

## **\*\*Grizzly Bear and Human Use at Moth Aggregation Sites, Wyoming**

Erika Nunlist\*, Department of Animal and Range Sciences, Montana State University, Bozeman  
Daniel Tyers, Northern Rocky Mountain Science Center, United States Forest Service, Bozeman  
Andrew Pils, Shoshone National Forest, United States Forest Service, Cody, WY  
Bok Sowell, Department of Animal and Range Sciences, Montana State University, Bozeman

\*Indicates Presenter

\*\*Indicates Student Presentation

The objective of our study was to quantify human-bear interactions associated with moth aggregation sites in the greater Yellowstone ecosystem. Our field work was conducted during the summers of 2017 and 2018, and focused on two of the most human-accessible sites within the Shoshone National Forest, Wyoming. Occupancy surveys of grizzly bears (*Ursus arctos horribilis*) were conducted and evaluated using a resource selection function to quantify bear use patterns. Human use was quantified through trailhead monitoring, peak log entries, and opportunistic documentation. Interactions were documented through written or verbal surveys at peaks and trailheads. GPS tracking units were distributed at trailheads to quantify human use patterns. Bear and human use patterns were analyzed in ArcMap to identify areas of overlap. We documented 84 and 182 bears and 37 and 39 human use groups in 2017 and 2018, respectively. Bear use was most strongly associated with landcover and temperature, and to a lesser degree terrain ruggedness and curvature, slope, and moisture. Human use was largely concentrated on published routes from internet resources that overlapped predicted high-use bear areas. We documented 18 bear-human interactions, 12 of which were within predicted high-use bear areas. All interactions resulted in bear displacement with no aggressive behavior toward humans. Human use and bear-human interactions appear to be relatively low but will continue to increase with human use, particularly in high-use bear areas. In the future, managers may consider measures to educate visitors or manage human access to promote human safety and minimize disturbance of grizzly bears.

