

## **MEXICAN GARTERSNAKE** *(Thamnophis eques)*

**STATUS:** No Federal status.

**SPECIES DESCRIPTION:** The Mexican gartersnake reaches a maximum known length of 44 inches. It ranges in background color from olive to olive-brown to olive-gray. Three stripes run the length of the body with a yellow stripe down the back that darkens toward the tail. A portion of the lateral stripe occurring on the fourth scale row distinguishes *T. eques* from other gartersnake species. Paired black spots extend along the dorsolateral fields. A light-colored crescent extends behind the corners of the mouth. There are ten subspecies described under *T. eques*; only the northern Mexican gartersnake (*T. e. megalops*) occurs in the United States. It is also the most widely distributed of the ten subspecies.

**NATURAL HISTORY:** This species occurs up to about 8,500 feet in elevation, but is most frequently found between 3,000 and 5,000 ft. The Mexican gartersnake uses three general habitat types in Arizona: 1) source area ponds and cienegas; 2) lowland river riparian forests and woodlands; and 3) upland stream gallery forests. This species uses densely vegetated cienegas, cienega-streams, and stock tanks in the southern part of its distribution in Mexico and within its historical distribution in New Mexico.

An important component to suitable Mexican gartersnake habitat is a stable native prey base. The Mexican gartersnake is surface-active at ambient temperatures ranging from 71° F to 91° F and forages along the banks of waterbodies feeding primarily upon native fish (e.g. Gila topminnow, desert pupfish, etc.) and adult and larval native ranid frogs (e.g. lowland leopard frog, Chiricahua leopard frog, etc.). It may also supplement its diet with earthworms and vertebrates such as lizards, small rodents, salamanders, and hylid frogs (treefrogs). In some populations, adult Mexican gartersnakes will prey upon juvenile nonnative bullfrogs and/or bullfrog tadpoles where they co-occur.

Sexual maturity in male Mexican gartersnakes occurs at two years, and in two to three years in females. Mexican gartersnakes are ovoviviparous. The species mates in April and May in their northern distribution and gives live birth to between seven and 26 neonates (average is 13.6) in July and August. Only half of the sexually mature females within a population reproduce in any one season.

**HISTORICAL RANGE:** The Mexican gartersnakes' historical distribution in the U.S. included the Santa Cruz, San Pedro, Colorado, Gila, Salt, Agua Fria, Rio Yaqui, and Verde river watersheds in Arizona, in addition to the upper Gila and San Francisco headwater streams in western Grant and Hidalgo counties in New Mexico. Within Mexico, Mexican gartersnakes historically occurred within the Sierra Madre Occidental and the Mexican Plateau in the Mexican states of Sonora, Chihuahua, Durango, Coahila, Zacatecas, Guanajuato, Nayarit, Hidalgo, Jalisco, San Luis Potosí, Aguascalientes, Tlaxcala, Puebla, México, Michoacán, Oaxaca, Veracruz, and Querétaro

**CURRENT RANGE:** The Mexican gartersnake is likely extirpated from New Mexico. In Arizona, its distribution has been reduced to less than ten percent of its former range along large mainstem rivers. The species is considered likely extant in fragmented populations within the middle/upper Verde River drainage, middle/lower Tonto Creek, and the Cienega Creek drainage, as well as in a small number of isolated wetland habitats in southeastern Arizona. The species' current distribution in Mexico is uncertain.

**REASONS FOR DECLINE:** Current threats to the Mexican gartersnake include: 1) destruction and modification of its habitat; 2) predation from nonnative bullfrogs; 3) significant reductions in its native prey base from predation/competition associations with nonnative species; and 4) genetic effects from fragmentation of populations caused by items 1-3.

**NOTES:** The U.S. Fish and Wildlife Service was petitioned in December 2003 to list the Mexican gartersnake as an endangered or threatened species with critical habitat under the Endangered Species Act. The Mexican gartersnake is

a Species of Special Concern of the Arizona Game and Fish Department, is considered a State Endangered Species by the New Mexico Department of Game and Fish, and is listed as Threatened by the Mexican Federal government.