For the Love of Nature

Solutions for Biodiversity

Going for Green
Leadership Series
Volume 4

CENTRE FOR CIVIC GOVERNANCE

FOR THE LOVE OF NATURE:
Solutions for Biodiversity

By Briony Penn and Robin June Hood

Columbia Institute
Centre for Civic Governance, 2010

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Illustrations by Briony Penn, www.thewildside.ca

Graphic design by Nadene Rehnby, www.handsonpublications.com

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CENTRE
FOR
CIVIC
GOVERNANCE

1200 – 1166 Alberni Street
Vancouver, BC V6E 3Z3
604.408.2500

www.civicgovernance.ca

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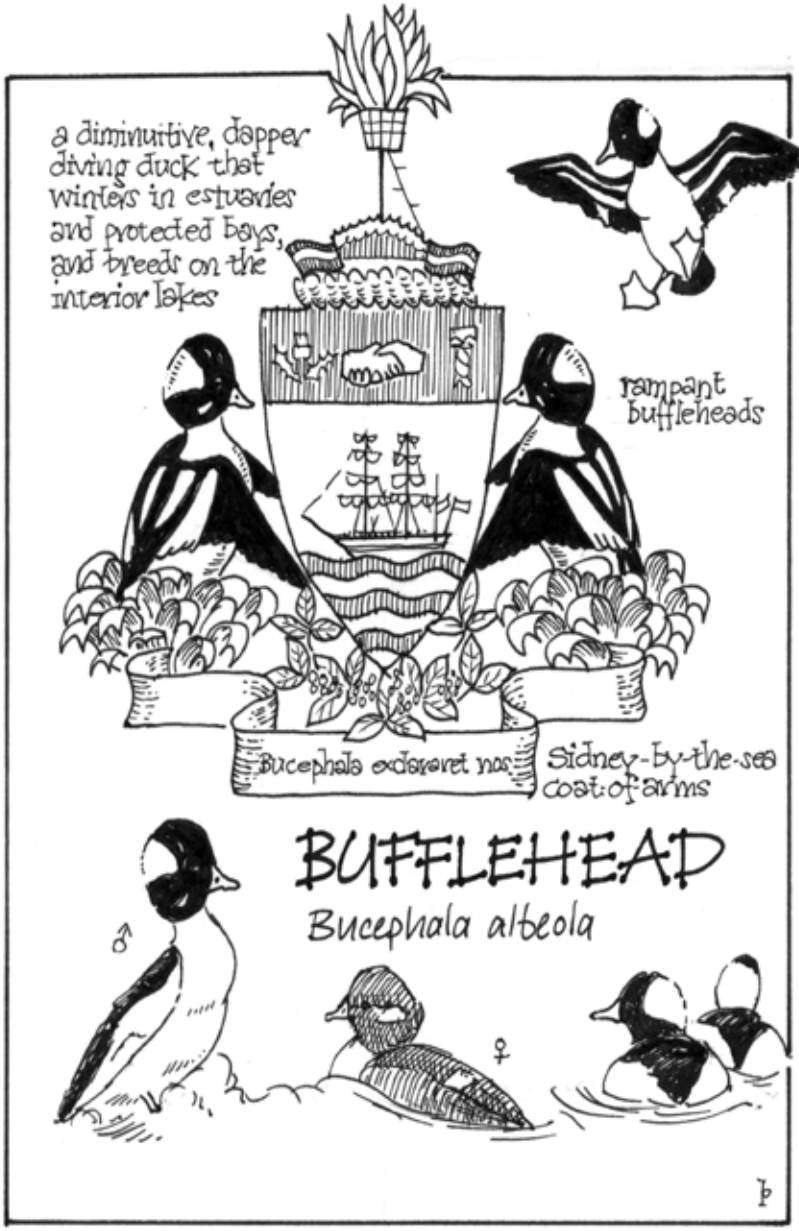
a diminutive, dapper diving duck that winters in estuaries and protected bays, and breeds on the interior lakes
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Foreword

For the Love of Nature: Solutions to Restoring Biodiversity is volume four in the Centre for Civic Governance's Going for Green Leadership series. With this handbook we've invited authors Briony Penn and Robin J. Hood to share their remarkable stories of leadership in biodiversity.

Championing biodiversity is not an easy task. The pressures of urbanization have transformed our world to such a degree that we seldom find the time or place to deepen our connection to the natural world. At the Centre for Civic Governance, we believe that municipalities can play an essential leadership role in restoring our bond with nature and the preservation of biodiversity.

In this book you will find inspiration, legislative tools and promising practices for creating a legacy of biodiversity for your community. We hope you will accept the challenge.

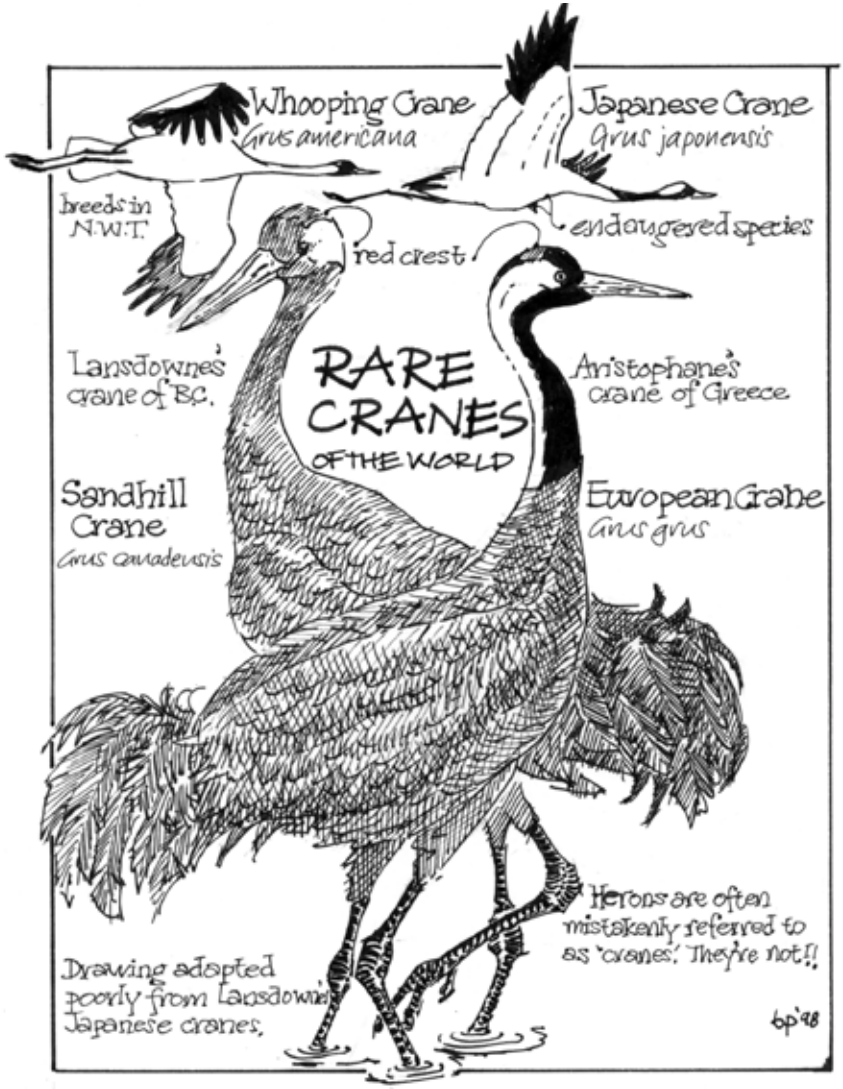
— Charley Beresford, Executive Director, Columbia Institute

Introduction

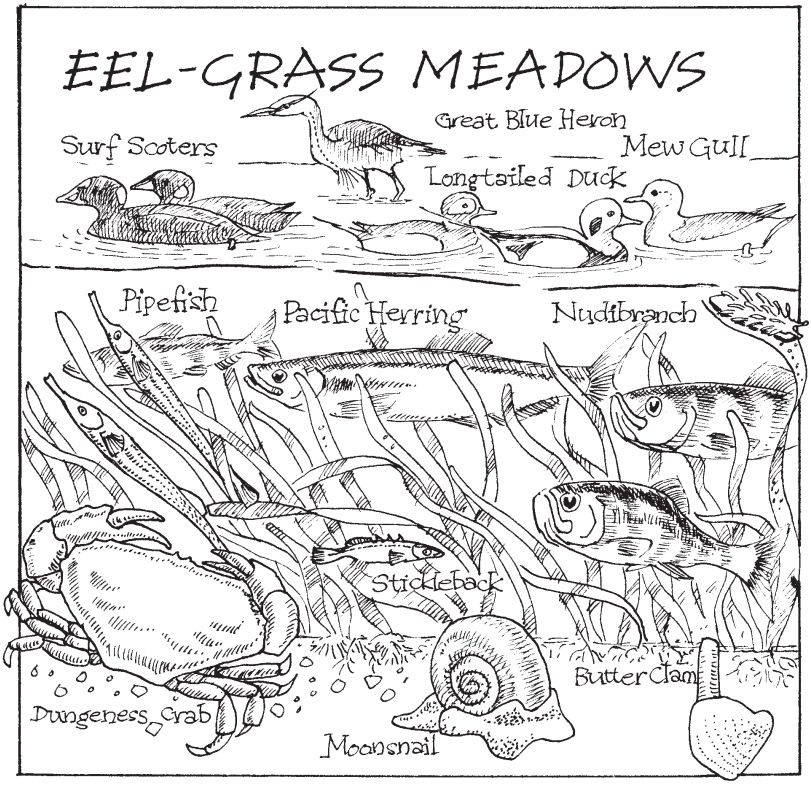
For the Love of Nature is a project that collects and passes on stories of people who have spearheaded the protection of the natural world in their local communities and backyards—and provides models for change. It is a project that Robin June Hood and I took on with the encouragement and support of many individuals and organizations, including the Columbia Institute and the Land Conservancy of British Columbia. The collection of stories for this particular publication, prepared for local government leaders, planners and community activists, highlights those who have pushed for new legislative/planning tools and standards of practice and inspired communities to get involved.

The intention is to go beyond just 'best practices' in biodiversity by capturing both the passion and practical application of these ideas by people with a deep love of place and desire to protect it. Like many things with little economic value, nature gets saved or restored most effectively when there are both the tools and the will to do it. The year of the publication of this book coincides with the 2010 International Year of Biodiversity, an ideal time to celebrate and communicate leadership in protecting nature.

When Robin and I first started to research this project, we sent out calls round the world asking for best practices in the protection of nature—we even called Mongolia. Everyone said, "Why are you asking us, we always look to you guys out there in the last frontier of the 'wild west' for our solutions." We were like Dorothy and Toto, (we argue about who is who) heading out on the yellow brick road, to find Emerald City and the Wizard of Oz when really all we needed to do was stay at home and talk to our friends.



And that triggered a second epiphany, which was—don't just go looking for wizards for solutions. Go ask the raging granny down the road or the patient planner in your town hall. The people protecting and restoring nature are what some would call 'ordinary' people. Unfortunately, society hasn't declared them celebrities, but we have. Our interviewees came from a wide range of backgrounds but shared one thing in common—a whole-hearted love of their community. Our job became clear—to throw the light of day on these quiet achievements and give anyone who has picked up this book the support and inspiration to continue in their own task.

