

Amphibians & Reptiles

Importance

Amphibians and reptiles (herpetofauna) represent an important part of aquatic and terrestrial ecosystems. They eat a wide variety of invertebrate species, and, in turn, they are prey for many fish, bird, and mammal species. The American Southwest, including the Chihuahuan Desert Inventory and Monitoring (I&M) Network (CHDN), is well known for its abundance and diversity of reptiles. Although this region is less known for its amphibian populations, they too can be quite abundant in some habitats and are good indicators of environmental change due to their sensitivity to a variety of factors such as pollution, introduced species, drought, habitat destruction, and disease.

Status and Trend

The Chihuahuan Desert supports more than 170 herpetofauna species. Some species that are typical of the Chihuahuan Desert (but which may also occur outside of the area) include the Mohave rattlesnake (*Crotalus scutulatus*), New Mexico whiptail (*Aspidocelis neomexicana*), red-spotted toad (*Bufo punctatus*), and Trans-Pecos ratsnake (*Bogertophis subocularis*). At least 18 reptile species are endemic to the Chihuahuan Desert, but there are no endemic amphibian species. The ranges of several lizards are centered in the Chihuahuan Desert.

Various projects to document or study herpetofauna have been conducted at parks within the CHDN in the past, but network-wide surveys had not been conducted until a 2003-2004 inventory by the University of Arizona (i.e., Prival and Goode 2005) at all six parks in the network. Little was known about reptiles and amphibians in some of the parks prior to the inventory. The greatest number of species recorded in 2003-2004 was in Big Bend National Park (Table 1). Ten state-listed species were recorded in the parks during the inventory, including the Texas horned lizard (*Phrynosoma cornutum*), Texas indigo snake (*Drymarchon melanurus erebennus*), Trans-Pecos black-headed snake (*Tantilla cucullata*), Berlandier's tortoise (*Gopherus berlandier*), reticulate banded gecko (*Coleonyx reticulatus*), gray-banded kingsnake (*Lampropeltis alterna*), and Rio Grande cooter (*Pseudemys gorzugi*). The inventory results will aid in future monitoring in the parks.

Discussion

Globally, declines in amphibian and reptile populations have

RESOURCE BRIEF



Trans-Pecos ratsnake

PHOTO: NPS/DAVE PRIVAL

been and are being observed. Herpetofauna face threats from both known and unknown sources. Potential causes of decline in the Southwest include habitat loss and degradation, invasive species, drought, legal and illegal collecting, and disease.

Table 1. The number of herpetofauna species documented during the 2003-2004 inventory of CHDN parks (Prival and Goode 2005). Percentages in the second column are those of species recorded relative to those known or likely to occur at the parks.

Park *	# Species	Amphibians	Lizards	Snakes	Turtles
Amistad NRA	45 (82%)	9	15	17	4
Big Bend NP	59 (86%)	9	21	26	3
Carlsbad Caverns NP	46 (92%)	8	15	20	3
Fort Davis NHS	29 (57%) **	5	12	11	1
Guadalupe Mtns. NP	48 (87%)	7	18	21	2
White Sands NM	28 (74%)	6	10	11	1

* NRA=National Recreation Area; NP=National Park; NHS=National Historic Site; NM=National Monument.

** Percentage may be an underestimate because the original list covered the entire Davis Mountains area and probably included too many species.