Walking the talk

A Q&A with Patricia Chow-Fraser, McMaster University

Pat Chow-Fraser is a professor at McMaster University's Department of Biology. She conducts research on the ecology, conservation, and restoration of Great Lakes coastal wetlands and streams. She examines the negative impact of human activities on ecosystem health using indicators that include water quality and land-use changes as well as amphibians, fish, birds, and turtles.



Describe your community engagement work. What impact did your involvement have?

Spring 1992, and I was in a meeting reviewing a proposed restoration budget with others at the Royal Botanical Gardens in Burlington, Ontario. Having just started as an assistant professor at McMaster University in July 1991, I was still getting to know members of the Remedial Action Plan team, when someone said something that invoked an involuntary "you've got to be kidding me." A line item in the budget for the Cootes Paradise Restoration was the cost of hiring professional planters at a rate of several times my annual salary. Days later, I was still thinking about this while having coffee with a retired principal. Just how much training is required to put wetland plants in a marsh? Couldn't high school or university students do the planting as volunteers? In fact, why couldn't elementary school children grow the marsh plants if we provided the seeds and supplies?

Looking back at this almost 30 years later, I'd have to say it was common sense that propelled the inaugural Classroom Aquatic Plant Nursery program (eventually known as the "Classroom Mini-Marsh") and the Cootes Paradise Volunteer Planting Program, both of which are still run by RBG together with the Bay Area Restoration Council. I was lucky in getting several government grants, including an unusual research grant that required inclusion of community outreach and engagement. Between 1993 and 1996, we used these funds to hire a legion of undergraduates and graduates. These students were enthusiastic about the research, but what motivated them more was the opportunity to lead dozens of volunteers. For six weeks in July and August in 1993 and 1994, rain or shine, community volunteers (aged 6 to 70+) generously gave up their weekends to build cages to protect marsh vegetation from common carp. The most ambitious outreach activity for us in Cootes was recruiting several classes of high school students to help us build 12 large enclosures in the marsh. My graduate student then, Dr. Vanessa Lougheed, used these enclosures to test the relationship between carp density on water turbidity and nutrients. We later used these enclosures to conduct experiments on submergent vegetation. Results from these experiments were used in 10+ publications that informed the restoration of Cootes Paradise and other coastal marshes.

Winter 2001, and I had just finished giving a presentation at Duluth's EPA lab. Glenn Dale from Cloud Bay, near Thunder Bay, had driven three hours across the border to ask me a question: Would I help his shoreline stewardship association save a coastal wetland? The north shore of Lake Superior only has a handful of coastal marshes, and someone wanted to rip up the "weeds" and build a 300- to 600-spot trailer park. Time to start walking the talk. I rearranged my sampling schedule and sent my team to sample the wetland in 2001 so we had data in time for the Ontario Municipal Board hearing in 2002. The hearing took place during IAGLR's annual conference in Winnipeg. I flew to Thunder Bay to give testimony and flew back on the same day to preside over the IAGLR banquet as incoming president. We saved the wetland, but what I did paled in comparison to the herculean efforts of cottagers who were burdened with raising large sums of money to hire the lawyers, planners, and other experts, and to devote hundreds of hours attending meetings to protect this wetland.

What challenges did you face? How did you address them? What were the rewards in doing this work?

Ironically, the biggest impediment to these activities for academics is lack of an appropriate reward structure. My progression through the ranks and salary increase was probably in spite of these activities and not because of them. Chairs usually look out for their junior faculty by making sure they publish and avoid "distractions." In my case, I was supported by my chair and got tenured, but I temporarily lost NSERC funding. Activities involving community engagement and volunteers require longer time to get published, if at all. Fortunately, I have been able to publish on both my research and my community engagement activities. Now, graduate students come specifically to work with me because of my citizen science activities, and I delight every time I learn my testimony helped save another wetland.

Any advice for fellow scientists?

Academia appears to value community engagement more so than it has in the past. At McMaster, there is even a Minor in Community Engagement. This is welcome news to those who want to involve volunteers in their research without having to worry about justifying their approach.

