

Wilderness food storage in Yosemite: understanding backpacker canister use

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Encounters between backpackers and bears in search of human food are a problem for managers seeking to protect people and keep bears wild. Central to this problem is proper food storage by visitors. Despite the increasing popularity of bear resistant food storage canisters, a low enough level of food availability to discourage food seeking behavior in bears has not been realized, and incidents continue. We examined why visitors decide to use, or not use, food storage canisters, and the extent to which canisters are being properly used.

We sampled overnight visitors to the Yosemite Wilderness at park trailheads. Entering visitors completed a short pre-trip survey about their planned food storage methods and preparedness (n=486). Exiting visitors completed a longer survey about food storage methods used, bear encounters, and attitudes and beliefs about bears and food storage (n=568).

Of the post-trip respondents who camped where canisters were required, 89% reported using a canister, but nearly 32% also reported storing some food in a non-compliant manner (hanging, etc.). Of canister users, 62% reported full compliance (fitting all food, trash and toiletries into canister) every night of the trip; 31% left items out of their canister on some nights of their trip, and 7% had excess items on all nights.

Does canister use mean fewer bears get food? In canister-required wilderness zones, non-compliant campers were 3.5 times more likely to lose food to a bear than self-reported compliant campers. Adjusting for self-report bias suggests the difference is closer to 8 to 1.

Finally, we used measures of behavioral beliefs, subjective norms, and perceived behavioral control to predict the likelihood of future canister use, both in areas where they are not required and in areas where they are required. These measures explained 23% of the variance in intentions to use canisters where they are not required, and 26% of the variance in areas where they are required. Behavioral beliefs contributed the most by far to the prediction.

Understanding the influences on a visitor's decision to use a food storage canister may help managers increase compliance with food storage regulations.