

Food storage regulations in the Yosemite Wilderness: implications for bears and backpackers

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Despite extensive efforts to mitigate conflicts between humans and bears in Yosemite's backcountry, backpackers continue to lose food to bears at a relatively high level, averaging over 100 reported incidents per year for the last five years. Even this figure, however, is deceptively low, with Keay and van Wagtendock (1983) estimating that less than 10% of the bear incidents that occur in the backcountry are reported. Conflicts between backpackers and black bears in the Sierra Nevada are cited as a serious threat to both visitors and managers seeking naturally functioning wilderness systems (Graber 1985). A large number of bears have become habituated to human food, altering their behavior and ecological role, and, in severe cases, necessitating their destruction.

These continuing problems and minimal success in mitigating them prompted the Park Service to explore other methods for securing human food from bears. In 1998, a low-cost rental program was established in Yosemite National Park that increased voluntary use of bear-resistant food storage canisters and earned canisters widespread acceptance by Yosemite backpackers. Beginning in 2004, Yosemite National Park required backpackers to store their food in approved bear-resistant food storage canisters anywhere within seven miles of a park road and anywhere above 9600 feet; this constitutes a large majority of the park area.

In summer 2005, we conducted a series of trailhead visitor surveys (pre-trip and post-trip), along with wilderness compliance checks in Yosemite National Park to evaluate the effectiveness of visitors' use of bear-proof food storage canisters in the Yosemite Wilderness. The conceptual framework used was the Theory of Planned Behavior. The objectives of the study include: 1) establish the degree to which bears are obtaining human food in the wilderness; 2) determine current rates of visitor use of bear-proof canisters; 3) examine backpacker beliefs, attitudes and behaviors related to canister use; 4) examine backpackers' acceptance of the mandatory canister regulation; 5) examine visitor behaviors that relate directly to bear incidents in the wilderness; 6) determine if canister use results in reduced food availability to bears.

Data analysis is on-going. Some preliminary results include:

92% of backpackers surveyed feel it is important that bears don't get human food.

88% of groups surveyed reported using one or more canisters on their trip. Those that didn't either camped where there were lockers (9%) or hung, hid or guarded their food (3%).

Although most backpackers in Yosemite carried a food storage canister where required, not all were compliant with food storage requirements. Only 71% knew before leaving the trailhead that all their

food, trash, toiletries and other scented items would fit in their canister(s) after the first night's dinner; the remaining 29% reported problems with excess food, trash and scented items not fitting in their canister(s).

Just over one in four backpackers were visited by a bear in their camp (n=107). Sixteen percent of those visits (n=17) resulted in a bear obtaining food or trash.

Of those 17 bear incidents, 13 groups (76%) reported that they had one or more canisters. Reasons for bears getting food included 1) not all food/trash fit in the canister(s); 2) food was accidentally left in tent or pack; 3) food was left out unprotected at mealtime.