

Abstract:

Wildlife consumption of human foods is common and these subsidies can alter a species' behavior, demography, and interspecific interactions, and lead to conflicts with humans. Intentional food subsidies, including feeding or baiting of wildlife for viewing or hunting, can represent a large energy source. We studied consumption of bait for an American black bear (*Ursus americanus*) population in northern Wisconsin. Given the state's liberal baiting regulations, we hypothesized that bear baits would be highly available, and that bears would readily consume such baits within a hunting season. We documented the abundance of bear bait on forestlands, and quantified the diets of harvested black bears using stable isotopes and Bayesian mixing models to determine the relative contribution of human foods to individual and population diets. Baits occurred at ~ 0.25 bait stations/km² on public lands, and bears ($n=180$) were subsidized by these baits, which contributed to $>40\%$ of their diet. Our analysis of multiple tissue types with different turnover rates revealed that harvested bears were relying on subsidies throughout their lifetimes. Patterns of bait consumption were primarily influenced by age-sex class; adult males were the most reliant on human foods, followed by adult females. We found a high level of food subsidization in this bear population. We posit that the high density of bears in northern Wisconsin may be partly due to subsidies. Our results reveal how baits used for hunting can become an important resource for free-ranging bears and highlight the importance of considering potential consequences when bait is used in harvest management.

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