than

a million acres that stretch from the tip of the Florida Panhandle north into Conecuh National Forest in Alabama.

The cooperation among the states has been positive, according to the partners. In addition to sharing the grant funds to restore sandhill habitats in all four states, the states will work together to monitor how plants, birds and gopher tortoises respond to the restoration activities. The states plan to use the same scientific monitoring methods, so they are able to share information

in order to understand how the restoration efforts affect the habitat and wildlife.

“We’re sharing information and everybody is on the same page,” Elliot said. “It wouldn’t have happened with just individual states.”

Sharp concurs.

“We’re all working on little points on the map, doing triage on what we have left,” Sharp said. “There is strength in partnership. The USFWS gave it more weight, demonstrating the importance of preserving the ecosystem.” **FW**



*The Nature Conservancy's prescribed fires burn the understory in sandhill habitat.*

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