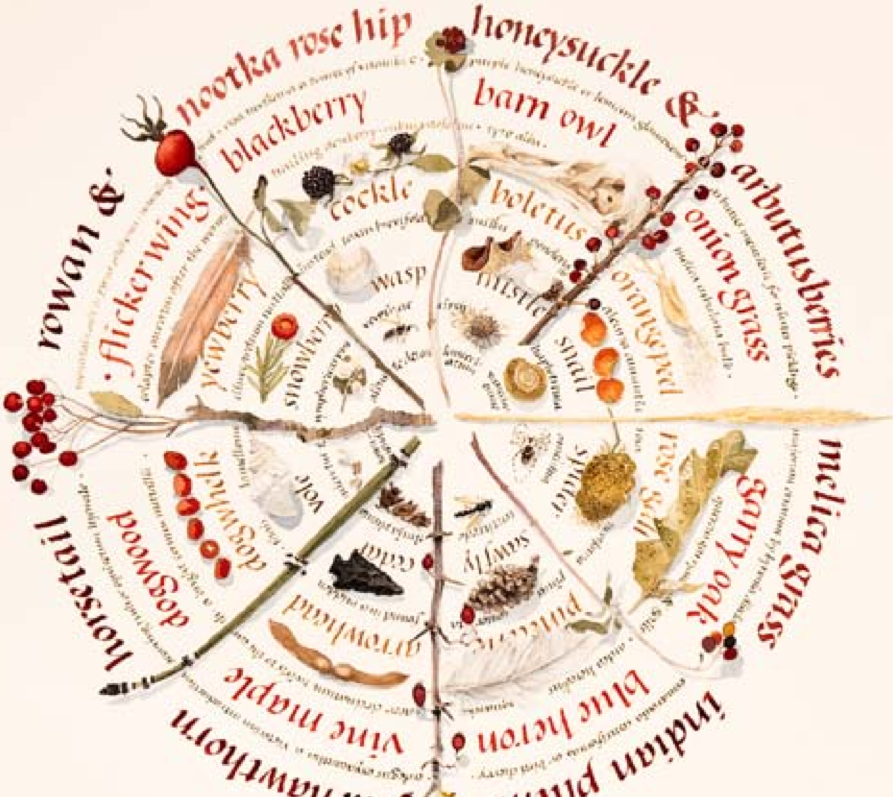


Our third epiphany was that the best way to save natural systems is to mimic them in all their interconnectedness. As a result, every one of these stories is intertwined with the other stories. Stories progress from the politician that pushed through the laws, to the planner that implemented them, to the organization that responded and the individual that acted. And although we profile leaders in their field, every one of them would point to the need for community engagement at every level.

Finally, we realized that in the process of writing this book, we were playing the role of bees, cross-pollinating other people's good ideas and expanding the network. This process is as important as the final act of saving parcels of land—bees are as key as the marmots in a healthy ecosystem. The larger project of getting the stories out, triggering discussions, inspiring innovative partnerships and solutions for protecting and restoring biodiversity will increase with more pollinators out there connecting and building networks. We want these stories to inspire you to replicate them in your own community, so please feel free to take any story and any illustration and pass it on in any way.

"The next Buddha will not take the form of an individual
The next Buddha may take the form of a community;
a community practicing understanding and loving kindness,
a community practicing mindful living.
This may be the most important thing we can do
for the survival of the Earth."

— Thich Nhat Hanh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vine maple
dogwood
flickerwing
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boletus
rose gall
arrowhead
yewberry
wasp
thistle
snail
spider
sawfly
vole
snowberry

SECTION I

Connecting Community to Habitat

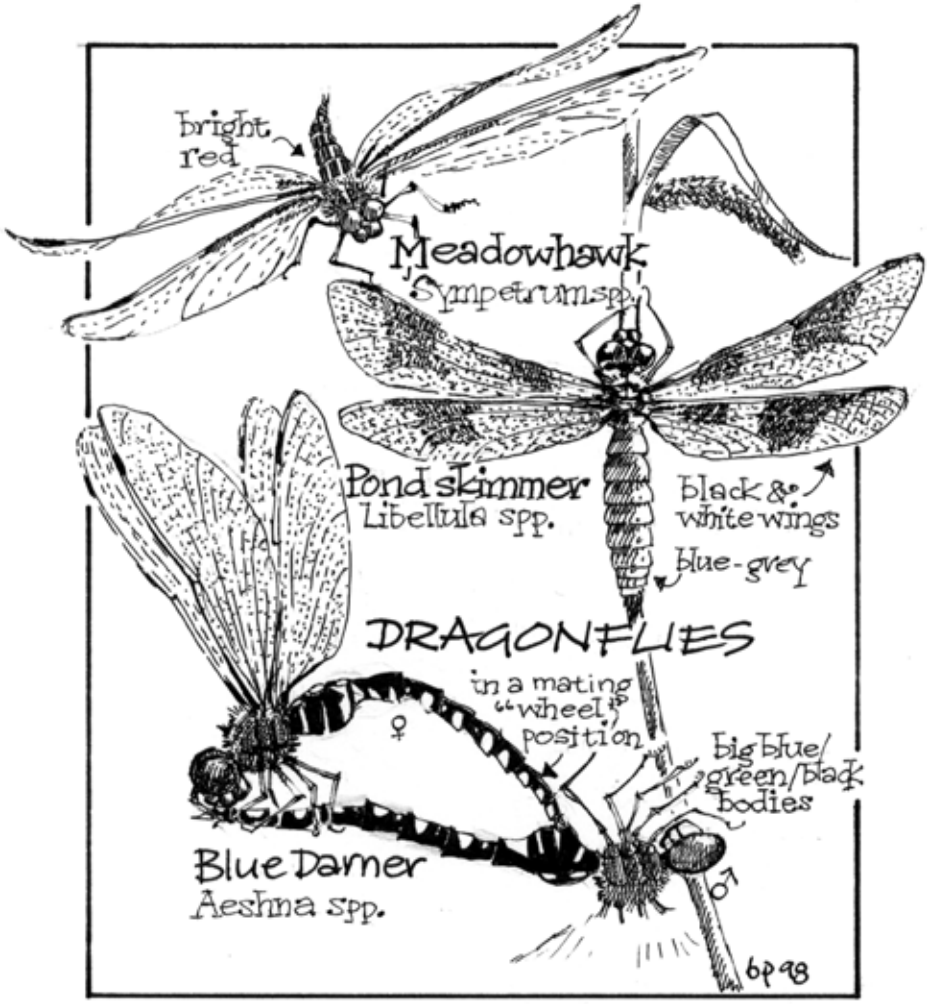
We are increasingly disconnected from nature—physically, economically and culturally. Community leaders are recognizing that we need to bring nature back into the fabric of people's lives not just for the obvious physical health benefits but for improving air quality, water quality, building resilience to climate change, mental health benefits, improving our diet, cultural vitality and a high quality of life. Ideas to capture people's imaginations and restore natural systems range from converting sidewalks into native plant meadows and building tunnels for amphibian crossings to adopting 100 mile principles to what we eat and build with.

SECTION 1.1

Restoring the Nature of Cities: Portland's City Repair

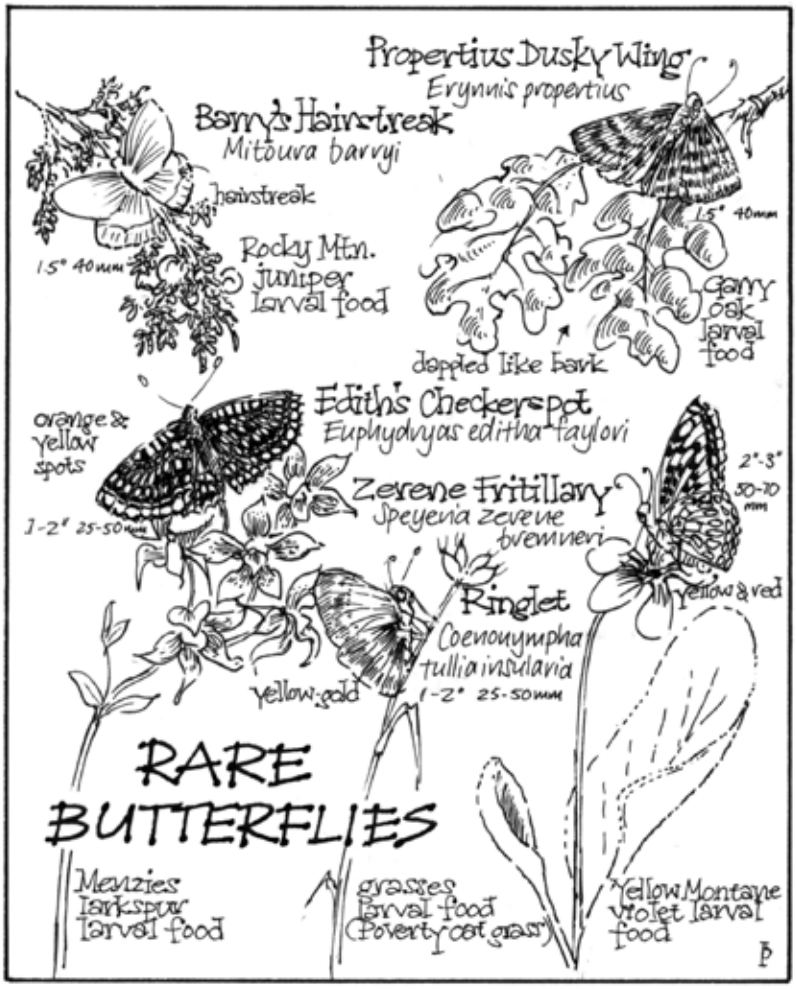
A city with a history of outspoken champions for its natural beauty and heritage, Portland Oregon has at its setting the Willamette Valley—a unique landscape of oak savannah and riparian ecosystems. The landscape has attracted a long and wide history of advocates who have created the most sustainable livable city in North America. Portland is also one of the cities most aware of its biological heritage. What has set Portland apart from other cities is a long and close partnership between government and non-profit groups that has led to some of the most progressive legislation and land-use practices in any jurisdiction. Mark Lakeman, with the non-profit group City Repair, is one of the latest of the city's advocates for urban ecology. City Repair has revolutionized the way people inhabit cities from digging up intersections and planting butterfly gardens to converting city storm drains into bioswales. Lakeman attributes the openness of the city to a long history of support for environmental practices.

One of the most progressive politicians that set the standard for local land use practices was the legendary governor of Oregon, Tom McCall who in the 1960s passed legislation to clean up the Willamette and the first statewide land-use planning system that established urban growth boundaries around Portland and other state cities. McCall, a broadcaster by profession, produced and hosted an award-winning documentary called *Pollution in Paradise*, which drew attention to the environmental condition of the Willamette region. He started a



non-profit environmental organization in whose goal was to "build community through volunteer action to preserve this treasure called Oregon." The organization is still going and is involved in ecological restoration and removal of invasive species.

Lakeman followed on that tradition with City Repair, which, as he puts it, "provides the conditions for people in the city to feel connected to each other and the wilder wider world." They do that by all sorts of methods: engaging physically, bringing people together in highly focused ways and modelling a society that chooses to care about the world. They engage people in projects that raise an awareness through projects that tear up pavement and put in a neighbourhood greenspace. Once people realize that they are part of the ecology of the area, then they can extend



their awareness into bioswales and native plant gardening, butterfly gardens, block repairs and pathways that humans and creatures follow.

City Repair use whatever cultural tools are at their disposal like storytelling, costume and celebrations. "We can install all sorts of things like tearing up pavement, but they will be paved up again unless we transform consciousness." Consciousness is transforming in the city and the benefits are profound. Portland has the most courteous drivers in the world and plummeting car miles per capita. Some of the trends of disappearing species are reversing. There is a rise in green, natural and retrofitted buildings and community farms, using principles of 'communitecture'. At the microscale there are signs everywhere of a

city that cares from a solar-powered monument to native species in an intersection. “People say they love this city and it shows.”

