



RESOURCE BRIEF

Terrestrial Herpetofauna

IMPORTANCE

A diverse assemblage of reptiles and amphibians collectively referred to as herpetofauna, can be found in a variety of habitats in southern California. More than thirty species can be found in the Santa Monica Mountains and Point Loma peninsula. Of the five species that occur at Channel Islands National Park, two have been recognized as being an endemic subspecies.

Unfortunately, much of the habitat in the southern California area has been significantly altered or destroyed by urban development, habitat fragmentation and land use changes. Evaluation of historic data and past studies suggest that a number of reptile species in the Santa Monica Mountains and on Point Loma are in decline. In the Santa Monica Mountains National Recreation Area, 13 of the 34 species of herpetofauna are state- or federally-listed as rare, threatened or endangered. Seven of the 19 species of herpetofauna historically known to occur at Cabrillo National Monument or on Point Loma peninsula are now thought to have been extirpated. Because of their diversity, dependence on multiple habitats, and sensitivity to environmental perturbations, reptiles and amphibians are being monitored by the Mediterranean Coast Network as indicators of ecosystem health.

OBJECTIVES

- Determine long-term trends in terrestrial reptile and amphibian diversity, distribution, and abundance using pitfall trap arrays.



Pitfall trap arrays have been established in various habitats within the Santa Monica Mountains and Point Loma peninsula.



The Monterey Ensatina (*Ensatina eschscholtzii*) is one of thirty-four species of herpetofauna that can be found in Santa Monica Mountains.

MONITORING EFFORTS

- Monitoring was initiated at Cabrillo National Monument in 1995 by the United States Geological Survey (USGS) using pitfall trap methodology. Similar monitoring was initiated in the Santa Monica Mountains in 2001. Logistic constraints restricted the use of pitfall trap arrays on the Channel Islands. A series of coverboards along a transect line are used instead.
- Pitfall trap arrays consist of bucket traps (pits) embedded in the ground connected by “drift” fencing. Supplemental funnel snake-traps are laid alongside the fence line.
- In the Santa Monica Mountains and Point Loma peninsula, pitfall trap sampling sites were chosen to represent a variety of habitats. Six permanent transect lines have been established on six different islands at Channel Islands National Park.
- Pitfall trap arrays are visited monthly for five consecutive days. Coverboard transect lines are sampled in the spring and fall.

MANAGEMENT IMPLICATIONS

- Monitoring the status of native terrestrial herpetofauna in the Santa Monica Mountains helps us to detect changes over a broad landscape area, which can help to inform resource management decisions and actions.
- A recent study showed that common lizards sampled from across a highly fragmented area in the Simi Hills and Santa Monica Mountains showed large genetic divergences across urban barriers, such as development and roads. Essentially, lizards were isolated in “habitat islands” surrounded by intense development, which did not allow for effective migration and gene flow.

For more information:

Katy Delaney, katy_delaney@nps.gov
Kaye London, kaye_london@nps.gov
Helen Fitting, helen_fitting@nps.gov