

## **Backcountry food storage: How not to share your dinner with a bear**

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In 1998, Yosemite National Park initiated a low-cost rental program to promote voluntary use of bear-resistant food storage canisters. In the years since, canister use has gained widespread acceptance by Sierra Nevada Mountains backpackers, although conflict between humans and bears continues at an unacceptably high level in Yosemite National Park and elsewhere in the region.

In 2004, Yosemite National Park officials instituted a requirement mandating that backpackers 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 2005 we evaluated the effectiveness of this requirement.

From June to October, visitor use surveys were conducted to examine use of bear-resistant food storage canisters. Based on the Theory of Planned Behavior, trailhead and internet-based surveys were used to identify wilderness visitors' beliefs, attitudes, norms, value orientations and behaviors regarding black bears, backcountry food storage and use of bear-resistant food storage canisters. On-site backcountry food storage checks were performed to determine food storage compliance rates. A bear incident survey documented wilderness bear encounters.

### Attitudes about food storage ...

- ❖ In Yosemite, the combination of attitudes about bears and food storage, the existence of social pressure to use canisters, and logistical controls enabling/ preventing backpackers from effectively using canisters significantly predict bear-proof food canister use by backpackers in the park's wilderness.  $F(3,545) = 11.7$   $p < .001$ .
- ❖ The presence of favorable attitudes about food storage and bears among Yosemite backpackers contributed the most to prediction of canister use in the park  $R^2 = .25$ ,  $F(1,547) = 179.4$ ,  $p < .001$ .
- ❖ Backpackers' intentions to use bear-proof food canisters differed significantly from "somewhat likely" in areas of the park where canister use is voluntary to "very likely" in areas of the Yosemite wilderness where canisters are required  $t(536) = 141.6$ ,  $p < .001$ .

### Most people are using canisters...

- ❖ 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 canister use levels were high, not all were compliant with food storage requirements. 38% reported that on some or most nights of their trip food, trash or toiletries had to be left out of their canister.
- ❖ 92% of backpackers surveyed feel it is important that bears don't get human food.
- ❖ 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 but that some food was left out.

Compliance means we still have food left for breakfast . . .

- ❖ Where canisters are now required, non-compliant backpackers lost food to bears fourteen times more often than those who complied with food storage regulations. Backpackers were fifty-nine times more likely to lose food to a bear if one came into their camp and they were out of compliance.