

DETECTING “NUISANCE” BLACK BEARS: AN EVALUATION OF COMMON TECHNIQUES

Primarily in response to public outcry for nonlethal management actions of “nuisance” bears at urban-wildland interface areas, land managers in the United States and Canada increasingly implemented a variety of bear deterrence techniques during the 1990s. Many states and other entities such as national parks dedicate considerable staff and funding to deter bears that frequent urban or developed park areas. The six most common techniques that management agencies use to alter the behavior of nuisance bears are rubber buckshot, rubber slugs, pepper spray, cracker shells, dogs, and loud noises. However, prior to Beckman et al. (2004), no research had rigorously analyzed the efficacy of these deterrents. The study area was the Lake Tahoe basin in the Sierra Nevada mountain range in western Nevada, where human population increased by 26% between 1990 and 2000, and the number of complaints by citizens concerning black bears increased more than tenfold.

Researchers trapped and collared 62 bears that they randomly assigned to one of three experimental groups: (1) received deterrents, (2) received deterrents and were chased by dogs (hounds), and (3) received no deterrents (control group). Researchers moved the bears varying distances (2–50 miles [1–75 km]) from the capture site to administer deterrents.

In 92% (57 of 62) of the cases, bears returned to the urban area where they were captured. Of the 62 bears, 33 (53%) returned in less than 30 days, 17 (27%) returned between 31 and 180 days, seven (11%) returned between 181 and 365 days, and five (8%) had not returned in more than 365 days. These results suggest that bears that are conditioned and habituated to human garbage and live near or in urban-wildland interface areas were unlikely to alter their behavior in response to the deterrent techniques currently used by most state and federal agencies. Hence, researchers of this study recommend that any group dealing with “nuisance” bears conduct a cost-benefit analysis to decide whether monetary investment in deterrents is worthwhile.

Before abandoning all deterrent techniques, however, the researchers stress the importance of how an agency defines success in deterring nuisance bears. If the goal is to never have to deal with a nuisance bear again, then the data from this study suggest that this particular outcome is doomed to failure. If, on the other hand, the goal is to establish positive public relations or to avoid dealing with an individual bear for several week or months (perhaps during times of high human visitation), then deterrents may be an effective management tool. For example, according to Beckman et al., a combination of ordinances

and public education has been successful in reducing the number of conflicts between bears and humans in Juneau, Alaska, and Yosemite National Park, California. Hence, a program that implements the use of nonlethal deterrents may provide an opportunity for increasing public awareness while decreasing the number of human-bear conflicts created by the availability of human food sources.

Reference

- Beckman, J. P., C. W. Lackey, and J. Berger. 2004. Evaluation of deterrent techniques and dogs to alter behavior of "nuisance" black bears. *Wildlife Society Bulletin* 32(4):1141–1146.