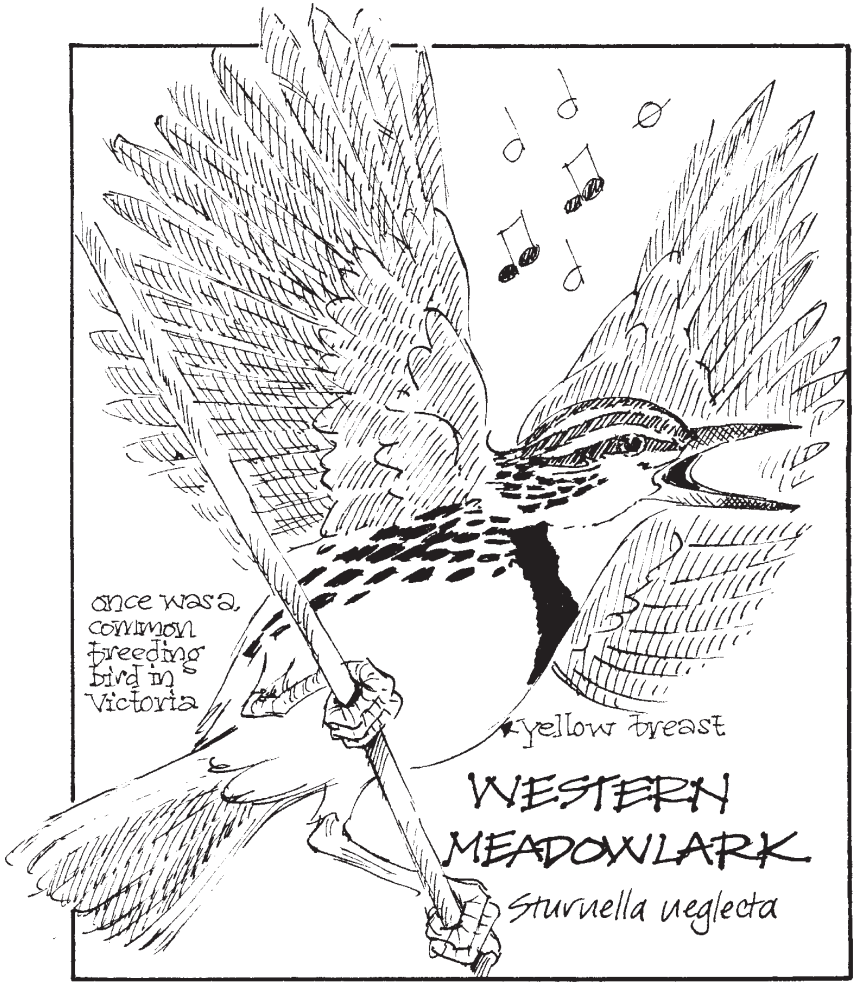
City Repair doesn’t have a conventional top-down structure, but has decentralised into different incubated communities that receive support. They work with city government all the time and as a non-profit provide fundraising systems with paid staff, who are there to “change the political structure” and “forge community/civil service partnerships.” As Lakeman observes, when people intersect with the changes, it changes them. “Our strategy is to put these things in places where people who never expected to see things are seeing them.” As the city website boasts, “the most striking credit to Portland’s sustainability is its attitude.”

SECTION 1.2

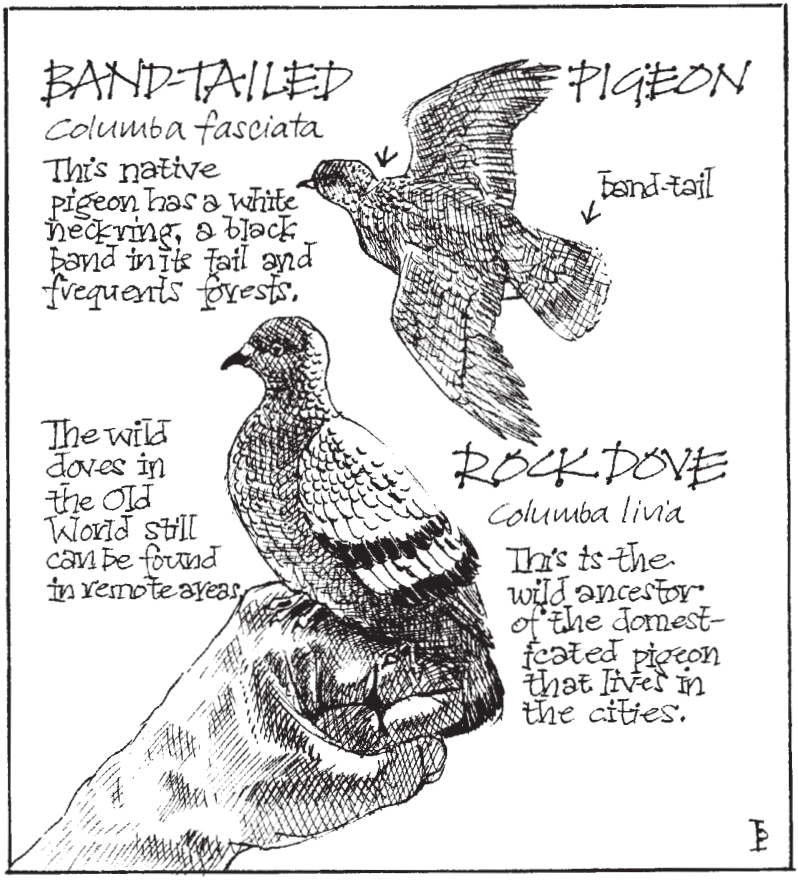
Connecting the Public to Nature through Investment in Conservation

Tim Wahl grew up in Bellingham when there were still large expanses of coastal oak savannah and old growth Douglas fir forests. His father, a reknowned ornithologist would take his sons to these wild places while he searched for birds. "We were exploring and soaking up those place as kids, our eyes filled with scenes like flocks of band tailed pigeons sitting in arbutus eating up the berries." In his adult life, Wahl has been the mover and shaker of Bellingham's Greenways acquisition project over the last 25 years. "It sure motivated me [to protect nature]: the loss of the old and the sweet… savannah sparrows, meadowlarks, tree frogs, and big, old trees. Unfortunately not too many people see these things anymore; they have never lived in one place long enough with their eyes and ears open to wild things."

Wahl was the master mind behind a Greenways Strategy to purchase conservation lands, and has been so successful in implementing it that the community continues to vote for the tax levy that funds the strategy even during economic downturns. What sets him apart is his ability to engage, educate and inform the public about the properties that they are acquiring. "Open and wild land investments can be invisible to many of the investor/taxpayers, even ones concerned about loss of these resources… so we need to sign them, tour them, imbue them with story, build a few trails on them…51% of the people can lose track of them



if you don't, and they vote." Wahl has helped create a widely accepted community greenway concept, which consists of a variety of properties from intact ecological areas to gravel pits, which he has restored with local support and resources. "As a kid, it was places close at hand and in daily life that made an impression, so that is where my emphasis is." Extensive public information accompanies every place and the properties themselves become important landmarks, from a community green burial site to the Chuckanut heritage property that protects both heritage values and ecological values. "In motivating our community to invest in the preservation of open land and wild land I observe that it works because of people, it's their sweat and taxes and, in the case of sellers, their personal property."



He works extensively with community groups, landowners and land trusts to identify properties to buy as well as create ownership around the places that are protected. Accessibility to the sites is created whenever possible. Wahl admits that in terms of biodiversity protection in urban areas, there is a lot that we don't know about the success of species protection. "These are systems in flux and we don't know what will be inhabiting these urban wild areas in the next few decades, it may be that human gestures to conserve are more important right now than the actual act of doing it."

Over the years, Wahl has helped acquire over 750 acres of wild lands, produced green maps highlighting the green corridors of the city including the largest continuous bit of publicly-owned parcel of land along the shoreline. One of his biggest successes he notes was achieved while out meeting large landowners interested in conservation easements to act as

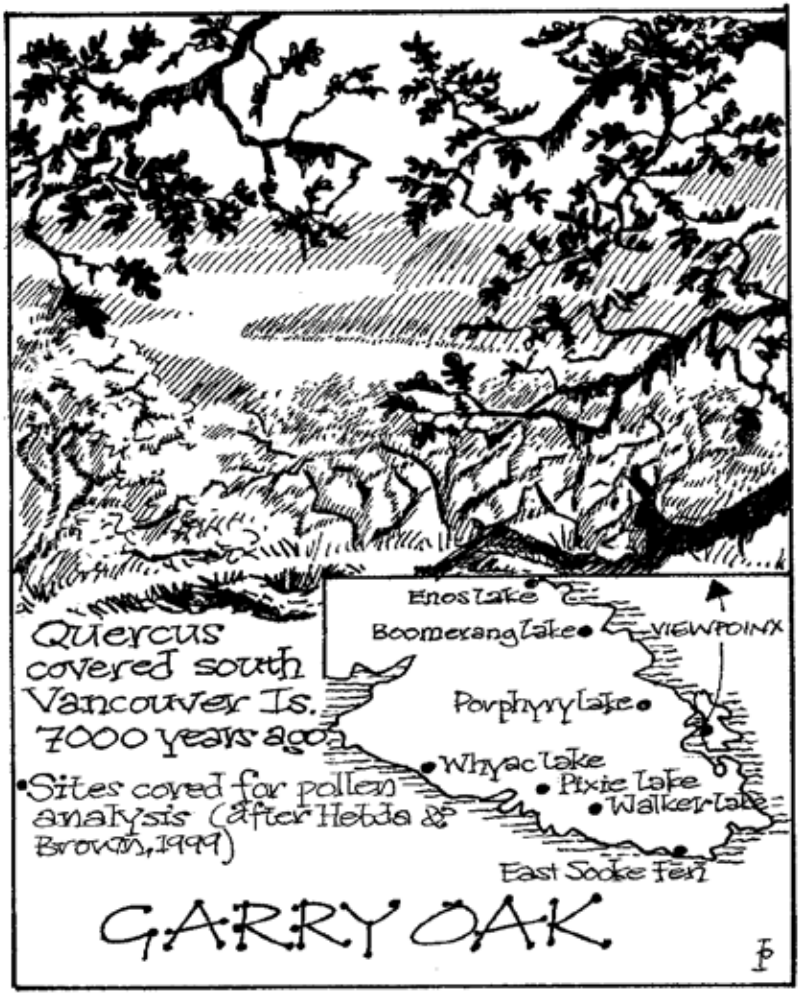
buffers to the greenways. “I was talking to an oil executive who started off quite cool to me as a government employee but he mentioned that he had enjoyed hunting band-tailed pigeons as a child. I told him that this project included habitat that band-tailed pigeons could use. At that moment, I knew that he would support us. We need to respond to each other as humans and there seems to be no substitute for it.”

