

Mississippi Gopher Frog Recovery Action Plan



Mississippi gopher frog (*Rana sevososa*)

U.S. Fish and Wildlife Service, Southeast Region – Jackson, Mississippi Ecological Services Field Office, May 6, 2009

■ **Target:** Prevent extinction by implementing recovery actions that protect the current populations, establish new populations, and gain new understanding of the frog's life history and habitat needs.

Mississippi gopher frog:

Status: Endangered

Recovery Priority Number: 5 (high degree of threat/low recovery potential)

Recovery Plan: The recovery plan for the Mississippi gopher frog is currently being drafted.

5-year Review: Initiated in July 2009

Other: Listed as endangered on December 4, 2001 (66 FR 62993)

Threats:

Habitat destruction, modification, and fragmentation: The Mississippi gopher frog (MGF) has a very limited historical range in Alabama, Mississippi, and Louisiana. Currently, it is known only from Harrison and Jackson counties in southern Mississippi. Natural communities in these counties continue to be altered for agricultural, residential, and commercial purposes, most of which result in habitat fragmentation and/or habitat that is no longer suitable for MGF. Fire suppression of occupied habitat continues to be an ongoing threat.

Overutilization: Overutilization of MGF is not currently considered to be a threat to the species.

Disease/Predation: Two potentially fatal amphibian diseases are known to be present in MGF populations. An undescribed mycoplasma caused nearly complete mortality of gopher frog tadpoles in 2003. MGF have also tested positive for the amphibian chytrid fungus. Predation is also a current threat. Caddisfly larvae cause mortality of eggs on egg masses. Snakes frequent the breeding sites and have been documented as predators. Fire ants can cause mortality of frogs at drift fences, but their level of threat under natural conditions is unknown.

Inadequacy of existing regulatory mechanisms: States within the historic range of MGF provide protection against collecting. The primary breeding site for MGF is on DeSoto National Forest, Mississippi. The National Forest Management Act requires that management activities on national forests protect fish and wildlife. However, regulatory mechanisms remain inadequate in removing the threat of habitat loss.

Other natural or human related threats: The MGF is currently known from only two extremely small and isolated populations, and as a result, is highly susceptible to genetic isolation, inbreeding, and random demographic or human related events. Successful breeding and recruitment in any given year are unpredictable due to annual and seasonal variability in rainfall and on-going drought conditions.

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Current Status: The Mississippi gopher frog is believed to be declining. Based on current monitoring efforts, it is estimated that less than 100 adult Mississippi gopher frogs remain.

Target: Prevent extinction -Improve the species status by implementing recovery actions that protect the current populations, establish new populations, and gain new understanding of the frog’s life history and habitat needs.

Measure: Minimize immediate threat of extinction by continued head-starting of tadpoles from both populations for release at existing sites and at translocation sites. Document continued existence of second known population. Verify establishment of one new Mississippi gopher frog breeding population. Improve recovery status from declining to stable. Complete draft recovery plan.

Actions:

	FY 10	FY 11	FY 12	FY13	FY 14	Estimated Cost	Responsible Parties and Notes
Continue long-term monitoring at known Mississippi gopher frog breeding sites.	X	X	X	X	X	\$150,000 per year	FWS, MDWFP, TNC
Head-start Mississippi gopher frog tadpoles for release	X	X	X	X	X	Included in above cost	FWS, MDWFP, TNC
Protect and manage occupied habitats.	X	X	X	X	X	\$50,000 per year	FWS, FS, MDWFP, COE, TNC
Identify and restore appropriate, protected sites and translocate tadpoles to them to establish new Mississippi gopher frog populations.	X	X	X	X	X	\$50,000 per year plus “in kind”	FWS, FS, MDWFP, TNC
Continue study of diseases in populations	X	X	X			\$30,000 per year	FWS, GCRL
Conduct research on ecological needs and natural history of the species; include use of radio telemetry to study upland habitat use	X	X	X			\$50,000 per year	FWS, WCU, others as identified
Maintain a captive population of Mississippi gopher frogs	X	X	X	X	X	In kind by participants	FWS, AZ, DZ, OZ, MZ
Develop a captive propagation plan for the species and attempt captive breeding	X	X	X	X	X	In kind by participants	FWS, AZ, DZ, OZ, MZ

Establish a new Mississippi gopher frog population from captive-bred progeny			X	X	X	\$50,000 per year plus "in kind"	FWS, AZ, DZ, OZ, MZ, others as identified
Work with private landowners to reduce impacts of offsite development to the Mississippi gopher frog and its habitat	X	X	X	X	X	Agencies and partners "in kind"	FWS, FS, MDWFP, TNC
Complete the draft recovery plan and establish recovery criteria	X	X	X			Agencies and partners "in kind"	FWS, MSDWFP, TNC, ADCNR, LDWF, and others as identified

Role of other Agencies and Partners: The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and The Nature Conservancy (TNC) will play key roles in monitoring species status and establishing new populations. The U.S. Forest Service (FS), MDWFP, U.S. Army Corps of Engineers (COE), and TNC will play key roles in managing occupied sites, or sites identified for translocation, on lands they own and/or manage. Researchers at Western Carolina University (WCU) are involved in monitoring frog populations and in conducting life history research. Researchers at the University of Southern Mississippi/Gulf coast Research Laboratory (GCRL) are studying the diseases infecting the frog populations. The Memphis Zoo (MZ) has the lead for the American Zoo and Aquarium Association (AZA) effort to house and breed Mississippi gopher frogs. The Audubon Zoo (AZ), Detroit Zoo (DZ), and Omaha's Henry Doorly Zoo (OZ) are also housing Mississippi gopher frogs. The Alabama Department of Conservation and Natural Resources (ADCNR), Louisiana Department of Wildlife and Fisheries (LDWF), MDWFP, FWS, FS, WCU, GCRL, AZA representatives, and others will be involved in developing the draft Recovery Plan.

Role of Other ESA Programs: Potential involvement of Habitat conservation planning for private lands and section 7 consultations on large Federal projects in coastal Mississippi.

Role of Other FWS Programs: none

Revised Action Plan Due: 2014