

Agents of Change

If you had to pick a single theme among many that run through Vanessa Simonds's young career, the phrase *returning to her roots* comes most easily to mind. A native of Bozeman and a member of the Crow Tribe, Simonds has felt Montana's draw ever since she first left after high school. A year at college in Missouri wasn't the right fit, so she finished at MSU, where her father had taught for many years.

Six years at Harvard for graduate school weren't enough to keep her on the East Coast. Soon she was back at MSU—this time as an adjunct instructor, her advanced degrees in hand. Next she was on to Iowa City for a three-year stint at the University of Iowa, but in 2014 she returned for a third and perhaps final time to her alma mater. She even lives in her childhood home now.

As if that weren't enough geographical gravity to hold her in place, Simonds's recent work has taken her to her family's ancestral lands, the Crow Reservation, where she visited often while growing up and where lots of extended family still live. Her research project, not even two years old, has more than 20 local partners whom she's quick to name, not counting the two dozen school children who form the core of her study. For her it's all about the people, the land.

"It's nice to go back there and get to know people even better," Simonds says. "I'm really happy. It's so helpful when you already have those relationships with people who can help you get things going."

Those kinds of deep ties to the land, in a way, are also related to the problem that her project hopes to address. As the largest reservation in Montana, the Crow lands are especially blessed with natural resources: grazing lands, farmlands, fossil fuel deposits, three mountain ranges, and two river basins, including the scenic Little Bighorn River. But with that great bounty comes a need for heightened awareness, Simonds explains. That's because native communities, in general, are at particular risk for exposure to environmental contaminants due to subsistence diets and cultural practices that increase their likelihood for contact with contaminated soil and water.

Enter the Guardians

Simonds thinks that she and her local partners might have a way to reduce that risk, and the means for doing so may prove nothing short of revolutionary.

Existing and past interventions for mitigating environmental risks on tribal lands have focused primarily on educating the community through the adult population. But Simonds's project, developed with CAIRHE support in collaboration with Apsáalooke community members, hopes to develop and pilot an intervention to increase *children's* environmental health literacy. As "Guardians of the Living Water"—a name the community gave the project as a replacement for its academic-speak title—the children then transfer that knowledge to others in their schools, families, and communities.

The idea of children serving as agents of change in their community has rarely been explored outside of the developing world, Simonds

explains. "I think we use it implicitly sometimes," she says, "but it hasn't been tested well at all." If the approach shows promise in this project, the community could expand the idea to other health topics, such as obesity prevention. And once results are published, the approach could be used anywhere, in both native and non-native communities, she says.

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JASON CUMMINS, PRINCIPAL OF
CROW AGENCY SCHOOL

Guardians of the Living Water is a partnership among the Crow Environmental Health Steering Committee, Crow Agency School, Montana State University, and Little Big Horn College. Through a system of summer camp and after-school activities involving art and science—all grounded in the Apsáalooke culture—children in grades 4 through 6 learn about the relationship between water-related environmental issues and human health, then apply their knowledge in practical applications and dissemination tasks. Researchers will evaluate the effectiveness of the intervention through pre- and post-tests of students' knowledge and environmental health attitudes, as well as through interviews with students and parents.

Environmental stewardship is nothing new in Crow communities. The local Environmental Health Steering Committee had been conducting water quality tests for about 10 years when Mari Eggers of MSU's Center for Biofilm Engineering first approached Simonds in 2014 and told her about the tribe's work. Discussions with John Doyle, a longtime committee member, led to an initial idea for the project and, ultimately, enthusiastic support from the tribe. Although Simonds had been pursuing a different idea in environmental health literacy, her academic specialty, that focused more on the organizational level at the Indian Health Service and less on the community itself, she switched her attention to a project involving a bunch of fourth-graders.

TRIBAL COMMUNITIES MAY LEARN TO LISTEN TO THEIR MOST VALUABLE ASSETS—THEIR CHILDREN—WHEN IT COMES TO PROTECTING WATER RESOURCES AND HUMAN HEALTH.



Photo by Jason Cummins

As part of the *Guardians of the Living Water* summer camp, students made field trips to the Little Bighorn River.

CAIRHE Research Project:

INCREASING ENVIRONMENTAL HEALTH LITERACY IN A NATIVE AMERICAN COMMUNITY (AKA “GUARDIANS OF THE LIVING WATER”)



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LITTLE BIG HORN COLLEGE



Simonds smiles at that. “Honestly,” she says, “I thought it would be more fun.”

Summer Camp Science

After Simonds formed a project steering committee, which meets regularly, she and Jason Cummins, principal of Crow Agency School, charged ahead with a pilot summer camp in July 2015. Cummins even secured additional outside funding. That first camp, designed by MSU students as a way to test project measures and practice activities, involved fifth- and sixth-graders in a one-time trial run. The camp was a big hit.

“It’s a terrific project because the content knowledge being taught to the students reflects their cultural background and worldview, as well as the scientific perspective,” Cummins says. “Students are learning to have a proper relationship with the water, and they’re learning what the current issues are concerning water in their community. The learning is directly related to their lives.”

Among the lessons learned by project leaders during the pilot camp were the need for smaller groups for certain tasks and the inclusion of relevant Crow words in the activities. They also infused the curriculum with more storytelling, songs, and cultural site visits, Simonds says.

Now a group of 20 enthusiastic fourth-graders are participating in an after-school program that started in the fall of 2015, meeting one or two times per month. That group will attend camp this summer, followed by the after-school program again during the 2016-17 school year and culminating with a second summer camp in 2017. Over the course of the study, they’ll cover a curriculum that spans an introduction to water, water conservation issues, and water’s role in human health, with field trips to Cold Springs and the Little Bighorn River, both sacred water sources for the Apsáalooke people. Students even conduct water testing at the two sites with oversight from the Environmental Health Steering Committee.

How much do the kids enjoy it? Cummins notes that one student recently moved to another town but convinced her mother to let her stay at Crow Agency School because she loves participating in *Guardians of the Living Water*.

Students from Little Big Horn College (LBHC) in Crow Agency, with direction from program coordinator Velma Pickett, run the after-school program and will co-lead this year’s summer camp along with MSU students. Teachers and staff at Crow Agency School observe and advise. The experience has been rewarding for LBHC students, Pickett says.



The logo for *Guardians of the Living Water* was designed by Allen Knows His Gun based on guidance from members of the Crow community.

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VANESSA SIMONDS

literacy, students can begin analyzing information they’ve learned about water resources and human health, then use the information to talk to family members and even officials in the community.

Although the young “guardians” moving through the study will officially end their participation with the summer camp in 2017—they’ll be rising sixth-graders by then—Simonds, Cummins, Pickett, and their team are looking for ways to make the program sustainable for years to come, especially if results prove promising.

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Critical Health Literacy

The end-goal, Simonds explains, is a higher level of environmental health literacy among the elementary students. “It’s a meaning of ‘literacy’ that’s more broad than the way most people think of the word,” she says. By developing *interactive* and *critical* levels of health