SECTION 1.3

Mapping Cherished Places to Build Community

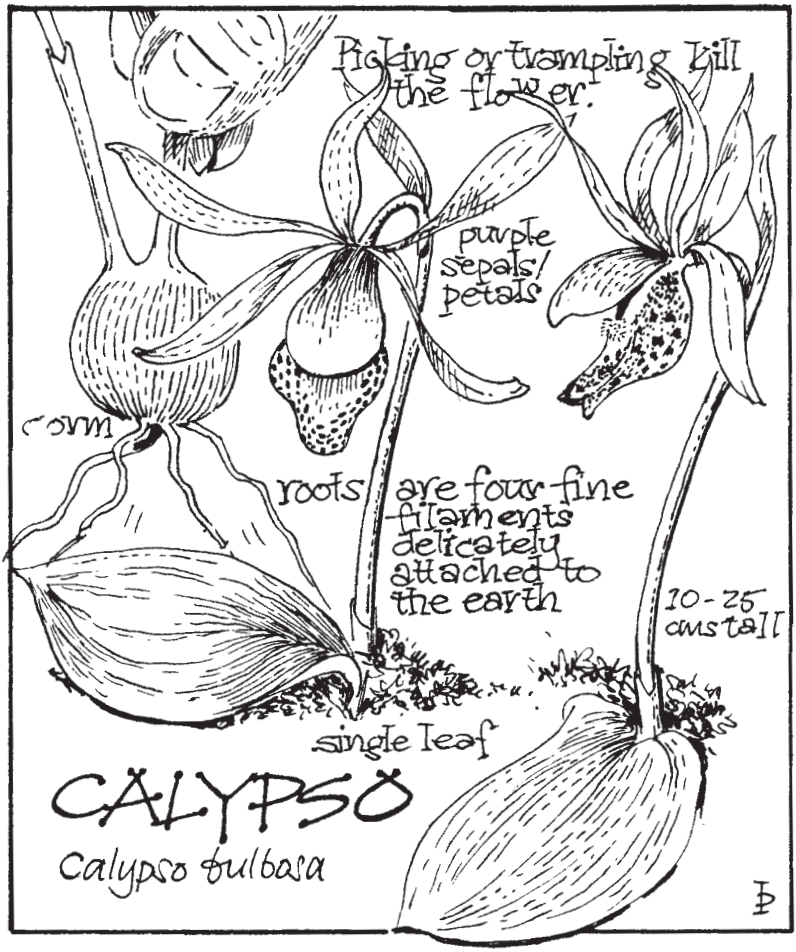
For years the incessant noise of traffic had disrupted the gentler sounds and patterns of wildlife and village life in Aveton Gifford, England. With the opening of a bypass that took the traffic out of the village, the villagers took to the now quiet streets in a great party during which they pledged to rediscover and cherish the wildlife, flora and heritage buildings that they had missed over the years. Inspired by an idea of a local map that captured these feelings for place from the environmental organization, Common Ground, a core group of local people pulled together a mapping committee. Local historians, artists, teachers and local government officials set up local walks, school programs, photo contests and research parties that would wander the small village with the intention of recording what villagers loved about their village. School children shared their stories of magical hedgerows and owls in haunted barns while the evening research parties often ended up in the pub debating over important land use issues. The final map was printed by local government and the proceeds went to restoring heritage landmarks and small local habitats.

Common Ground was the brainchild of campaigners for wildlife Sue Clifford and Angela King and writer Richard Deakin back in 1982. Unique in the environmental movement of the time, they were drawn to focusing on the small, the particular and the possible rather than the huge, the general and the overwhelming issues of the time. They argued that the current laws of only protecting the special and the rare left people out of the equation because it sent a message that these places and species



weren't worth fighting for. "From the beginning we knew in our hearts that unless we argued for the commonplace and made our everyday surroundings the best we could make them, that we would always lose the special and the endangered in the end, because they would be left as islands.' Common Ground focuses on the creative tools to get across their message—art, poetry, sculpture, and of course maps.

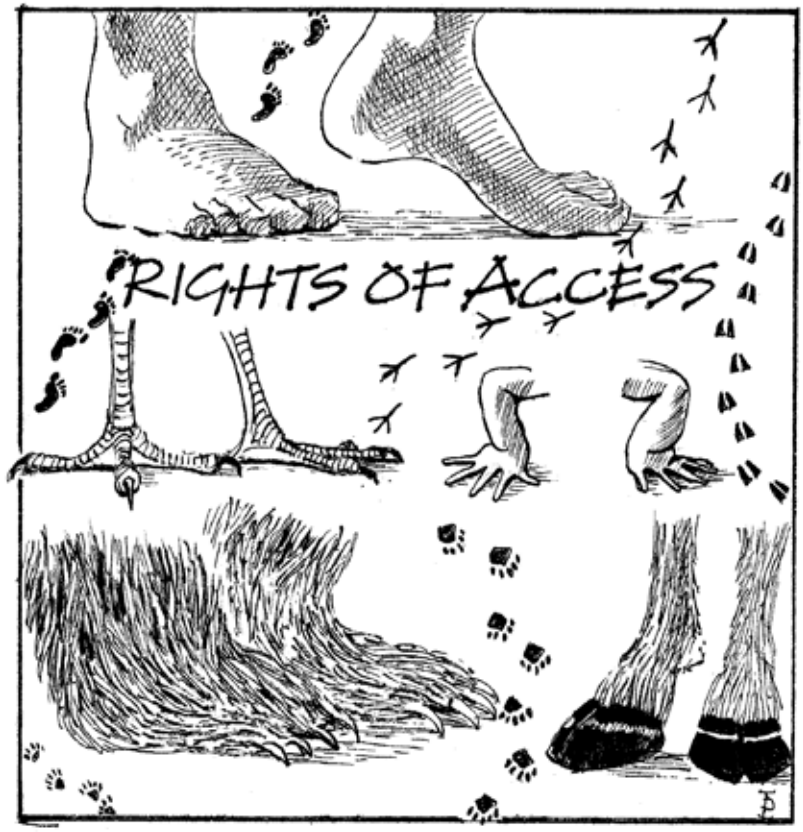
The success of the project was replicated in hundreds of rural communities in Britain and brought together in a book by Common Ground. The idea for these maps caught on all around the world. Islanders in the Gulf Islands of British Columbia, encouraged by the success of the project in Britain, initiated their own mapping project and mapped their islands



during the millennium year. These islands, like many beautiful places, were threatened from over development. Islanders on sixteen islands, integrated GIS mapped information about rare and endangered species available from government maps with local knowledge and the location of locally important habitats and ecosystems. The maps were used as a tool to raise awareness about places that weren't being protected under the usual planning tools and designations—from patches of wildflowers and coastal trails to eel grass beds and sacred sites—especially to incoming residents. One of the goals was to start a process by which natural areas and habitats cherished by local people would get on to the local planning maps, not just as Clifford and King called, the rare and endangered.

Mapping the Cities

Inspired by the success of green maps to engage local people in conservation, New Yorker Wendy Brauer scaled up the green map idea to an urban context and created the first green map of New York City in 1992. Calling it the Green Apple Map, she aimed it at anyone in New York who wanted to discover a greener face of New York. She used all the same tools of linking community to the landscape as Common Ground, but used modern cartographic techniques to produce the maps. She took the idea of urban map symbols for gas stations, banks and parking lots and adapted them to green themes. Symbols identify different types of habitat, wildlife watching areas, special trees and even amphibian migration crossings. Green maps have been made by hundreds of communities around the world to map the sustainable aspects of their cities including their urban wildlife and heritage.



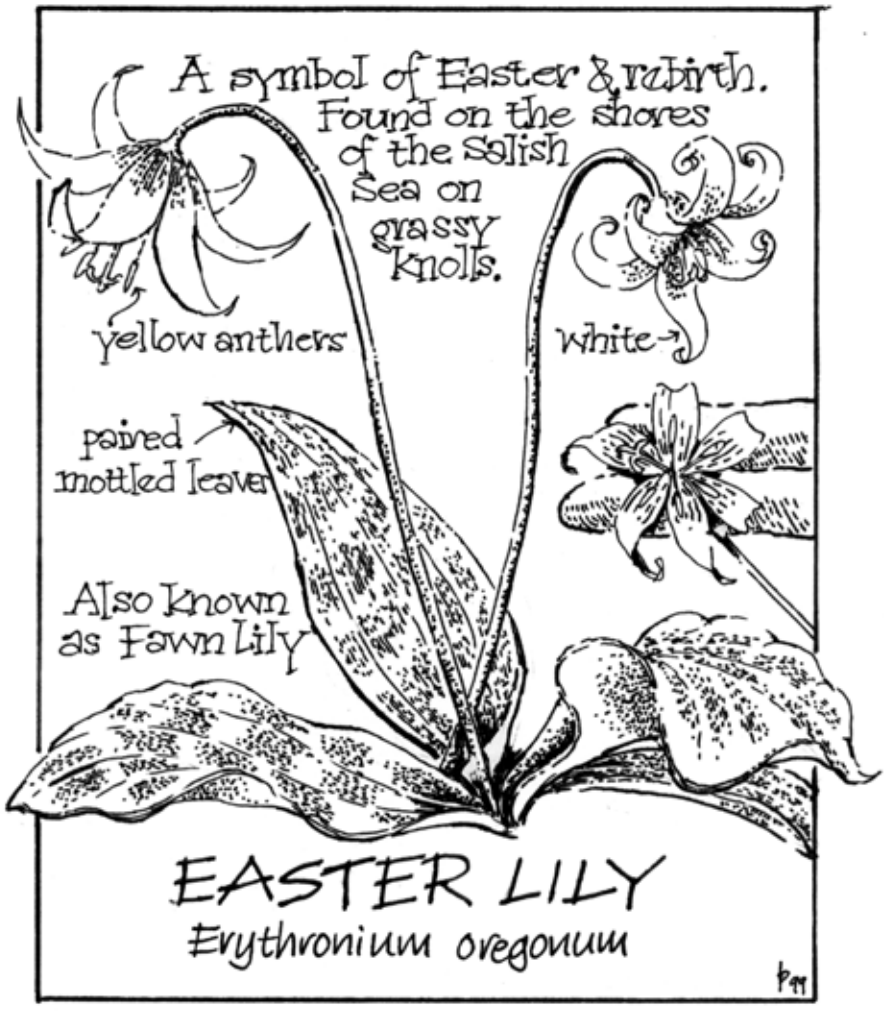
SECTION 1.4

Restoring Nature, Mind and Soul in the City

Joe Percival can be found every Tuesday and Thursday morning in the Garry oak woodlands of Government House, in Victoria, BC with his team of restorationists—regardless of the weather. Easily picked out amongst the oaks with his silver beard and quick smile, Joe is the guide and spirit behind the ecological restoration work program of Laurel House—the educational branch of the Capital Mental Health Association—that offers work for people restoring their own lives disrupted by mental illness. This is the twelfth year that Joe has brought members of Laurel House (a ten minute walk away) to the woodlands to restore the native flora and fauna of this inner city wilderness; and the results are stunning—for both the land and his community.

"People come to Laurel House from all sorts of backgrounds with mental illness. Regardless of their illness, they see it as incredibly healing to do this work." Some members have been with Joe for all twelve years and wear that honour with pride. Joe tells me that some winter days it might be pouring with rain or snowing and the team won't let him cancel their appointment with the hillside. "It has become their place of which they are the stewards," Percival says. "We might slog away all winter clearing broom and daphne, but members see the results in the spring of wildflower meadows, bursting with colour, beauty and life. They see how significant their work is."

Percival sees the direct relationship of healing the land with healing the mind. A keen naturalist, as well as having a degree in counselling



psychology, comparative religious studies and then a diploma in ecosystem restoration from the University of Victoria, Percival seamlessly marries all interests in his restoration program. "Working in wild lands, under an open sky, touching the earth balances my own life, so it seemed to me that it would be helpful for other folks." Ecological restoration is one key practice of a therapy called horticultural therapy. Most people are familiar with the practice of healing through gardening of domesticated plants and vegetables—but Percival says that working with wild plants takes the human spirit one step more. "This work brings a more universal perspective. Rather than gardening for oneself, we are working

directly for the planet itself. It gets us into a transcendence of ourself and into the great dance of all life. I can't see how that can't help that person and heal them whatever their problems are."

Joe has helped set up the BC chapter of the BC Horticultural Therapy Association, to expand his program, born in the lush west coast. I ask him if it is a model that others are looking at too. "It certainly bears a massive replication." Training for this work necessarily starts in the field and he is passing on his field skills in ethnobotany to team members. Ethnobotany is the accumulated knowledge of people who had lived for thousands of years on the land. "Traditional knowledge makes you a much more balanced person because you understand what is happening

in the forest, the meadow, the seashore that you are walking through. You feel connected." In addition to practical skills, members have witnessed the deer, the snakes and lizards, the turkey vultures, the songbirds, the hummingbirds and butterflies as well as all the wildflowers come back to this land over the twelve years. "Undoing some of the harm by assisting the earth to heal from the degradation and destruction is healing. We are attempting in our own small way to protect biodiversity."

