

# Coronado National Memorial

National Park Service  
U.S. Department of the Interior

## Banded Rock Rattlesnakes and Mountain Kingsnakes

### Why study these snakes?

Thirty-two different varieties of snakes and amphibians live in Coronado National Memorial. All of these species occur in the U.S. only in mountainous areas of southern Arizona and New Mexico.

Although southern Arizona's great biological diversity makes it a popular destination for bird watchers and people who enjoy the out-of-doors, few realize that the area is also a Mecca for amateur and professional reptile-watchers. Most resident and visiting herpetologists are responsible and concerned with conservation, but a few are not. Significant evidence indicates that illegal collecting of Arizona's native reptiles is increasing, both for personal collections and for supplying the national and international pet trade in reptiles.

The major goal of this study was to gather baseline information on two species at Coronado that are vulnerable to poaching, rock rattlesnakes and Sonoran mountain kingsnakes. Another important goal was to look for evidence of illegal collecting of snakes at the Memorial. Signs of illegal poaching activity include vehicles making repeated trips through the Memorial at night and habitat destruction typically caused by collectors--overturned rocks and broken rock piles.

This study supplemented a two-year National Park Service-sponsored inventory and monitoring study of the herpetofauna at Coronado National Memorial.

### How was the study performed?

Using knowledge gained from past studies, the researchers searched known snake habitats. Researchers then employed a mark-recapture method. Snakes were captured and examined and a Passive Integrated Transponder was implanted. This procedure allows the snakes to be identified and monitored without being recaptured. The investigators then mapped the distribution of these species in the Memorial, estimated population sizes, identified principal habitat features, and gathered other natural history data. In addition, the researchers looked for other vulnerable species that have been found nearby but never documented in the Memorial.

### What did we learn?

During this study twenty-eight rock rattlesnakes and seven Sonoran mountain kingsnakes were observed. Rock rattlesnakes were nearly always associated with rocky habitats above 5,600 feet in elevation, including both exposed talus (loose rock) slopes and the bottoms of deep, wooded canyons. Rock rattlesnakes appear to be

fairly common at Coronado. Sonoran mountain kingsnakes are less common than rock rattlesnakes, but may be more often observed by visitors along East Montezuma Canyon Road. In our study, mountain kingsnakes were associated with oak woodlands and conditions of high humidity.

The researchers also discovered the presence of mountain skinks (a kind of lizard) at the Memorial for the first time and information was collected on their habitat and activity patterns.

Fortunately, no evidence was found that a significant amount of poaching is occurring at Coronado National Memorial at the present time. No collectors were observed in the field, and no evidence was found of the broken rock-piles and holes in talus that are common at some other southern Arizona sites. However, on several occasions rocks were found that appeared to have been overturned by people and "road-riding" for reptiles was observed twice. Coronado's law enforcement rangers are active and easily observed and this may discourage reptile collecting. It is important for the public to also be aware of the habits and equipment of poachers and report any suspicious signs or activities to park rangers.

*This lay report summarizes results of a research project conducted by Don E. Swann, Taylor Edwards, and Cecil R. Schwalbe funded by Southwest Parks and Monuments Association. The complete technical report is on file at Coronado National Memorial. Copies of this bulletin are available free of charge.*