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RESEARCH COLLOQUIUM SERIES

Dr. David Hik

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FRIDAY

Feb. 29, 2008

3:30 - 4:30

LECTURE THEATRE

7-150

LIGHT REFRESHMENTS SERVED AT 3:20 PM

UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Herbivores in Warming Subarctic Alpine Environments

Of the four circumpolar sub-regions defined in the 2004 *Arctic Climate Impact Assessment*, "Alaska and the Canadian Yukon have experienced the most dramatic warming, resulting in major ecological impacts." I will discuss how the life history and behaviour of alpine dwelling mammalian herbivores in the southwest Yukon (collared pikas, hoary marmots, arctic ground squirrels, Dall sheep) may affect their response to highly variable weather conditions, continued warming, and large-scale climate periodicity. Habitat connectivity is also of central importance in population dynamics, and the mobility of animals represents a challenge in terms of predicting immediate responses to climate-driven habitat changes. With continued climate change, lower elevation forest and shrub communities are expected to move upslope as milder conditions allow them to occupy areas that were previously too extreme. These advances will fragment and reduce alpine tundra habitat, and may restrict dispersal for some species. A set of future scenarios will provide an opportunity to make predictions about how reproductive success and population dynamics of these mammalian herbivores may be affected by continued climate change in northern mountain environments.