Percival's team averages between 7 and 12 members over the years and covers a full spectrum of ages, men and women. "Working elbow to elbow with all these folks has been wonderful. We are so privileged to have such a large Garry oak meadow right in the middle of the city and we are so lucky to have been part of its restoration. This really highlights the importance of having wild areas in cities."

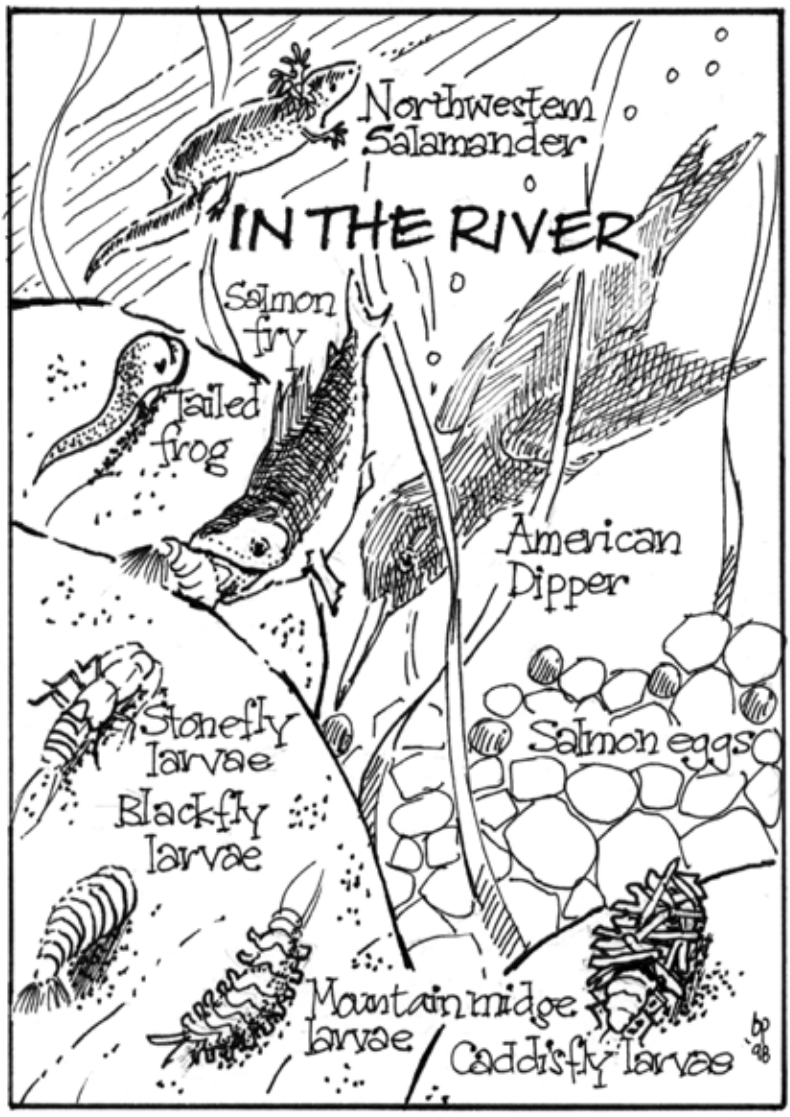
SECTION 1.5

Biodiversity Blitz: Engaging Community with Nature

In less than 24 hours, a group of scientists (teamed up with interested community members) had completed an inventory of all the living things they could find—a biodiversity blitz—in a small semi-wilderness park in the heart of the city of Ottawa. Together the participants of the research day found new lichens and microfungi for Canada and discovered that water quality in a creek had so improved that some fresh water invertebrates, which were believed extirpated from the region, had returned.

It was organizer, Heather Hamilton's first foray into biodiversity blitzes and certainly not her last. She had read about earlier blitzes conducted in Washington and thought it was the perfect way to engage the attention of the public on local issues of biodiversity. The blitzes consisted of holding a well-advertised day in which scientists, public and media were invited and challenged to draw up a list of all species found on the site—different specialists focusing on different flora and fauna groups. Hamilton notes that "we modified the idea from just scientists working for their own benefit to throwing it open to the public to see how scientists work and give them exposure to everything from lichen to fish!

Hamilton had recently started the Canadian Biodiversity Institute and was looking for tools to educate the public while providing protection for key areas and species at risk. She took the positive results generated from her first blitz to a national campaign that helped other organizations across Canada mount their own. One of the biggest rewards for Hamilton, other than raising awareness to protect areas, was seeing how

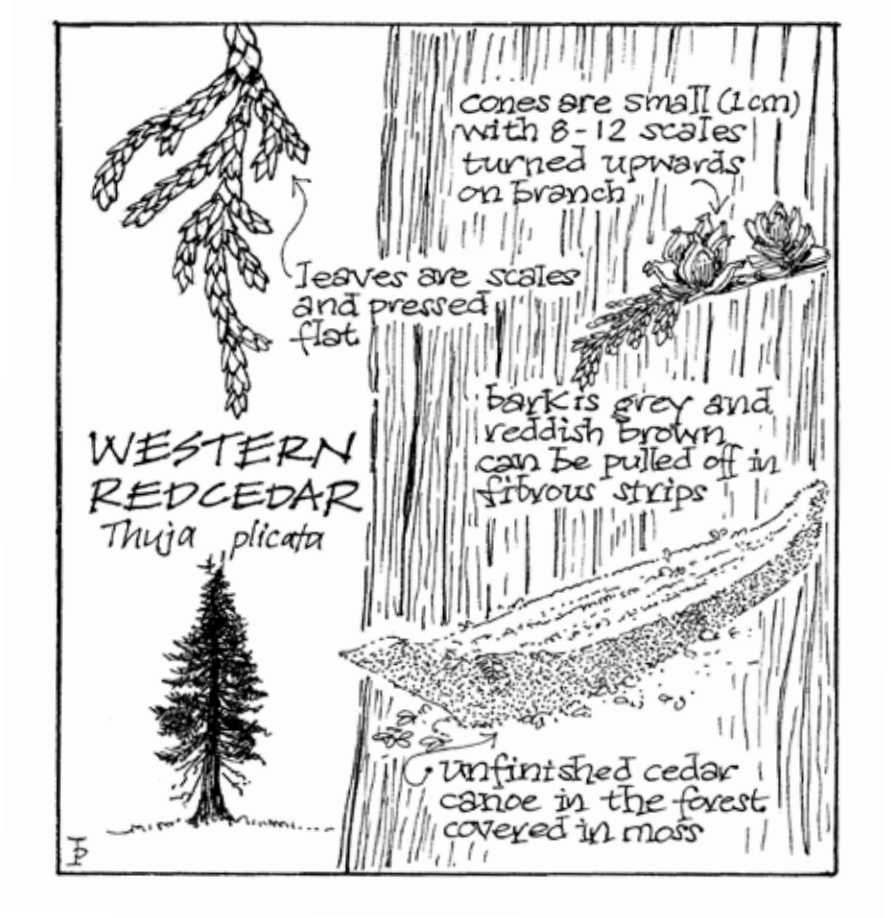


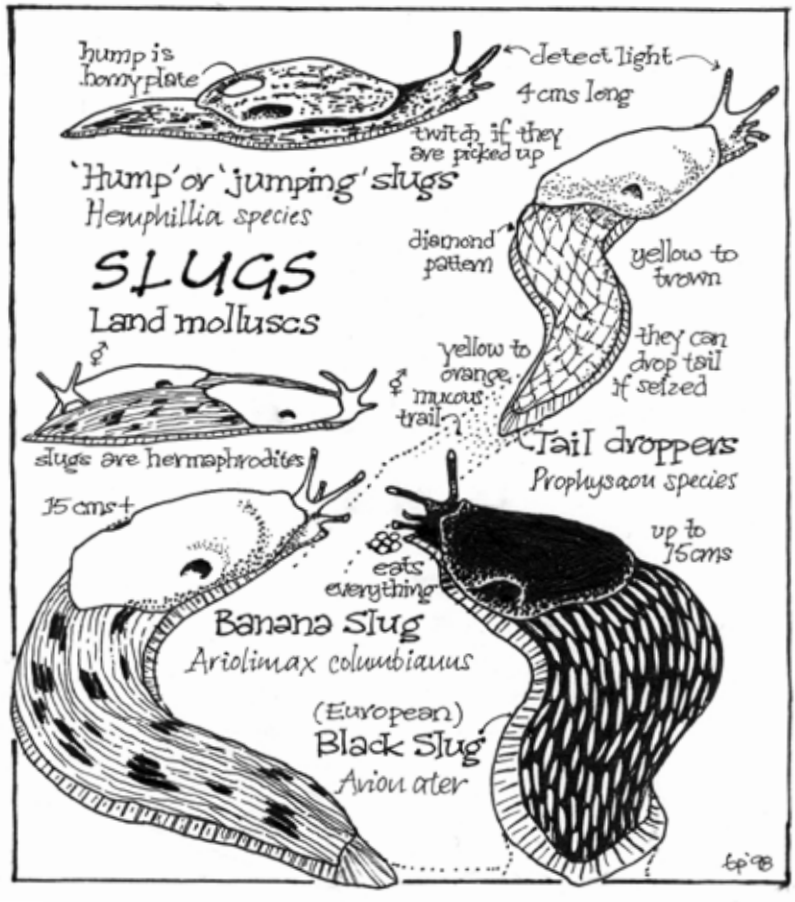
both sides benefited from the experience. "A lot of the scientists had a great interest and enjoyed showing people what they did."

Out of the Biodiversity Blitz came other opportunities for Hamilton like opening natural history exhibits and a task force for city plans on biodiversity. A blitz held at McCallum Marsh brought 120 kids together and provided the impetus behind their involvement in the 2009 International Youth Biodiversity Conference.

Creekside Rainforest

On the other side of the country, Maureen Moore was struggling to raise a million dollars to save a patch of rainforest on Saltspring Island where rainforest was in short supply. A stretch of Cusheon Creek with a patch of old growth redcedar forest was at risk from development and Moore was determined to save the land that was close to her heart. One of the difficulties lay in convincing donors from foundations and government of the biological importance of the area. Although she intuitively knew that it was important, little biological inventory work had been done on the land since it had been in private hands for years and was little known to the scientific community. The time frame on getting the work done as well as raising the money was very short as the land was for sale and keeping the option to purchase the land was expensive.





Moore and other volunteers, including The Land Conservancy of BC, put the word out to scientists from a range of disciplines including, moss specialists, ecologists, gastropod specialists, fish biologists, herptologists, as well as archaeologists for the cultural values, to volunteer their time to do a biological inventory of the land over 24 hours. Volunteers prepared food, and offered accommodation, the press were alerted and the team assembled for a Biodiversity Blitz on the property. The outcome of the blitz provided a list of species on the land, an evaluation of the rarity of the ecosystem as well as cultural features, such as culturally-modified cedar trees. Rare mosses, gastropods, several species at risk including red-legged frogs, cutthroat trout, great blue heron nests, and unusual lichens were identified. The blitz gave much needed public awareness to the property, established the necessary ecological critera for donors and led to the raising of the million dollars to save the land.

