

# USACE Natural Resource Management

## Reptiles & Amphibians



### Reticulated Flatwoods Salamander | FAST FACTS

**REASONS FOR LISTING STATUS:** This salamander has experienced historic population declines as well as shrinking range. The suppression or exclusion of prescribed fire and increased drought conditions have degraded habitat. As a result the U.S. Fish and Wildlife Service listed the reticulated flatwoods salamander as Endangered under the Endangered Species Act in 2009.

Threats still continue to impact the species. In 2014 a 5-Year Review by USFWS indicated that of the 20 populations known at the time of listing, only 6 remained. (USFWS)

**MANAGEMENT AND PROTECTION:** In addition to listing the species under the ESA, the USFWS also designated critical habitat for the species in 2009. Habitat management for this species focuses on restoring breeding habitat. The most effective management strategies combines habitat restoration with in-situ assistance (i.e. cattle-watering tanks to increase larval survival).

Most known populations occur on private lands. This makes coordination and communication with private landowners a high priority for successful conservation. (USFWS)

**HABITAT NEEDS:** The egg and larval stage are aquatic while the juvenile and adult stages are terrestrial.

- Breeding occurs in ephemeral wetlands in the fall. Breeding wetlands are usually located within mesic to intermediate mesic longleaf pine flatwoods or savanna communities. Eggs are laid in bare mineral soil depressions which will later fill with water.
- Embryos hatch in winter and metamorphose between March and May. Juveniles disperse from ponds shortly after metamorphosing.
- Juveniles and adults are highly fossorial. They typically occupy crayfish burrows or root channels until sexual maturity, at which point they return to their natal pond to breed. Groundcover in occupied habitat is generally dominated by wiregrass. (USFWS)

**Description:** With a total length of 5.3 inches this is considered a moderately-sized salamander. These salamanders are slender with short, pointed snouts and stout tails. The head is small and has approximately the same width as the neck. The bodies are predominantly black to chocolate-black and have fine, irregular light gray lines or specks which form a cross-banded pattern on the back. Uniformly black individuals have been reported. (USFWS)

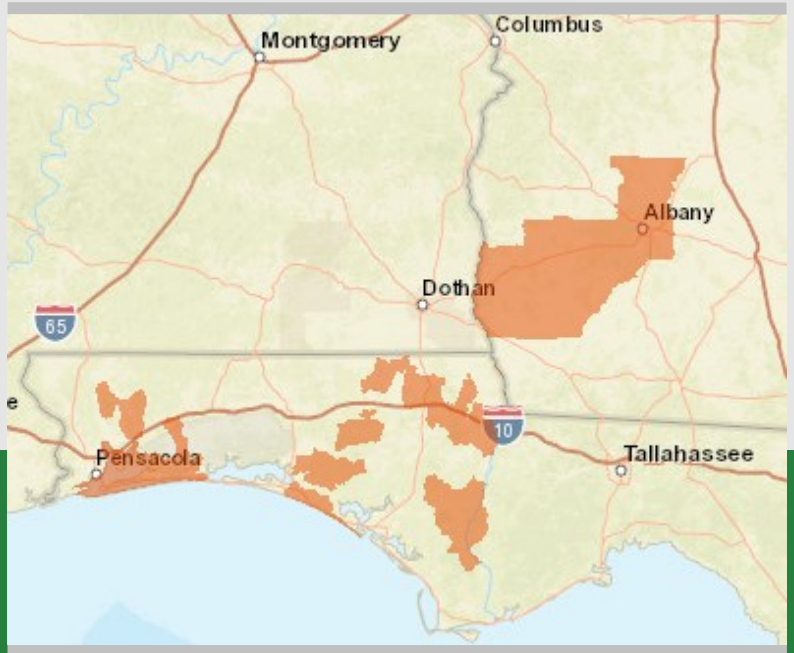
Photos: FWC Fish and Wildlife Research Institute, USGS, & USFWS

