

**Three RM-CESU Students Awarded 2011 Jerry O'Neal Fellowship for Research in Glacier National Park** The Jerry O'Neal fellowships, funded through the Crown of the Continent Research Learning Center at Glacier National Park, were announced for student work in summer 2011. This student award is named for the former deputy superintendent at Glacier NP, in honor of his dedication to science and research in the NPS, and supports research in Glacier National Park, Grant-Kohrs Ranch National Historic Site, and Little Bighorn Battlefield National Monument. The competition was facilitated through the Rocky Mountains CESU and is open to students at all the RM-CESU partner universities. **This year's Fellowship awardees are:**

- **Brett Addis, Organismal Biology and Ecology M.Sc. candidate at University of Montana: "Conservation of Amphibians Diversity in Glacier National Park: Risks of Hybridization and Disease to an Isolated Species."**

A new species of toad (*Bufo sp. nov.*) occurs in two temporary wetlands in a cirque basin in Glacier National Park. This population is surrounded by *B. boreas*, a more common toad that occurs throughout the park. The goal of Brett's study is to determine whether there is gene flow between the *B. sp. nov.* population and surrounding *B. boreas*. Understanding the amount and direction of animal dispersal across a landscape will provide important information on potential hybridization and disease transmission processes.



- **Matt Wilson, Wildlife Biology M.Sc. candidate at the University of Montana: "Are alpine freshwater macroinvertebrates shifting upstream in response to climate change?"**

Matt's study will sample and identify macroinvertebrates in McDonald Creek and will compare this current data set with historical data. This analysis will assess shifts in upstream distribution of various aquatic species. Stream temperature data will also be collected during the project.



- **Kelsie Delaney, Microbiology B.S. candidate at University of Wyoming: “Do Tourists Bug Bacteria?” The effects of human presence and pollution on bacterial diversity and distribution in the streams of Glacier National Park.”**



Kelsie’s study will assess the status of microbial populations in selected streams in Glacier NP and measure the effect of human traffic and waste on the microbes’ spatial distribution. Microbes will be identified through DNA analysis, and their distribution will be spatially modeled according to anthropogenic and abiotic parameters known to affect microbial diversity.

As a requirement of their Fellowships, Brett, Kelsie, and Matt will provide a final project report and copies of any publications as a result of the research. In addition, they will prepare a one-page, illustrated project summary that will be featured in a RM-CESU newsletter.