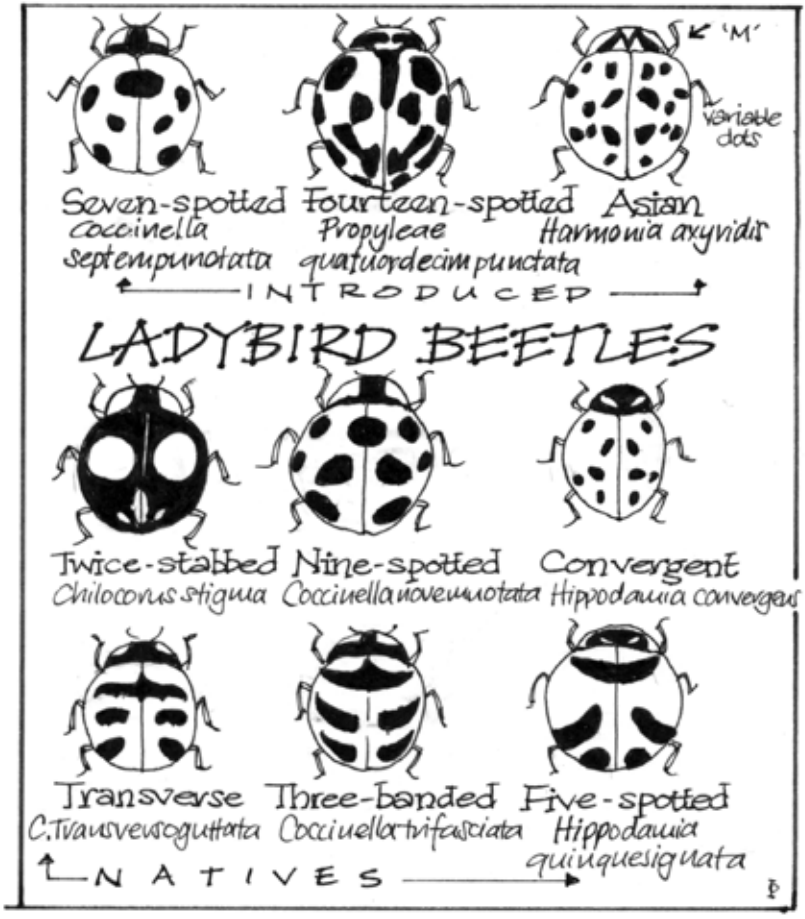
SECTION 1.6

Building the Bond: Reconnecting Urban Kids to Nature

Mia Torr runs an outdoor education program in the heart of Vancouver with her organization, Stanley Park Ecology Society. Most of the kids come to the programs with very little experience in nature. She always starts the younger classes out with a bug hunt because it a quick way for kids to lose their shyness and have a first intimate encounter with something alive.

One day, a tiny girl appeared at her side with a ladybug in the jar she was given. "Look what I found," she said, "Can I keep it?" Mia responded in her usual way that the ladybird needed to go back to its family and its home, and they discussed the situation, when she noticed the teacher was staring at the two of them dumbfounded. After they let it go, Mia asked the teacher what was the matter. "She is autistic and has never spoken before." Mia describes this as a perfect example of why kids need to reconnect to nature.

Mia identifies one of the biggest obstacles for getting urban children reconnected to nature is the lack of accessible nature. Her own home park, Stanley Park, was a wonderful old growth forest in the urban area but suffered devastating blow downs with increasing storms. The learning area is now a jumble of downed trees with numbers of invasive species. "My job was made a little harder after the storm, because kids and teachers don't think that this place is nature anymore and that they



need wilderness to learn about it." These are her solutions to specifically urban problems.

"There is no wilderness to take them to." Don't worry about the perception that you need pristine wilderness to reconnect with nature. Children will start with whatever is there. Disturbed sites are a chance to learn about succession, pioneer communities and invasive species. They are also opportunities to engage in restoration, e.g., pulling off ivy from native trees.

"What about the dangers and liability?" Perception of dangers hugely outweigh reality. Make sure you have professionals running the programs.

"The biggest obstacle to getting children out is transport costs." There are some solutions such as the Parks and People program at Nature

Canada. Alternatives for non-profits are to move programs to locations walking distance from schools, a place along a bus route and eliminate transport barriers through program revenues and grants.

"Kids don't have appropriate outdoor gear." Look for donors to provide outdoor gear so that kids can stay warm and dry when outside on your programs— make it wacky so that kids will actually put it on. If their first time experience is uncomfortable then they might not come back.

Have snacks available at the beginning and at the end.

Join Children and Nature Network, www.cnaturenet.org for research info and sharing ideas to get kids outside.

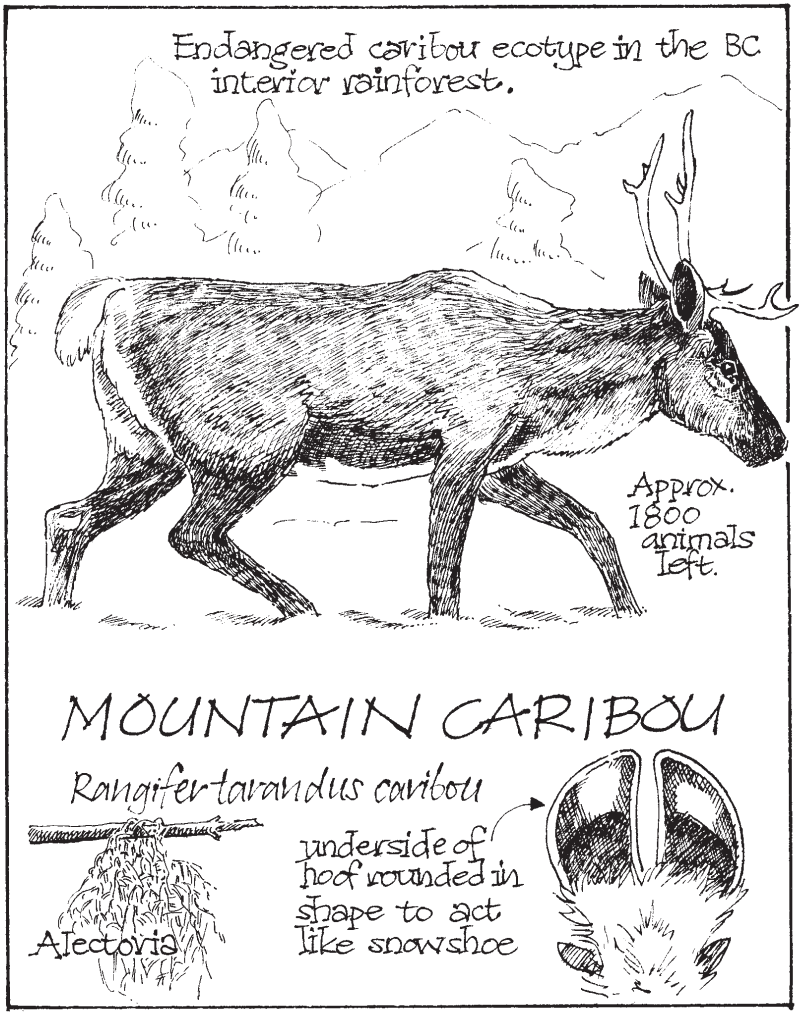
SECTION 1.7

Encouraging Life-long Loves for Wild Spaces

Close to the mining town of Castlegar, BC, there is a patch of old-growth forest surrounded by young forest through which a public trail winds. It is called the Mary Creek Trail and according to Monica Nissen, co-ordinator of the non-profit Wild Sight, it is a key teaching tool for connecting children to nature. Nissen's background of teaching outdoor skills has evolved into an innovative educational program that is now in its seventh year called Education in the Wild offering field trips that build upon the student's experiences as they move through the school system. The program starts with walks from school grounds to natural areas for younger children and ends up with week-long programs in the wilderness for the high school students.

Nissen describes what she feels is the key to the success of the program in connecting kids to nature—continuity and building on positive experiences. "We were out walking with a grade five class on the Mary Creek Trail and we were observing the different stages of the forest, when we came to the old growth forest. Usually we walk in silence through this forest. One student had been watching the trees, then got excited when we got the old forest because of all the lichens. She reminded me that I had taught her about lichens on an urban walk in Grade 1 and remembered that they were important food for the mountain caribou—an endangered species in the region. She figured out that this forest must be a special place for mountain caribou."

Pivotal to the program, according to Nissen, is building connections over the years through rich experiences without exposing kids to



perceived or actual risks. Fear of the outdoors is a growing phenomenon and Nissen with her Outward Bound experience realizes that progressively building confidence is critical. What she is seeing now are the graduates of their fieldtrip programs through the schools who come out with very deep connections to their place. One of her things she always tells the kids when they arrive at the old growth forest on the Mary Creek Trail is "solutions come from ancient wisdom."

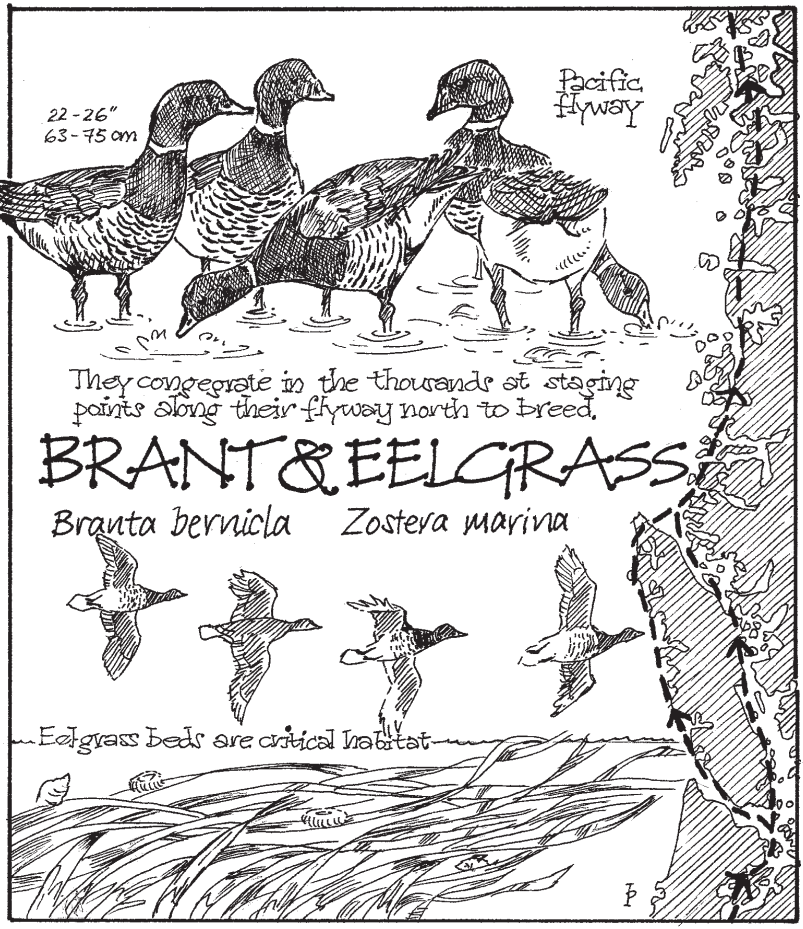
The Children & Nature Network (C&NN), www.childrenandnature.org, was created to encourage and support the people and organizations working to reconnect children with nature.

SECTION 1.8

Celebrating the Natural World with Wildlife Festivals

Back in 1988, Neil Dawe, a wildlife biologist with the Canadian Wildlife Service, was monitoring brant (a small goose) populations on eastern Vancouver Island during their spring migration, when he realized that both he and the brant needed help. He needed help reading the colour-coded leg bands of the migrating geese as part of his research on the numbers and behaviour of the population, while the geese needed help because their numbers were falling and one of the factors leading to their decline was disturbance of the geese by dogs and humans along the popular beaches. Every time the small geese were chased or approached, they would take flight and circle before coming back down to land, thus burning up important stores of fat required for breeding successfully up north. There was a federal regulation prohibiting the disturbance of migrating waterfowl but Dawe was monitoring numbers—public compliance was very low.

Dawe thought he could address both his needs and the geese by enlisting the help of the public. The initial project started out with Dawe recruiting local birdwatchers to read the leg bands on a regular basis. This data would lead to an understanding of how many times the brant reacted and took flight during daily interactions with dogs and people. The research identified that current levels of human use led to declined body condition, which was having a negative effect on breeding success. The raised awareness of the local community about the impacts of public use of beaches spawned a community event, the highly successful Brant Wildlife Festival.

