

Do Cougars Inhabit Sleeping Bear Dunes National Lakeshore?

by Jerrold L. Belant, Stephen E. Yancho, and Kimberly S. Struthers
National Park Service

Numerous sightings of cougars have been reported throughout eastern North America but physical evidence providing confirmation is typically lacking. In recent years, however, substantiated physical evidence of cougars has been obtained from several Midwestern states. Controversy exists regarding the presence of cougars in Michigan. Population estimates of up to 80 cougars have been reported in state newspapers but not substantiated. Little physical evidence is available to support claims of a wild population of this size.

Sleeping Bear Dunes National Lakeshore (SBDNL) is located in the northwest Lower Peninsula of Michigan. Although SBDNL lacked physical evidence confirming cougar presence,

numerous sightings of cougars and their sign have been reported. These reports included a person followed by a cougar in September 2003. Because of these sightings and considering human injuries and deaths from cougars, SBDNL took a cautionary approach which emphasized public safety. Following the September 2003 incident, SBDNL personnel placed signs at all mainland trailheads alerting visitors that observations of cougars had been reported and how to respond if a cougar was encountered. In response to controversy about their warning signs, SBDNL required additional information on cougar presence to make more informed management decisions. This included NPS work to determine if cougars were present in SBDNL.

The study was conducted from November 2004 through April 2005 in the 161 km² mainland portion of SBDNL. Dominant overstory vegetation was coastal and mixed northern hardwood forests. Primary prey of mountain lions at SBDNL would undoubtedly be white-tailed deer which occurred at densities of about 7-10/km². There were 83 km of designated trails and 158 km of roads distributed throughout the mainland portion of SBDNL. During 2004, about 1.1 million recreational visits were reported for SBDNL.

Three methods were used to assess cougar presence; remote camera systems, track surveys, and investigations of reported observations of cougars or their sign. Cameras were positioned throughout SBDNL with locations selected based on reported observations of cougars, evidence of substantial white-tailed deer activity, and habitat corridors that would serve as travel routes. At each location, a portion of a deer carcass was wired to the base of a tree, and the area was then scented with commercial cougar urine, skunk essence, and catnip oil.

Snow track surveys were conducted once each month from January-March. During surveys, trails were walked by foot except those containing large areas of

(Continued on Next Page)



Raccoon surrounded by three bobcats

Do Cougars Inhabit Sleeping Bear Dunes National Lakeshore?

(Continued from Previous Page)



unvegetated dune and beach habitat. Unplowed roads were traversed primarily using snowmobiles and occasionally by foot. Because deer typically move into the beach dune/pine forest interface during spring, track surveys were also conducted by foot along this ecotone during April. All discernable tracks encountered by species, were recorded.

During track and camera surveys, cougar sightings and sign that were reported by the general public within 24 hrs of the observation were investigated. Locations where observations occurred and the surrounding areas were thoroughly searched, typically by two observers.

Cameras were established at 30 locations for an overall density of one camera every 5.4km². Cameras were operational at a location for an average of 29 nights for a total of 863 nights. Images of 226 animals were obtained including bobcat, coyote, red fox, domestic dog, house cat, raccoon and deer. No images of cougars were obtained.

493 km of track surveys were

conducted with 457 km during January-March. This equaled a mean monthly search effort of 0.95km/km². In addition, 36 km of track surveys were conducted along the beach dune/pine forest interface. Overall, more than 460 identifiable carnivore track sets were detected including bobcat, coyote, and red fox. The same species were detected during track surveys as during the camera survey in addition to observing tracks of striped skunk, river otter, mink, and weasel. Numerous deer tracks were observed throughout the lakeshore during all months of the study. No tracks of cougars were observed.

Four (4) cougar reports were investigated and one report of cougar tracks. In each instance, the specific location of the observation was determined based on a detailed description by the observer or by the observer taking us to the actual location. Locations were searched within 24 hours of reporting; inclement weather did not occur between the observations and our investigation. No evidence of cougars was found at any of the five (5) loca-

tions. Of the reported cougar observations, bobcat tracks were found at one (1) location, coyote tracks at one (1) location, and bobcat and coyote tracks at two (2) locations. The reported cougar tracks, shown by the individual that made the report, were made by a domestic dog.

No evidence was found to suggest the presence of cougars at SBDNL. The techniques employed have been used previously to document cougar presence. These efforts were considerably greater than those of these previous studies, suggesting that if any cougars were resident, they would have been detected.

It has been suggested that cougar observations in Michigan could represent dispersing individuals from western populations. Although cougars rarely disperse distances greater than 200 km, considerably greater distances have been reported. The longest reported dispersal was of a radio-collared subadult male cougar traveling greater than 1,000 km from the Black

(Concluded on Next Page)

Do Cougars Inhabit Sleeping Bear Dunes National Lakeshore?

(Continued from Previous Page)

Hills of South Dakota and Wyoming to northern Oklahoma. The distance between the Black Hills and the Upper Peninsula of Michigan is about 1,200 km. This event provides evidence that subadult male cougars from western populations can disperse into the Midwest, which may explain the increased number of confirmed cougars in the Midwest.

If a breeding population of up to 80 individuals occurred in Michigan (the geographic extent of some population estimates included SBDNL), one would expect physical evidence of cougars to be more common. For example, South Dakota has an estimated population of 165 cougars of which 6-9 individuals were killed by vehicles in 2004. An additional 12 cougars were killed by humans in South Dakota during 2004 in non-vehicle related situations. Of an estimated population of 70-100 individuals in Florida (D. Land, Florida Fish and Wildlife Conservation Commission, personal communication), seven (7) cougars died from collisions with vehicles between July 2003 and June 2004. In Florida, collisions with vehicles are the third largest source of mortality for cougars and represented 19% of total mortalities for radiocollared cougars between 1981 and June 2004. If Michigan had the number of resident cougars purported in popular media, the authors would have expected more than the single cougar-vehicle collision recently documented by the Michigan DNR to have occurred.

Cougar populations have



Coyote visits bait station

increased in many parts of western United States and Canada, possibly due to removal of bounties and more stringent harvest regulations. The increased abundance of cougars in western North America has contributed in part to the increase in documented cougars eastward into the Great Plains and some Midwest states. Based on recent movement data, cougars (at least males) could theoretically disperse to Michi-

gan from established western populations. The authors conclude that although cougar sightings are reported on a regular basis, no evidence has been found to support their occurrence in SBDNL.

Photographs courtesy:
National Park Service