



Questions and Answers: Critical Habitat Proposal for the Sonoyta Mud Turtle

Arizona Ecological Services Field Office
<https://www.fws.gov/southwest/es/arizona/>

Q: What action is the U.S. Fish and Wildlife Service (Service) taking?

A: As required by the Endangered Species Act (ESA), the Service is finalizing its critical habitat designation for the Sonoyta mud turtle (*Kinosternon sonoriense longifemorale*). This action will bolster habitat protections for the subspecies' sole location in the U.S. It consists of 12.28 acres in Organ Pipe Cactus National Monument in southern Arizona. In September 2016, the Service listed the subspecies as endangered under the ESA.

Our listing determination and this critical habitat designation are based on a scientifically rigorous Species Status Assessment (SSA) that found that the subspecies is in danger of extinction throughout its range along the United States-Mexico border.

Q: What is the Sonoyta mud turtle?

A: The Sonoyta mud turtle is a seven-inch long aquatic turtle with an olive brown to dark brown upper shell (carapace) and a hinged lower shell (plastron). Long barbels (whisker-like organs) are typically present on the chin and its feet are webbed. The Sonoyta mud turtle is an isolated endemic subspecies. The subspecies is closely related to the more populous and widely distributed Sonora mud turtle (*K. s. sonoriense*).

Q: Where is the Sonoyta mud turtle found?

A: Sonoyta mud turtles require aquatic habitat to survive in an otherwise extremely arid environment; but they are not strictly aquatic, using riparian vegetation and corresponding moist soil for nesting, moving between sources of water and estivating (prolonged state of torpor or dormancy) during drought or hot periods.

The Sonoyta mud turtle was historically localized in (endemic to) the Rio Sonoyta basin in Arizona and Sonora, Mexico – an extremely arid environment. Today, there are five known populations of Sonoyta mud turtle – one in the U.S. on the Organ Pipe Cactus National Monument in Arizona and four in Sonora, Mexico (one of which is in the Rio Guadalupe basin). These populations occupy tiny percentage of the subspecies' historical range.

Q: What are the primary threats to the subspecies?

A: The most significant stressors for the Sonoyta mud turtle are the loss of aquatic and riparian habitat related to agricultural and municipal groundwater pumping and long-term drought. Groundwater pumping and drought affect the amount of surface water and subsurface moisture available for the Sonoyta mud turtle. Reductions in riparian habitat further decrease subsurface moisture, due to loss of shade needed for nesting sites and drought refuge for hatchlings, juvenile and adult turtles. Reduction in aquatic habitat also affects the invertebrate prey and space available for mud turtles. Some of the aquatic habitat in Mexico's Sonoyta basin is currently supplied by human waste-water effluent, resulting in water quality and permanency concerns. A complete discussion of threats can be found in the SSA.

Q: Are there conservation efforts focused on the Sonoyta mud turtle?

A: Yes. The National Park Service staff at Organ Pipe Cactus National Monument continues to implement actions to stabilize the water levels in the pond at Quitobaquito Springs, where the sole U.S. population occurs. The inter-agency Quitobaquito Rio Sonoyta Work Group is currently maximizing conservation actions for this population. The working group consists of biologists and managers from the National Park Service (NPS), Arizona Game and Fish Department, Service, University of Arizona, Arizona Sonora Desert Museum, the National Commission of Natural Protected Areas in Mexico and private citizens interested in conservation of aquatic native species in the Rio Sonoyta basin of Arizona and Sonora. (Members of the group participated in developing the species status assessment.)

Quitobaquito Rio Sonoyta Working Group management actions in Mexico have included defining the ecological status and distribution of the Sonoyta mud turtle in Sonora, creating new habitat to replace lost habitat, removing nonnative aquatic species and outreach. Primary actions included removal of non-native species and fencing to prevent livestock access. However, the fencing has been removed and non-native species have been reintroduced by the locals. These management actions have not yet addressed most of the risks to the four populations of the Sonoyta mud turtle in Mexico. The working group is dedicated to completing an ongoing conservation assessment and conservation agreement for five aquatic species including the Sonoyta mud turtle. These five species depend on the aquatic and riparian habitats of the Rio Sonoyta watershed. The agreement would take the form of a Candidate Conservation Agreement. The ESA supports and inspires such cooperative conservation efforts.

Q: What is critical habitat?

A: Critical habitat is defined by the ESA as the geographic areas occupied at the time a species is listed that contain features essential for the conservation of the species and that may require special management considerations or protection.

In addition, critical habitat identifies unoccupied geographic areas that were not occupied by the species at the time of listing but are essential to the conservation of the species. Federal agencies that undertake, fund, or permit activities that may affect critical habitat are required to consult with the Service to ensure that such actions do not adversely modify or destroy designated critical habitat. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. Critical habitat designation does not impose restrictions on private lands unless federal funds, permits, or activities are involved.

Q: How did the Service identify critical habitat for the Sonoyta mud turtle?

A: Sonoyta mud turtles depend on both aquatic and terrestrial habitats for life-history functions. Sonoyta mud turtles need perennial or near-perennial surface water for feeding, for protection from predators, to prevent desiccation and for mating. Hatchling, juvenile, and sub-adult turtles prefer aquatic habitat with shallow water and dense emergent vegetation that provides foraging opportunities as well as protection from predators. The essential physical and biological features that support the turtle's life-history framed our critical habitat designation. The Quitobaquito area on Organ Pipe Cactus National Monument is the only place in the U.S. where Sonoyta mud turtles occur. Critical habitat designations are limited to lands/waters within the United States.

For additional information, contact Jeff Humphrey, Field Supervisor, U.S. Fish and Wildlife Service, Arizona Ecological Services Field Office, 9828 North 31st Ave #C3, Phoenix, AZ 85051-2517, by telephone 602-242-0210 or by facsimile 602-242-2513. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800-877-8339.