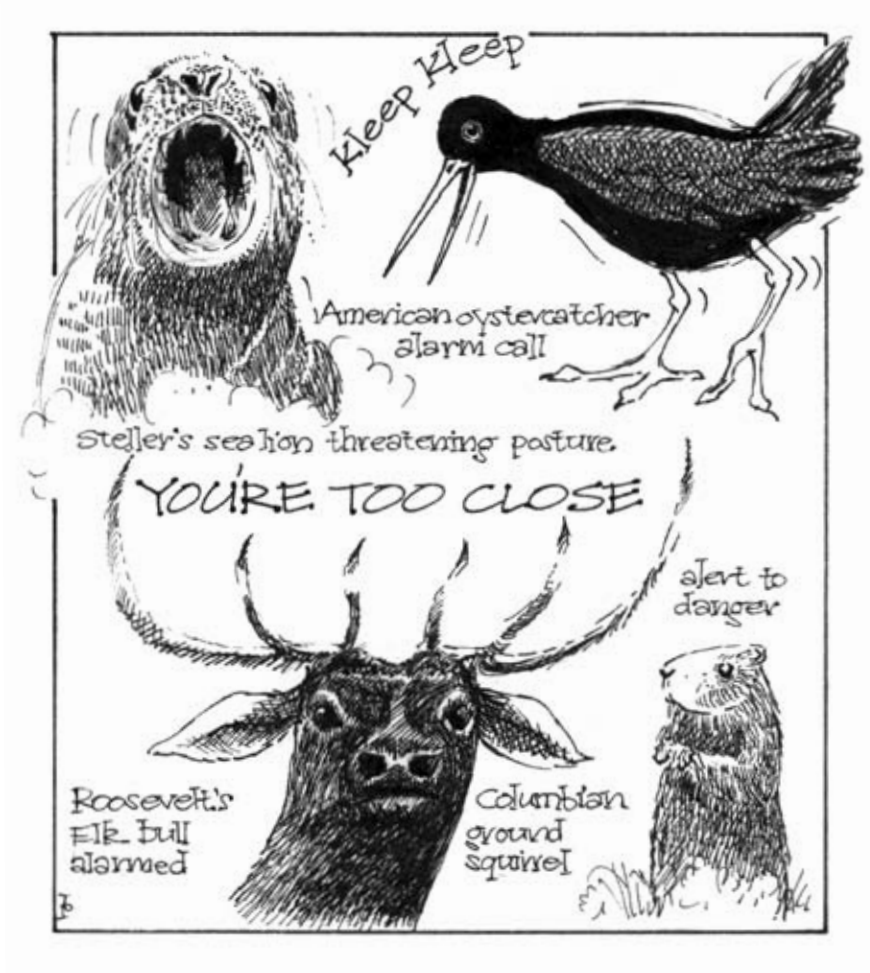


Under the direction of a local non-profit organization, the weekend long festival was launched in the two communities of Parksville and Qualicum in 1991. The theme of the festival was to celebrate the return of the brant to the community, while the goal was to reduce disturbance to the birds by raising awareness of their feeding needs. The festival committee tapped into various tools of community outreach; family spring holiday activities, easy wildlife viewing with special signs, maps and literature, bird count competitions, art shows and wildlife carving competitions. Local businesses, grateful for an excuse to extend their peak tourist season into spring, happily participated by selling Brant packages complete with brant banners and buttons.

Now in its 20th year the project has at many levels become highly successful. Most notably, designations of Wildlife Management Areas

were easily accepted by the community, which led to the protection of virtually all the critical staging habitat and ensured spring closures of beaches. Much of the success of getting the closures was due to the fact that public wildlife viewing areas were retained and residents understood why.

One of the most important aspects of Dawe's research is that there is 20 years of data monitoring the disturbance rate. It is one of the few public outreach projects in which there is some direct evidence for the relative efficacy of public education on the health of a population. Despite all the outreach and securing of habitat, the disturbance rate has remained the same. However, Dawe points out in his research that the population in these communities has experienced a 50% increase with associated urban sprawl. In essence the outreach has been successful but



has not been able to keep pace with the growing population's demands for space and the external impacts of economic growth on these small islands of conservation. Dawe's conclusion is as follows:

"These orthodox actions alone, are not conserving biodiversity at a scale anywhere near what we'd hoped – and certainly not at the level needed for our own continued survival, as suggested by the results of the Millennium Ecosystem Assessment in 2005. We've been too intent on addressing only the symptoms; all the while the source of the problem continues to erode the natural ecosystems and their attendant biodiversity — economic growth."

SECTION 1.9

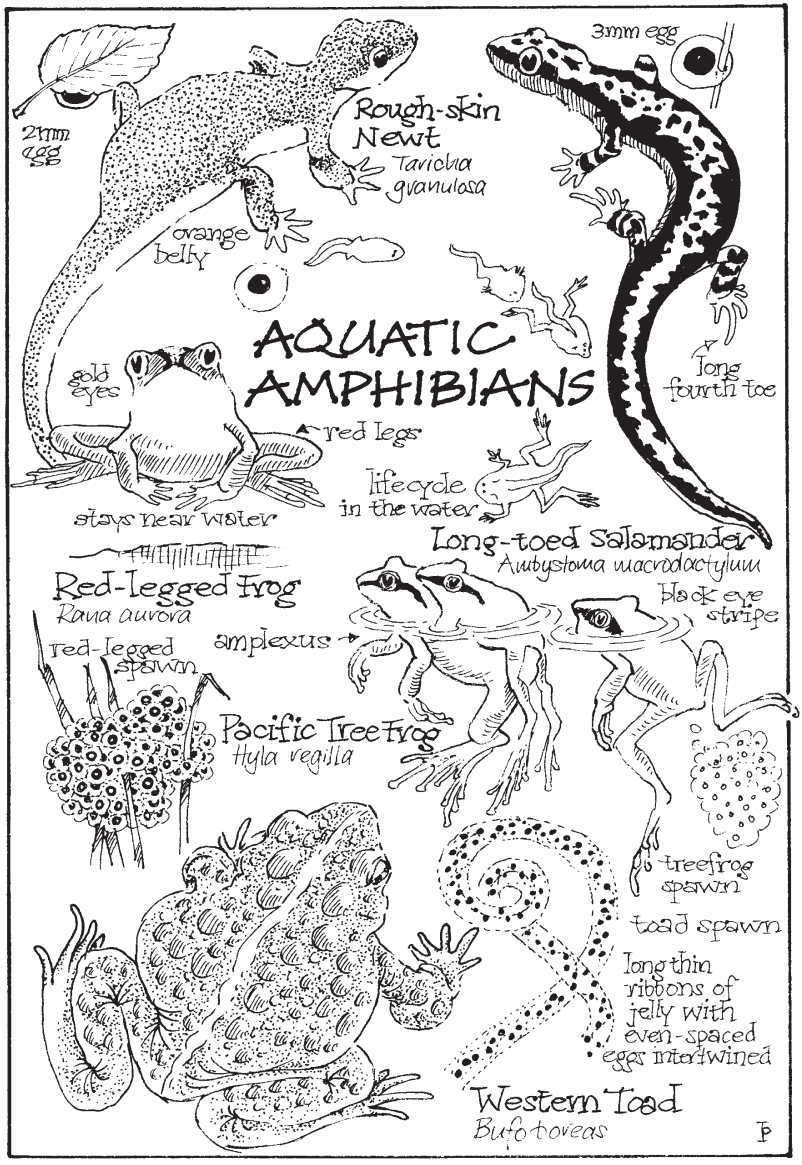
SPLAT to the Rescue: Tunneling for Toads and other Amphibians

Few things deter male red-legged frogs and other amphibians from migrating during the spring to the shaded rainforest swamps where they breed. Two things that will stop them dead are habitat destruction and road crossings. Incremental impacts like road kill have put the red-legged frogs, like one in three of the 5,743 amphibian species in the world, on the species at risk list. Community biologist Barb Beasley discovered that involving communities with road kill issues can raise awareness about habitat destruction and then you can save two frogs with one idea.

Beasley works on conservation projects integrating her research with citizen science and education in her remote community that lies next to Pacific Rim National Park on the rugged west coast of Vancouver Island, BC. "I was out one spring, trying to talk a forester into leaving at least a buffer around the breeding habitat in this forest block due to be logged, when we came out onto the road. He noticed numbers of frogs, salamanders and newts and said, "Boy, you're worried about the frogs in the forest but what about all these squished ones? What are you doing about that?" Beasley realized that the road kill had to be addressed if they were to get anywhere on the habitat issue. But it also made her realize there was an opportunity to raise awareness at the same time. Beasley immediately set to work and launched a community project SPLAT (Some Poor Little Amphibian Trampled) to stop the road kill.

Residents of the two communities on either side of the park were familiar and upset with the seasonal carnage so she found it easy to conscript volunteers to work on her project. They started by collecting data on when and where the major crossings were on the road. This required heading out in the early mornings during a seasonal migration and recording the number, species and location of road kills on that stretch of road. Armed with that information, the group set up trial fencing and phase two of SPLAT was ready to go. With fences tunnelling the amphibians to a corral at each crossing hot spot, they could monitor numbers and species, time and conditions of the migration and move them by hand over to the other side. This data would provide information to assess different solutions. Beasley said, "that experience of saving the amphibians while doing research was good for community karma!"

This next set of data suggested that between 70–88% of the animals crossed that particular road safely at the dead of night, when there was little traffic, but losing 12–30% of the animals every year on those rainy spring and autumn evenings was going to have long term implication for a population without human assistance. The type of assistance was the next question. The simple answer, used by many communities, is



a limited road closure during the migration period—typically, the first four or five warm rainy nights of spring and autumn. For example, local residents alerted Queen Elizabeth that the royal toads of Holyrood Park, in Edinburgh, Scotland were being squished during their migration, and now there is an annual road closure around the first week in April which always brings with it public events. A Pennsylvania naturalist, John Serrao, brought about the temporary road closure of the Delaware Water Gap National Recreation Areas where one March he saw more than 700 amphibians squished in a 200 metre stretch of road. Both roads were not essential critical transit corridors however and the solution has worked.

Where you have more critical transit corridors, amphibian tunnels have been used. Tunnels are not new; Europeans have been constructing them for decades and the first tunnel in North America was the successful Henry Street Tunnel in Massachusetts built in 1987 to provide a safe crossing for the spotted salamanders. Since then, well over one hundred have been built in the US and Canada. Key elements that make the tunnels work are maintaining light, air and moisture in the tunnels and locating them at strategic crossing points without overly long fences.

