

River Rangers: Combining Academics, Conservation and Community Service

Teeland Middle School, Wasilla, AK
7th Grade Science Classes

Located in Alaska's fastest growing region and along the banks of the Little Susitna River, Wasilla is home to the Teeland Middle School River Rangers Project, an innovative seventh grade learning experience that incorporates academics, conservation, and community service. Students are not only learning about the practical application of important scientific concepts through field research, they are also playing an important role in monitoring the impact that rapid community growth is having on their ecosystem.



Students remove trash from Cottonwood Creek, a heavily impacted urban stream.

Created by seventh grade teachers Rhett Buchanan, Mike Shea and Joe Nolting, and made possible through the support of a NEA Foundation *Student Achievement Grant*, the River Rangers Program teaches science, math, literacy, and technology skills through the study of stream ecology.

Over the 2007 - 2008 school year, 200 seventh graders attended five full-day local outdoor field trips during which they collected data that they used to evaluate the environmental impact on the nearby Little Susitna River's ecology. Field trips included:

- August 2007: Fall data collection at the Little Susitna River and Cottonwood Creek;
- September 2007: Revegetation project at the Palmer Hay Flats State Game Refuge;
- March 2008: Harvest of dormant willow cuttings at the Alaska Plant Materials Center;
- May 2008: Spring data collection at the Little Susitna River; and
- May 2008: Revegetation project along the Little Susitna River.

Students studied what they found in the wild: nutrient cycles, life cycles of organisms, chemistry, cellular structures and function, animal anatomy and classification, and geological formations. Math



concepts were also integrated into the program. Students learned how to manage data using spreadsheets, performed statistical calculations, and analyzed the data. Teachers also used technology in the classroom, using whiteboards and a web site to facilitate interactive instruction.



Students classify and sort macroinvertebrates.

Students provided an important community service by collecting baseline data of the local watershed that was compiled and entered into an online database organized by the University of Alaska. Teeland Middle School is the only organization currently collecting data in this section of the Little Susitna River.

The success of the program has been noticed by other teachers, administrators, and business leaders. The teachers have been invited to make presentations to classes within their school and to share materials and

instructional support to teachers at other schools who are interested in developing their own programs. The program has also attracted the support of corporate donors, including: Toyota, Toshiba, ING, General Mills, Lowe's and Project Learning Tree.

Most important, as teachers note, is the impact the program has had on students' understanding of their responsibility as environmental stewards. Below are remarks excerpted from participating students' journals.

"After learning about stream ecology, I see the stream and riparian zone as more than just flowing water and some plants. I see them as something precious and important." – Stephanie M.

"My parents used to say to me, 'with more knowledge comes more opportunity.' I now have an opportunity to make a difference in my community." – Sydney B.

"I feel differently about the riparian zone... So I probably won't ride four wheelers in it anymore."
– Grant G.

NEA Foundation Grants

Over the past decade, the NEA Foundation has invested more than \$6.0 million in grants to support and grow the ideas of over 2,000 educators nationwide. This year, we will emphasize "green" grants, because some of our most innovative and impactful projects involve students learning about and engaging in environmental preservation and protection. From publishing books on ecological restoration to designing lessons on renewable energy, NEA Foundation grantees are getting results. (08/09)