

**(63) RELATIONSHIP BETWEEN SNOW DEPTH AND DEER FORAGE AVAILABILITY IN A COASTAL SOUTHEAST ALASKAN WATERSHED**

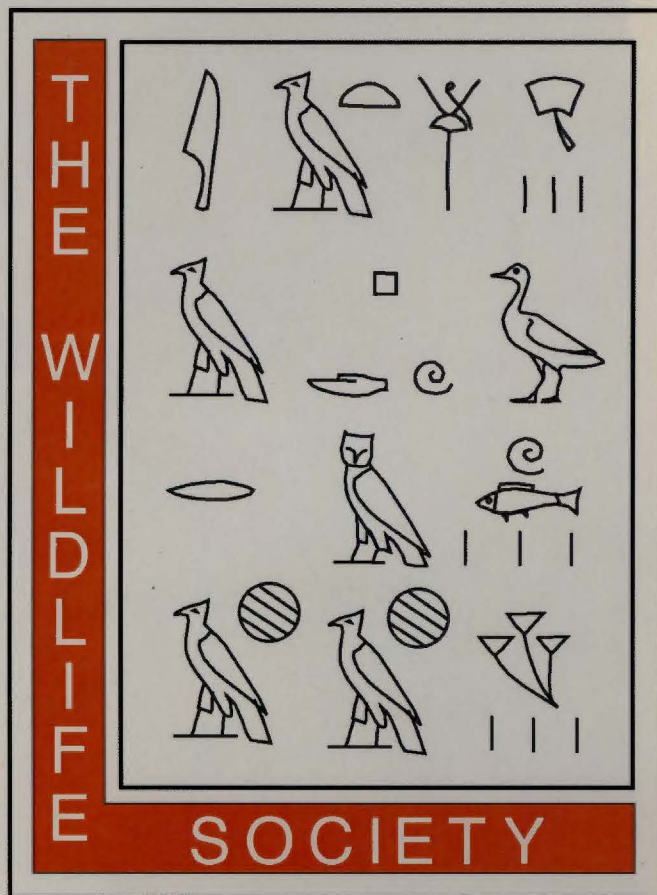
**Rodriguez, Adriana, Kevin White, and Eran Hood.** Environmental Science Program, University of Alaska Southeast, Juneau, AK 99801; rodriguez30@hotmail.com (AR); Alaska Department of Fish and Game, Division of Wildlife Conservation, Douglas, AK 99824; [kevin\\_white@fishgame.state.ak.us](mailto:kevin_white@fishgame.state.ak.us) (KW) Environmental Sciences Program, University of Alaska Southeast, Juneau, AK 99801 (EH)

*Abstract:* Snow can limit the winter habitat of Sitka black-tailed deer (*Odocoileus hemionus sitkensis*) by reducing the amount of available forage. In this study, we evaluate the relationship between snow depth and the availability of blueberry (*Vaccinium sp.*), which is an important winter forage species for black-tailed deer. In October 2003, four study plots ranging in elevation from 90 m to 275 m were established in the Fish Creek watershed on Douglas Island near Juneau Alaska. In each plot, 25 blueberry plants were tagged according to their forage availability, with each tag representing 1.5 g of forage biomass. The pre-winter plant height, basal diameter, and number of tags and tag height were recorded for each plant. Snow depth stakes were also installed at each plant. The snow depth and the number of tags exposed above the snow cover were recorded for each plant during weekly to bimonthly field surveys from November 2003 to March 2004. Our data indicate that snow interception by blueberry plants often causes height displacement and plant burial. As a result, plant tags were found to be buried at snow depths that were less than 30% of their pre-winter height. The compaction and burial of plants was more pronounced at higher elevation sites where the snowpack was less subject to melting out during warm spells. Overall these findings suggest that in maritime snow climates typified by heavy, dense snowfalls, the pre-winter height distribution of forage is not necessarily a good predictor of forage availability when compared with the depth of snow on the ground. We hope to use these results to predict the winter carrying capacity of deer in the Fish Creek watershed under different snow conditions.



# PREDATOR-PREY 2004

JOINT CONFERENCE and ANNUAL MEETING  
NORTHWEST SECTION AND ALASKA CHAPTER OF  
THE WILDLIFE SOCIETY



Alyeska Prince Hotel  
Girdwood, Alaska

MAY 1-3, 2004

---

## Program & Abstracts

---