
****INFLUENCE OF INFANTICIDE RISK ON BROWN BEAR DEN-SITE SELECTION**

Lindsey A. Stutzman*, Department of Wildlife, Fisheries, and Aquaculture, Mississippi State University, Mississippi

Jerrold L. Belant, Department of Wildlife, Fisheries, and Aquaculture, Mississippi State University, Mississippi

David D. Gustine, National Park Service, Grand Teton National Park, Moose, WY

Timothy L. Hiller, Department of Wildlife, Fisheries, and Aquaculture, Mississippi State University, Mississippi

Buck A. Mangipane, National Park Service, Lake Clark National Park & Preserve, Port Alsworth, AK
Grant V. Hildebrand, U.S. Geological Survey, Alaska Science Center, Anchorage

The risk of infanticide in brown bears (*Ursus arctos*) may influence den-site selection and chronology for female brown bears with dependent young. Strategies to reduce risk of infanticide include females avoiding larger, more dominant adult males through spatial

or temporal segregation. We assessed whether variation in den location, den habitat, and den entrance and emergence dates of male and female bears supported sexual segregation in Lake Clark National Park and Preserve, Alaska. Den-sites ($n = 56$) were located using GPS telemetry data from bears in 2014 ($n = 21$) and 2015 ($n = 35$). We used mixed model analysis of variance to compare slope, elevation, and aspect of den sites for adult male and adult female bears with and without dependent young. We also used these variables to model probable denning habitat using maximum entropy modeling. We examined timing of female den entry and emergence in relation to males using generalized linear mixed models. Our preliminary results using 2014 data suggest that females with dependent may den at higher elevations (944 ± 140 m, $\bar{x} \pm SD$) than solitary females (866 ± 189 m) but at lower elevations (984 ± 118 m) than males. They also may use less steep slopes ($25 \pm 11.8^\circ$) than solitary females ($29 \pm 9.9^\circ$) or males ($34 \pm 4.9^\circ$). Additionally, females with dependent young (Julian day: 289 ± 8 days) denned 2 days later than solitary females (287 ± 6 days) and 20 days earlier than males (309 ± 21 days). Females with dependent young (122 ± 17 days) also emerged from dens 6 days earlier than solitary females (128 ± 9 days) and 10 days earlier than males (132 ± 10 days). Differences in den entrance and emergence dates suggest support our hypothesis that females with dependent young temporally segregate from male bears.