

USACE Natural Resource Management Reptiles and Amphibians



Purpose

As the manager of over 12 million acres of public lands and waters, the U.S. Army Corps of Engineers (USACE) works to manage and conserve natural resources while providing quality outdoor recreation experiences to the public. USACE employs both passive and proactive management which sustains healthy ecosystems, promotes vibrant biodiversity, and protects special status species. The following factsheets were developed by USACE's Natural Resources Management (NRM) Program in order to highlight species specific reptile and amphibians conservation efforts occurring at USACE projects.



Across USACE's projects there are over 300 unique, federally listed species for which conservation concerns exist. USACE expenditures relating to the Endangered Species Act average around \$230 million each year. Recognizing that USACE missions occur in a complex environment of regulations, compliance requirements, and high costs, the Engineering Research and Development Center (ERDC) and USACE Headquarters formed the Threatened & Endangered Species Team (TEST).

TEST works to accelerate the development of solutions for threatened and endangered species issues that will improve budget planning capabilities and operational flexibility to reduce future costs and adverse impacts to USACE mission execution. These factsheets are intended to complement the TEST initiative by highlighting unique project efforts and promote collaboration.

As part of this effort, these NRM based factsheets also highlight species which are not federally listed. A goal of the NRM program is to maintain a factsheet for each species reported annually through the NRM Assessment and those for which special conservation efforts at lake and river projects are ongoing. Often these species may be listed at the state level, in State Wildlife Action Plans, or are target species for specific conservation initiative(s).



Spotted Salamanders & Frogs from Caesar Creek Lake

Conservation occurs in a multifaceted, ever-changing set of circumstances which may challenge project-level efforts. For instance, unpredictable changes in temperature and precipitation stemming from climate change will likely influence species' distribution. This complicates planning for future impacts as species may emigrate from, or immigrate to, the project in unpredictable fashions. Similarly, habitat loss, degradation, and fragmentation on lands surrounding USACE projects will influence species' abundance and distribution at the local scale. Changes in habitat and climate may also allow for the increased spread of non-native, invasive species which have the potential to degrade habitat past the point of usability for a species. Funding can also be a hurdle to conservation efforts, as it fluctuates with fiscal years.



Park Ranger Alicia Cannon introduces Kentucky first graders to Belinda the Corn Snake in an effort to build stewardship values and engage youth in conservation and recreation.

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Top Photos: Photos from DoD PARC library. American Alligator and American Toad provided by Paul Block. Alligator Snapping Turtle provided by Jim Godwin.

These factsheets have been informed by the information provided by DoD Partners in Amphibian and Reptile Conservation, the U.S. Fish and Wildlife Service, the NatureServe Explorer, the U.S. Forest Service, and others.

Natural Resources Management (NRM)

This fact sheet has been prepared as an unofficial publication of the U.S. Army Corps of Engineers (USACE). This online publication is produced to provide its readers information about best management practices related to special status species. Editorial views and opinions expressed are not necessarily those of the Department of the Army. Mention of specific vendors does not constitute endorsement by the Department of the Army or any element thereof.



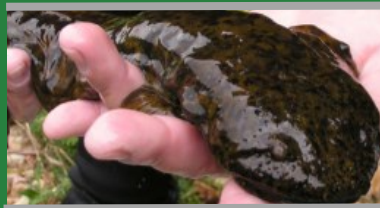


Natural Resources Management

With hundreds of projects across the nation, USACE offers a wide array of habitats which suit the needs of many amphibian and reptile species. Amphibians and reptiles can be found in nearly every habitat type imaginable, and often occupy similar habitats. Some species, such as the eastern massasauga, utilize different habitats based upon time of the year. Across its large range, which spans from the northeastern region of the U.S. to the midwest, the eastern massasauga spends the spring, fall, and winter occupying wetlands. During the summer, the snake migrates to drier upland sites such as forest openings, fields, and/or prairies. Many USACE projects offer both of these habitat types and thus have the potential for this species to occur year-round. Similarly, many amphibian species vary their habitat use based upon the stage of their life cycle. For instance, the Dusky Gopher Frog lays its eggs in depressional wetlands which lack



Photo, above: An eastern massasauga photograph from the USFWS Media Library.



Photo, above: An Ozark Hellbender. Photo by USFWS

predaceous fish, where the larvae will develop. Post-larval habitat, however, consists of uplands dominated by longleaf pine. Other amphibian species, such as the Ozark hellbender may utilize only one habitat for its entire life. The Ozark hellbender is an entirely aquatic salamander found in the southeastern U.S. With over 400 lake and river projects, the Environmental Stewardship Program has a wide range of aquatic habitats under its purview. These habitats can provide critical habitat for various amphibian and reptile species across the nation.