#### *Natural Resource Management (NRM)*

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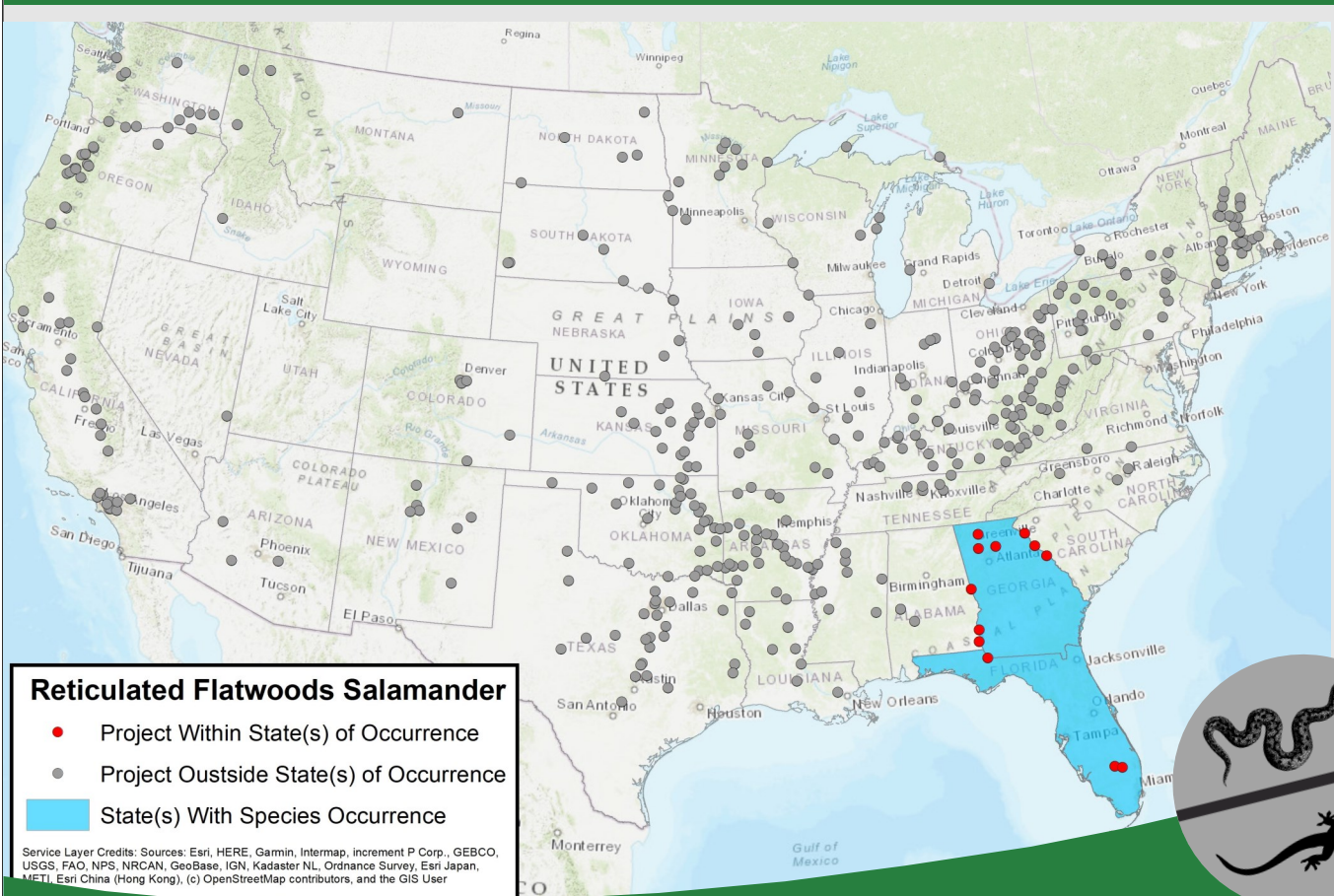
**USACE ROLE:** The range of the reticulated flatwoods salamander is entirely contained within the South Atlantic Division of the USACE. In the 2019 Natural Resource Management Assessment, one project was noted to have the potential for the species to occur. Jim Woodruff Dam is located on the Apalachicola River, just south of the confluence of the Flint and Chattahoochee Rivers. The dam impounds Lake Seminole on the common border of Florida and Georgia. Though this salamander has not been located at the project, because it has the potential to occur care is taken to ensure undertaken work will not impact the species.



Map Above: A map of the reticulated flatwoods salamander's range, as depicted in the USFWS Environmental Online Conservation System.

**WHAT IS USACE NRM DOING:**

According to the Engineer Research and Development Center's Threatened and Endangered Species Costs Estimates database, the USACE has expended nearly \$17,000 on efforts related to the reticulated flatwoods salamander. The Environmental Stewardship business line has used a portion of that \$17,000 to fund activities such as habitat construction, creation, and/or restoration. The USACE works closely with the appropriate resource agencies such as U.S. Fish and Wildlife Service to ensure that all current and proposed work can be conducted without negatively impacting the reticulated flatwoods salamander or its habitat.



**Reticulated Flatwoods Salamander**

- Project Within State(s) of Occurrence
- Project Outside State(s) of Occurrence
- State(s) With Species Occurrence

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 Source: Map provided by Ashleigh Boss, ORISE Fellowship, Institute for Water Resources

