

LIFE CYCLES, DISPERSAL, AND CRITICAL HABITAT UTILIZATION OF VERTEBRATES DEPENDENT UPON SMALL ISOLATED WATER BODIES IN THE MUNSON SANDHILLS AND WOODVILLE KARST PLAIN, LEON COUNTY, FLORIDA

BACKGROUND

Over the past 15 years, Dr. Bruce Means has led several multi-partnered, interagency studies to investigate the life histories and ecology of two candidate species for federal threatened status, the striped newt (*Notophthalmus perstriatus*) and the gopher frog (*Rana capito*). Researchers have studied over 250 ponds, temporary and permanent, in Leon and Wakulla Counties.

Many of the study ponds lie adjacent to US Highway 319, including Study Pond #1, located at the junction of US Highway 319 and State Road 61, which has proven to be an important breeding pond for 27 species of amphibians and reptiles, and notably for the striped newt. This pond is split by US 319, and roadkill has been a regular and problematic occurrence. With plans to four-lane this highway, FDOT funded research to investigate the ecology of the site in order to generate sufficient knowledge to mitigate impacts on the vertebrate species using temporary ponds along the highway.

Researchers studied the migrations of the striped newt, gopher frog, and 24 other invertebrate species over the course of several years. Recent drought seasons adversely impacted the previous FDOT-sponsored study, and raised the question whether the species still exist in the study area.

Researchers believed most of the species were still present in the adjacent uplands, but speculated that mortality was slowly decreasing their populations. However, the effects of long-term drought on amphibians that utilize ephemeral wetland depressions in the Munson Sandhills region of southern Leon County, particularly the striped newt and gopher frog, were unknown.

OBJECTIVES

The objective of this project was to determine the life cycles, dispersal, and critical habitat utilization of the amphibians that migrate into and out of ephemeral wetlands in the Munson Sandhills portion of the Woodville Karst Plain.

FINDINGS AND CONCLUSIONS

Researchers determined that the striped newt has experienced a severe decline in population, based upon data collected during this study, whereas other amphibians that utilize these wetlands have shown less of a decline. Specific findings and data are charted in the final report.

BENEFITS

This research identified habitat locations of the subject species, information useful for mitigation efforts. The findings provide beneficial information useful for the protection of habitat for amphibian populations that live in the Munson Sandhills region.

This research project was conducted by D. Bruce Means, of Florida State University. For more information, contact Josh Boan, Project Manager, at (850) 414-5266, josh.boan@dot.state.fl.us.