

## **SELECTION FOR ADULT MALES BY BROWN BEAR HUNTERS: PERCEPTION OR REALITY?**

HARRY V. REYNOLDS, III, Alaska Department of Fish and Game, 1300 College Road, Fairbanks, Alaska 99701 (907) 459-7238 e-mail: hreynolds@fishgame.state.ak.us

ROGER B. SMITH, Alaska Department of Fish and Game, 211 Mission Rd., Kodiak, Alaska 99615

JOE. W. WANT, Outdoor Enterprises, P.O. Box 10044, Fairbanks, AK 99710

VICTOR G. BARNES, JR., U.S. Geological Survey, Biological Resources Division, Kodiak, AK 99615

*Abstract:* Sustained yield of hunted brown bear (*Ursus arctos*) populations and strategies for managing hunting depend on whether hunters selectively kill males. In Alaska, management decisions are primarily based on estimates of sustained yield for each specific population, annual trends in numbers of bears killed in each population, and the sex and age characteristics of the kill. Calculations of sustained yield have been rough estimates based, in part, on the assumption that brown bears taken by hunters are killed in the proportions that are representative of the sex and age composition of the population two years of age or the age at which brown bears can be killed legally. In contrast, big game guides, and many hunters, portray their hunting practices as being selective for large adult males. If guides and hunters are correct on this characterization, then harvest should be biased towards males. We tested the hypothesis that hunter kill of Alaskan brown bears in 2 regions of the state with those determined by research studies of populations in the same regions. We accounted for mean differential vulnerability to harvest by spring and fall hunting seasons due to regulatory protection of females accompanied by offspring. For those and other regions of the state, we further partitioned analysis for each Game Management Unit by hunter type (unguided residents vs. guided non-residents), harvest density and harvest pressure, area differences in brown bear size, estimated bear density, and management goals for each Unit. We suggest how this analysis can be applied to timing of hunting seasons and management based proportions of males in the harvest, and on kill density of females only. We explore what role hunter education can play in changing hunter attitudes and field skill development to identification of males and how regulatory changes might motivate greater development of selectivity skills by brown bear guides.

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