

ECOLOGY AND GEOLOGY OF THE GREATER YELLOWSTONE AREA



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During the summers of 2009 and 2010 in conjunction with a long term study of small mammal community succession following the 1988 Greater Yellowstone fires undergraduate students at the University of Wyoming/ Casper College Center are provided the opportunity to engage in independent study projects associated with the small mammal work under the leadership of Dr. Scott Burt and funded by the Wyoming IDeA Networks for Biomedical Excellence (INBRE). The students enroll in Zoology 4900 for academic credit and combine laboratory work at the UW/CC Center with fieldwork conducted while in residence at the UW/NPS Research Station.

For 4-day field sessions in June, July, and August students worked on capture-mark recapture trapping grids near Huckleberry Mountain along the Rockefeller Parkway. These study sites were

established shortly after the 1988 fires and have been revisited and sampled at 5-10 year intervals for 2 consecutive summers since (Stanton et al. 1991, 1992, 1998; Spildie, 1994; Seville et al., 1997; and Burt et al., 2009). In addition to collecting data on small mammal diversity/abundance and microhabitat in burned and unburned study sites as part of the long term study, they also collected blood and fecal samples for their investigations of small mammal diseases and parasites. Fecal samples were analyzed on return to UW/CC and the blood samples were analyzed by the Center for Disease Control in Atlanta, GA. To participate in the program students submitted grant applications to the Wyoming INBRE UW/CC Grant program and if awarded a grant are required to provide a final report and present results of their work at a scientific conference or at Wyoming Undergraduate Research Day held annually in April in Laramie, WY.

This approach to doing research out of the UW/NPS Research Station has provided the human resources needed to conduct the labor intensive long term study and for a number of years provided undergraduate students the opportunity to engage in the process of science including study/project design/implementation /analysis; grant and scientific paper writing/presentation; and field and laboratory research. In addition students were able to enjoy and experience the Greater Yellowstone Ecosystem from the perspective of a developing scientist, contribute and collaborate on a large research project, meet the variety of researchers working on the station, attend the weekly seminar, and have the hair stand up on the back of their neck on hearing a rustling in bushes, an elk bugle, or a whooping crane call in the early morning on Huckleberry Mountain.



In 2010 student independent projects included:

- **Jamie Engelking, Rachael Henley and Abi Tille** Seroprevalence of Hantavirus in *Peromyscus maniculatus* across Wyoming
- **Jessica Luers and Brian Kussey** *Eimeria* in *Zapus princeps* from Grand Teton National Park
- **Stephanie Marker and Tracie Calkin** *Eimeria* in soricids from Grand Teton National Park
- **Wayne Cummings, Jake Hourt, and Ronnie Harned** Trypanosomes in *Peromyscus maniculatus* from Grand Teton National Park

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◆ LITERATURE CITED

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