Project Turns K-12 Teachers into Researchers

A unique Service-Learning class at Boise State is giving K-12 teachers a chance to experience the life of a research biologist and then share the relevance of field research with their young students.

As part of biology professor Jen Forbey's new STEM Service-Learning model, the IdahoWatch Program, graduate and undergraduate students in her Sagebrush Habitat Ecology class take K-12 teachers into the field to learn more about sagebrush research. Six local grade 5-12 teachers visited the sagebrush steppe near Jim Sage Mountain the weekend of April 12-13, where Boise State students provided them insight into the issues and solutions facing local ecosystems.

The teachers participated in citizen science by recording behavior of Piute grouse squirrels and greater sage-grouse and pygmy rabbits, and measuring habitat quality and use of habitats by these native species. They collected data and samples in the field that they will take back to their classrooms to teach their students what, how and why researchers study in this local ecosystem.

“This program provides a link between the research we do in the sagebrush steppe and why the public and future generations should care about wild places in Idaho,” Forbey said.

Micah Lauer, a seventh-grade life science teacher at Heritage Middle School, said conducting field science dealing with wildlife and ecology is a natural fit with his curriculum and personal interests.
“This experience brings a greater depth to the way I teach ecology,” he said. “My students will be conducting a multi-day lab about sagebrush chemistry using techniques and tools from the field experience. They also will assess the concealment value of sagebrush for species like the pygmy rabbit using techniques scientists use in the field. These are valuable learning opportunities that were not available to my students before I participated in the field experience.”

Teacher Gina Lockwood will share her experiences with her 10th-12th grade biology and environmental sciences classes at Mountain View High School. Through the experience, she learned to identify different species of sagebrush by visual, chemical and physical characteristics and how herbivores like sage grouse and pygmy rabbits can differentiate its quality for nutrition and cover.

“I have taught an outdoor research class during the summer for several years and have seen directly what kind of positive impacts that these experiences have on students,” she said. “I personally want to expand my knowledge as well, and learn from the research that Jen is doing so I can effectively teach students how to conduct research through scientific inquiry.

“Plus, it helps me expose students to the amazing wonder and diverse sagebrush ecosystem and how important it is to maintain its integrity,” she said.

The experience is helping to build professional relationships between university STEM research faculty, graduate and undergraduate students and K-12 teachers. Participating teachers also receive access to STEM resources for implementing authentic research in their classrooms and access to pre-workshop seminars given by biologists from academia, government agencies and private organizations who currently conduct research in the sagebrush steppe.

Forbey’s research and the IdahoWatch outreach program are funded with several NSF grants and are in collaboration with University of California, Davis, University of Idaho and Washington State University. The joint work is contributing to conservation efforts for several species of concern, including the pygmy rabbit and the greater sage-grouse. Pygmy rabbits in Washington are listed as an Endangered Distinct Population Segment under the Endangered Species Act and the pygmy rabbit remains a species of conservation concern across its range primarily because of rapid and widespread loss
and alternation of sagebrush habitats.

“The IdahoWatch program is a service-learning opportunity that allows students and the public to assist land managers with conservation and restoration efforts for wildlife in Idaho, Washington and Wyoming,” Forbey said.

Forbey will share information on the IdahoWatch model with interested faculty at 11 a.m. May 2 in Room 227 of the Simplot Micron Building. RSVP here. (http://atapps.boisestate.edu/workshops/details.asp?1629)