

In unplugged classrooms, these students dig the environment.

Support from the World Wildlife Federation helps integrate environmental awareness and stewardship into the curriculum.

by Leslie Dyson

Wetlands projects open the door to amphibians, waterfowl, bear, deer, coyotes, beaver, porcupines and a diverse bird population including great horned owls, herons, storks & hawks.

Two recent events had everyone talking about the environment: the recent earthquakes near Haida Gwaii and Hurricane Sandy, sweeping through the Caribbean and along the Eastern Seaboard.

But this isn't a new topic for schools in this province. They have been providing programs focused on climate and the environment for many years and educators have been finding creative ways to integrate environmental awareness into all areas of the curriculum.

Several programs in the province have benefited from support from the World Wildlife Fund. Two, in particular, are flourishing: wildlife

cameras installed by Shearwater Elementary in the surrounding forest on Denny Island in the Central Coast School District and the Wetlands Centre for Excellence at Ful-ton Secondary in Vernon.

This year, Sharon Beloin is teaching grades 2 to 10 students in one big room on Denny Island. "I teach whoever we have."

Last year, she applied to the World Wildlife Fund for \$5,000 to purchase six trail cameras with motion sensors, charger packs and batteries. The students were in awe when the cameras first captured images of a wolf and a deer.

"It's really important to connect kids to the wildlife that we share liv-

ing space with so that we can co-exist," Beloin said. "We do have bear issues." The bears come through the community of about 140 people every spring, Beloin said, but she uses the annual event to talk about animal behaviour and how to avoid trouble.

In addition to capturing digital and video images, Beloin takes students on a nature walk every Thursday. Pacific Wild, a non-profit conservation group, has shown students how to tell the difference between male and female deer tracks and wolf and dog prints. They've also learned about animals' habits from observing their scat.

Some of the students were born



on the island and others come from Bella Bella. One student moved to the community from Kelowna and can't believe his good fortune in living in such a setting. "He's just blown away all the time," Beloin laughs.

Lucy, in Grade 2, said she's seen a deer and a wolf "looking around and walking past" and has also observed wolves in the distance on the beaches. But she thinks the cameras are "a good idea. You can see lots of animals. I want to see a cougar."

Aria, also in Grade 2, said the cameras have shown her that large animals "are pretty close."

The camera equipment was not easy to install, Beloin said. "There was a larger learning curve than we expected, but the kids are so much more aware now."

The school is now developing a field guide to incorporate the lessons they've learned about the environment in such a pristine and remote area.

Principal Lela Walkus, also the administrator for Oweekeno School in Rivers Inlet and the district's Aboriginal coordinator, is based in Ha-

gensborg. At the time of writing, she hadn't yet seen the cameras. That's because her two schools are only accessible by plane, and bad weather had forced the cancellation of her scheduled trip.

Walkus said her budget allows her to fly to the two schools three times a year, although she will also hitchhike a ride on the trustees' monthly flights when she can. There are no school visits between Dec. 21 and February because Bella Coola Air doesn't fly during the worst weeks of winter. "Weather plays a role quite often," Walkus said.

The recent series of earthquakes off Haida Gwaii was felt by the students

and staff at Shearwater and Oweekeno schools because they're on the outer coast, Walkus said. "It was unnerving, but everyone was fine. It made us realize what we'd be in for if it was stronger or in a worse location."

In Vernon, Fulton Secondary School started using the wetlands on the edge of the school grounds as a teaching tool shortly after the school was built on the site two decades ago.

"The entire staff supports the wetlands and uses it to their advantage," said Principal Malcolm Reid.

The school has partnered with many groups for funding support. The World Wildlife Fund recently provided \$4,900 for hip waders and maintenance equipment. In the past, funding has come from Ducks Unlimited, TD Friends of the Environment, BC Transmission Corp. and Aboriginal student grants.

"We have a very motivated staff and we're lucky enough to have a location where this is doable," Reid said. "I came from Vancouver where we had to run a mile to find the first blade of wild grass," said



Indigenous bunch grasses, shrubs and trees were planted. An art class learned about architecture and research and development while creating toad houses out of baked clay. Unfortunately, they were so beautiful that they disappeared.

Reid. “That’s not the way it is here. You sit in the cafeteria and you look out on the wetlands, and Vernon Creek runs behind the school.

“The only problem we’ve seen is having to remove the junk that sometimes collects there. But it’s coming from upstream. The kids here have great respect for the wetlands.”

Woodshop classes built a boardwalk, a student in global education opened up a path to the main street and students from science, forest management, creative writing, art, social studies and Spanish classes have had lessons there.

Reid can hardly contain his enthusiasm for a program that takes place every May. Students in Grade 12, about to graduate and step into the community, take on the role of mentors, guiding Grade 4 students from the nearby elementary schools through a section of their science curriculum for a half day. “It truly is a 21st Century classroom,” Reid said. “You see them interacting with each other and the wetlands. They’re knee-deep, engaged in science.”

Retired science teacher Bruce Cummings, a biologist with training in ecology, saw the potential for turning the three-acre marsh into an outdoor education centre 15 years ago. However, when he arrived at the school, students were told to stay away from the wetlands. “It was one

of the administrators’ rules. I guess because of getting messy and the safety concerns.”

