



Distribution and Habitat Use of Martens



The Question: What is the distribution and habitat use of American martens in the park?

American martens are arboreal (tree-dwelling) specialists that prey on chickarees and birds when in trees but also routinely take ground species such as voles and ground squirrels. Research has shown that although martens are unlikely to go extinct, local populations can be in danger of extirpation. One way to begin to monitor a species and its population status is to look at where the animal prefers to live and how often it is detected. Few studies have looked at habitat use at the southern range of the American marten, and none have been conducted in Rocky Mountain National Park. National parks are intended to protect all native species and park managers were interested in having baseline information on this beautiful but rarely seen mammal.



The Project: Use remote cameras placed five-km apart throughout the park to determine habitat use and preference of martens in the park.

Roger Baldwin and Louis Bender from the New Mexico Cooperative Fish and Wildlife Research Unit placed 25 remote-sensor cameras throughout Rocky Mountain National Park from early August to late October in 2004-2006. They used bait to attract martens to the camera stations. Once the researchers collected the pictures from the cameras, they used three statistical models to analyze marten occurrence as a function of habitat and landscape variables (elevation, soil type, canopy cover, etc.). They also analyzed habitat use on the two sides of the Continental Divide and how humans influence marten behavior.

The Results: Marten habitat was best described as moist west side forests with abundant riparian mixed conifer stands.

Martens were photographed at 22 of 25 (88 percent) sites on the west side of the Continental Divide and six of 32 (18.8 percent) on the east side. Martens occupied over 90 percent of the western part of the park, while occupancy rates were only 20-30 percent for the eastern part of the park.

All three statistical models concluded that martens prefer the west side of the park in riparian mixed conifer stands. The drier lodgepole and ponderosa pine stands common east of the Continental Divide were typically avoided by martens. Also, martens were shown to avoid open habitats. One exception to this is their use of rock-fields, which may provide cover and foraging opportunities.

Images

Top and Middle: Examples of photos taken with remote cameras. Bait (as seen in pictures) was used to attract the martens. Bottom: Map showing camera placements in the park. A cross indicates a site that martens visited, while a star indicates a site where no martens were photographed.

