

Navy Outlying Field (**NOLF**) Holly located in Santa Rosa County is a small but significant piece of US Navy property. The NOLF is approximately one square mile and was an active site for training of aviation students. NOLF Holly is not currently active. However, the Department of the Navy has continued its stewardship because the importance of NOLF Holly has not diminished. NOLF Holly is the home of two special and rare species: the flatwoods salamander, *Ambystoma cingulatum*, and the gopher tortoise, *Gopherus polyphemus*.

The federally listed flatwoods salamander is classified as threatened. This protection classification provides the salamander with federal protection from any type of human caused disturbance. The salamanders' former range occurred in the lower Southeastern Coastal Plain of southern South Carolina, Georgia, Alabama, and northern Florida. Unfortunately, the necessary Longleaf/Slash pine and wetland habitats of the salamander have been decimated from suburban encroachment, loss of historical fire regime, and industrial and agricultural development. In fact, Florida Natural Areas Inventory has "data that indicates a loss of nearly 90 percent of the historical local breeding populations." There are one hundred and two known inhabited breeding sites of which, thirty-six are located in Florida and one is located at NOLF Holly.

The salamander is a member of the mole salamander family and spends most of its life in longleaf pine or slash pine flatwoods and savannas that have open canopies. The salamander is nocturnal and rarely ventures above ground. The breeding season occurs from late October, November, and early December. This brief time is the most likely

period for a glimpse of this elusive creature. The adults are black with silver markings and migrate from their pine habitats to temporary wetlands for courtship and deposition of eggs. The larvae are brown with yellow stomach and have a smooth yellow horizontal stripe on their body. The larvae inhabit the wetlands from about January till March.

NAS Whiting Field is continuing its efforts of stewardship for the flatwoods salamander with a biological survey by the Florida Natural Areas Inventory, a non-profit organization from Florida State University, a prescribed burning plan, and restricting access to the site.

The second rare species is very abundant at NOLF Holly. Florida has listed the gopher tortoise as a species of special concern. Therefore, the tortoises are protected by law and it is illegal to harm, disturb, or transport the tortoises without a permit from the Florida Fish and Wildlife Commission. The tortoises have been granted this protection because of vast reduction in the population of these gentle creatures. At one time the gopher tortoises were abundant throughout the southeastern United States.



Flatwood Salamander Juvenile from NOLF Holly

Unfortunately, there are many causes for the diminished historical range of the gopher tortoise. The greatest cause is habitat degradation from development.

The identifying characteristics of the gopher tortoises are their flattened profiles, broad heavy front legs, short rounded flat-footed hind legs, dark brown top shell and their yellowish underside. The skin of gopher tortoises is dark brown and they have no markings on their heads. The average length of an adult is between nine to eleven inches and they can weigh up to fifteen pounds. The breeding season of the tortoises is usually during April till May. The female deposits three to fifteen eggs in a sandy mound in front of her burrow or other sunny location. The burrows have a wide apron at the entrance, are dug in loose sandy soil, and are generally fifteen feet in length. However, burrows have been found to be as long as forty-eight feet! The burrows of gopher tortoises are an important part of the ecosystem because other animals often use them.

NAS Whiting Field is participating in active stewardship for the gopher tortoises with a prescribed burning plan, to ensure optimal habitat, and a new project of identification of each burrow by global positioning for future reference.

Former aviation students and instructors remember NOLF Holly as a busy site that provided essential training opportunities of excellent quality. The natural resource management provided by the Department of the Navy has also ensured that NOLF Holly will remain an essential habitat of excellent quality for the flatwoods salamander and gopher tortoise communities.

Information for this article is from the Florida Fish and Wildlife Conservation Commission and the Florida Natural Areas Inventory. Additional information about flatwoods salamanders and gopher tortoises may be accessed from Florida Fish and Wildlife Conservation Commission's web page at: www.wildflorida.org and Florida Natural Areas Inventory website at: www.fnai.org.



Gopher Tortoise in burrow at NOLF Holly