Oregon Slender Salamander

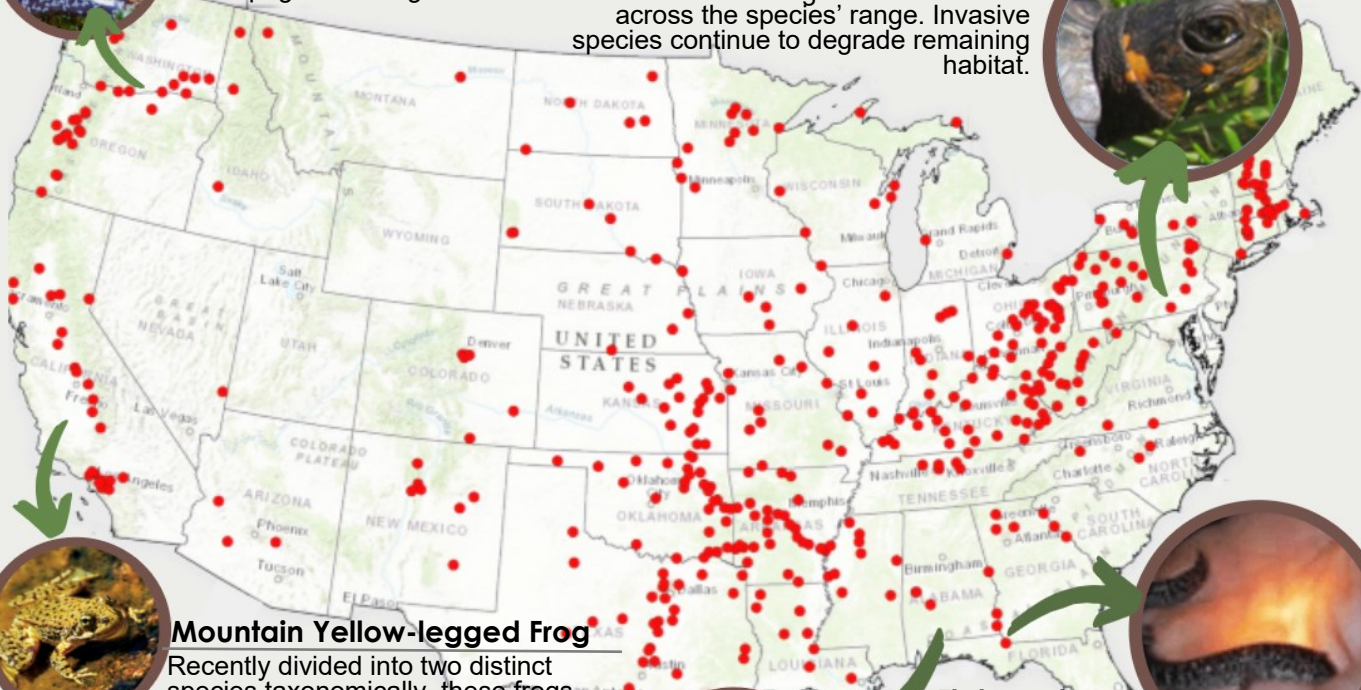
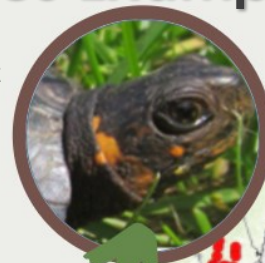


The Oregon slender salamander has a small range and restricted distribution, making it vulnerable to anthropogenic changes in habitat.

Species Examples

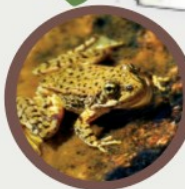
Bog Turtle

The Bog Turtle has declined with the loss and degradation of habitat across the species' range. Invasive species continue to degrade remaining habitat.



Mountain Yellow-legged Frog

Recently divided into two distinct species taxonomically, these frogs are in danger of extinction throughout all or a significant portion of their range.



Gopher Tortoise

Endemic to the southeastern U.S., loss of longleaf pine stands has had a negative impact to the species.



Flatwoods Reticulated Salamander

This salamander has experienced historic population declines as well as a shrinking range.



Legend

- USACE Project

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Swisstopo (Hong Kong), (c) OpenStreetMap





DoD PARC

PARC, which stands for Partners in Amphibian and Reptile Conservation, is an inclusive partnership dedicated to the conservation of herpetofauna and their habitats. Membership includes a diverse range of individuals from state and federal agencies, conservation organizations, museums, pet trade industry, zoos, nature centers, universities, laboratories, and more. Across the U.S. there are many smaller, more targeted chapters of PARC and five officially recognized regional working groups. Habitat Management Guidelines for these five regions can be found on PARC's website. PARC also provides Best Management Practices for various species as well as inventory and monitoring technique guidance. The Department of Defense has its own PARC chapter, which was started in 2009 with the intention of providing leadership, guidance, and support for the conservation and management of amphibians and reptiles on DoD lands. DoD PARC is a voluntary, proactive, and non-regulatory network of over 550 military and civilian personnel.

The network enhances military readiness by promoting healthy landscapes that support long-term testing and training requirements. Additionally, DoD PARC increases the effectiveness of resource management via the development of proactive, science-based conservation and management strategies and tools.

DoD PARC offers several resources that can be accessed online. A photo library offers a variety of amphibian and reptile photos which may be used when creating outreach and educational materials. On the DoD PARC Resources Page, there are a multitude of factsheets available. The factsheets cover an array of topics ranging from species specific, venomous snake guides, and factsheets on diseases impacting amphibian and reptile populations.