The Wetlands Centre of Excellence program is a national initiative supported by Ducks Unlimited. Many schools across the country use nearby wetland areas as outdoor classrooms. Cummings liked the program because it was “educational, teacher-driven and unique.” And, because Fulton’s resource was “outside the door,” it was irresistible.

Cummings found there was enthusiastic community support. A local engineering company donated consulting time and the Ministry of the Environment provided design ideas. A local backhoe operator donated his time to dig two ponds and shore up the banks. A nearby mill donated cedar logs and woodshop classes used a portable mill to cut the boards for the 20-metre board-

walk that crosses a pond to a viewing platform. Indigenous bunch grasses, shrubs and trees were planted. An art class learned about architecture and research and development while creating toad houses out of baked clay. Unfortunately, they were so beautiful that they disappeared, Cummings said.

Thin stakes, emulating plant stalks, were inserted into the mud to allow amphibians to attach their eggs sacks. “It’s amazing how quickly it filled in. The excavation happened around Christmas and by spring, things were starting to grow.”

Students and school staff quickly felt a sense of ownership. “The kids would bring their parents at night to listen to the frogs,” he said.

Current science teacher Peter Iwanowskyj, at the school for 21 years, said there was a belief that “If you build it, they will come.” And they did: the amphibians and the waterfowl. “It’s not big, but it is significant in terms of wildlife.”

It didn’t take long for others to arrive as well: bear, deer, coyotes, beaver, porcupines and a diverse bird population including great horned owls, herons, storks, hawks and ducks. “It’s pretty spectacular,” Iwanowskyj said.

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Editor


Richard Williams

A few invasive species moved in too. Spiny sunfish found their way to the ponds when Vernon Creek flooded. Unwanted carp also arrived but they are tough to control because they can move for short distances through no water at all, Cummings said.

Students have used the centre

to develop their lab and technical skills, Iwanowskyj said. "A number of students have gone onto environmental studies in post-secondary," he added.


The site is also open to mem-

bers of the community who enjoy bringing their children and dogs to observe the natural habitat. Cummings, who retired in July, said, "I go there to listen to the frogs. It's like music down there." 

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to concerns around poverty. Many years ago, in one school, students expressed an interest in being able to buy their parents and siblings a Christmas present. The staff created a concept called *Christmas Closet*. Donations were accepted and gifts were bought in areas where few items were available, gifts for 'Dad' being an example. Donations included everything from candles, books, ornaments and jewelry to tools, blankets, toys and scarves. Every gift cost a Loonie and children who did not have a coin or two were given one. All children in the school shopped for their gifts, wrapped them and took them home to give out at Christmas. Over the years it has grown in popularity and now there is a *Christmas Closet* for parents so they can come and shop for a gift and a couple of stocking stuffers for their children. The community support is overwhelming and donations are brought in all year long.


Understanding the culture of your school community is critical to the success of students. Exploring the why of events and behaviours helps educators to change the way we are working with children and families and allows us to create programs that expand learning in meaningful ways. It builds relationships and ultimately makes school the community center where good things happen. 

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in the areas of literacy and the arts. They blended a range of technologies to meet the needs of both adult learners and students in the schools. Academic achievement was also highlighted in the Vancouver Island West School District by incorporating Aboriginal ways of knowing into everyday classroom practices.

Being part of the *Growing Innovation* initiative meant committing to building a community of learners and researchers. Expectations for participation included:

1. Joining four Elluminate meetings over the year that featured project updates, discussions about challenges, and plans for dissemination of learning.
2. Working with site facilitators, mostly UBC graduate students, who could provide literature reviews and informal consultation around projects that aligned with their research interests.
3. Attending a learning symposium in Vancouver in the spring, where projects were shared and knowledge built in order to expand and deepen the impact of the innovation.
4. Preparing a report that highlighted impact on individual and groups of students, and included reflections and plans for year two.

The commitment and energy expressed by project leaders culminated in an inspiring celebration in May at UBC. Our facilitators planned a day of seminars, presentation rounds, and group discussions. Two project leaders from each site were sponsored to attend and more participants came at their own expense. It was there that dozens of stories emerged about communities and classrooms that now shared common ground and vision. People eagerly watched slides and videos of students at work on projects, candidly discussed the challenges of implementation in their particular rural sites, and openly shared the frustrations and the triumphs inherent in transforming practice. Everyone involved sensed that sowing the seeds of innovation and cultivating them over the year had led to a bumper first harvest. We were all excited to see what would grow next. 

This is the second of three articles. The third article will appear in the February issue and discuss disseminating the lessons learned and how to grow innovation in subsequent years. Linda Farr Darling (linda.darling@ubc.ca) is Eleanor Rix Professor of Rural Teacher Education at UBC. Patricia Dooley (pat.dooley2010@gmail.com) is an education advisor and the former Superintendent of the Kootenay Lake and the Kootenay-Columbia school districts. Terry Taylor (ttaylor@sd10.bc.ca) is District Principal, Arrow Lakes.