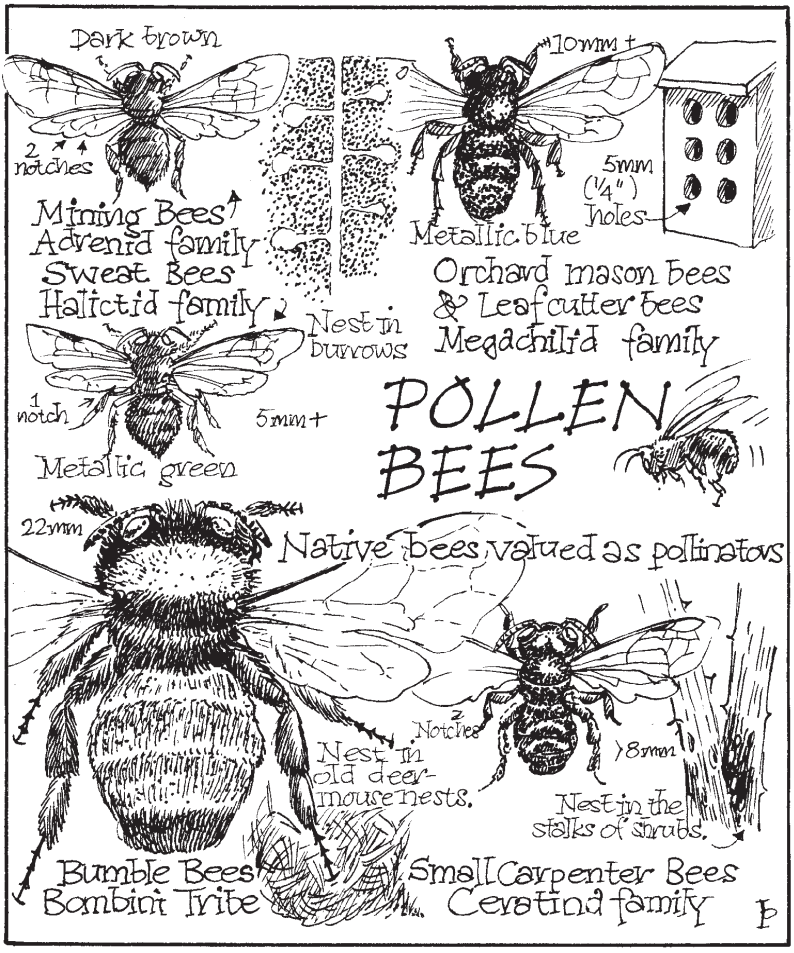
Beasley is hoping to get at least one tunnel built on her stretch of road where she has estimated the biggest traffic. If not then the annual carry over will be in place, bonding people to amphibians. The biggest benefit from the project, according to Beasley, has been community involvement. "People see and feel empathy for the road kill, they learn about the natural history and then start taking an interest in surrounding land use issues. That way it isn't just a biologist in the forest arguing to save habitat but a community."

SECTION 1.10

Saving the Bees: Supporting Pollinators of Good Ideas

For many people, bees are simply the generic honeybee that appears on the Honey Nut Cheerio box providing further evidence of the indomitable power of corporate logos. However, there are over 3,300 species of bees in North America—30 to 35 species of wild bees can be found in the city of Vancouver alone. These bees are our main pollinators of vegetables and fruit trees and many flowers but they aren't found in manicured gardens. They are found in wild, messy places of old railway corridors, clumps of long grass, thickets of salal and salmonberries, dead trees, decaying logs and banks of earth. The wild bees they find fall mostly into five main tribes: Bombini, the gregarious colonizing bumble bees of which there are two main species, distinguished by "the colours of their bums;" the Mason Bee tribe, most notably the Blue (or Orchard) Mason bee (Osmia lignaria), the gentle solitary little blue-back bee that is becoming quite a celebrated addition to households by the manufacture of mason bee homes,; the Andrena tribe or mining bees that burrow in tunnels in the ground often in colonies; the Ceratina tribe, small carpenter bees that excavate galleries in the piths of stems like huckleberries and salmonberries; and the Halictid tribe which are tiny little dark metallic green bees that are very fast but are attracted by sweat and might hover near you as you pant in the garden. The introduced domesticated honey bees found on the Cheerio box are declining because of mite infestations.

Rex Welland didn't start out concerned about the native bees in his backyard, he was just worried about pollination generally of his apple



trees. As a specialist in heritage apples, he started noticing 25 years ago that his apples weren't being pollinated adequately. Typically apples produce 10 to 20 seeds depending on the variety so when seed numbers drop he knew he had to work on finding alternatives to the imported honey bees whose population had dropped from mite infestations. He read in a magazine about attracting the native blue orchard bee by drilling holes in a block of wood so he tried it. "The first year, a couple of holes were filled by bee cocoons and after that I just kept getting more and more interested in what was going on."

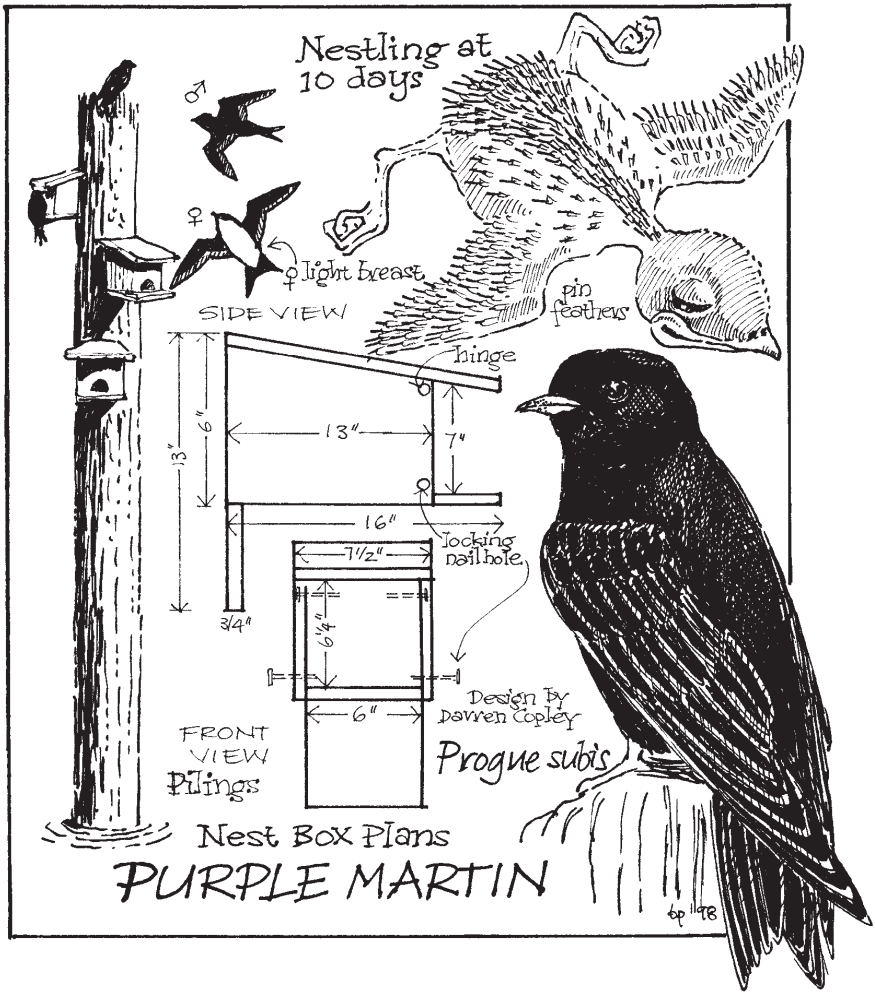
Rex has come to be known locally on Vancouver Island as the bee man and the apple man. He has perfected the means of attracting seven or more native species of bees. Instead of drilling holes in wood, he is now

making slotted trays, which enable him to strip them each year of the cocoons and avoid infestations of a different type of mite. They all have different times of emerging and specific requirements in their habitat. In his peak period, he was building slotted trays to accommodate up to 250 holes being filled by bees a day. He takes his slotted trays to farmer's groups, schools and other community events like fall fairs to show people how anyone can make habitat for their native bees. Traditionally we had lots of dead and dying trees drilled by woodpeckers for these bees or long grass for the bumblebees etc. Says Rex, "What we are doing now is causing the native bees problems through urbanization, cultivation, irrigation, clear-cut logging and everything else." Sadly Rex Welland died June 25, 2008.

Across the water, Mark Winston, professor of biological sciences at Simon Fraser University, is another bee man. He won Academic of the Year Award for his work in 2001 educating the public on the role of bees and other insects as pollinators, as well as the impact of pesticides and genetic engineering. Among his many students were two young women, Alice Mira and Desiree Tommasi, who put together a bee project while still in high school and have carried into university to get the message out to Vancouver residents about the importance of native bees. Their project called "Once upon a bee" provided outreach to schools in the city about what is left of the wild bees.

Nest Boxes for Purple Martens

The high-spirited purple martens with their characteristic calls used to be a common sight on the west coast, darting for dragonflies over mudflats and nesting in snags along the shoreline. With the increase in introduced starling and house sparrow populations and the cutting down of the snags by the lumber industry and landowners, the purple marten population crashed. By 1985 there were no more than five pairs nesting in southwestern BC. Two biologists with other naturalists from the local natural history society in Victoria started a campaign to bring the martens back. They discovered that by building next boxes to the right dimensions and erecting them on pilings over the water the martens bred successfully. Darren Copley was the main mover and shaker on the marten project. He erected the first nest boxes where the last remaining pairs were nesting, like Cowichan Bay, then started experimenting in



other mudflats. "An amazing moment was when we were on Newcastle Island and we spotted a pair of martens checking out a violet-green swallow nest box. We quickly built a box for the martens and they nested there. The swallows and the martens were both happy!" By 2007, Copley and the growing team of volunteers had built over 1000 nest boxes and there were over 600 pairs of martens nesting in them. "Now I can walk outside just about any estuary in this region and hear purple martens calling again. That's the reward for all the work."

Pick any species at risk and you'll usually find an advocate for it. Ask at your local natural history society for who is an advocate for different species at risk. If there isn't one consider becoming an advocate.

SECTION 1.11

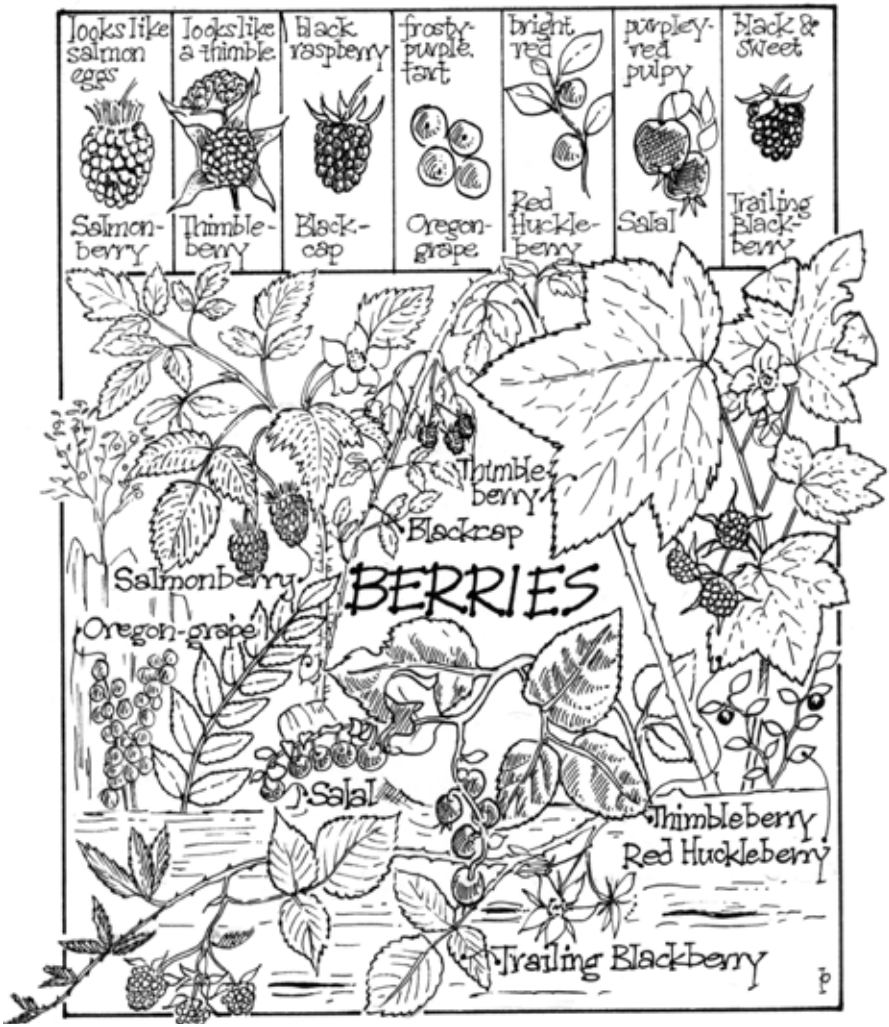
100 Mile Diet: Celebrating Local Abundance

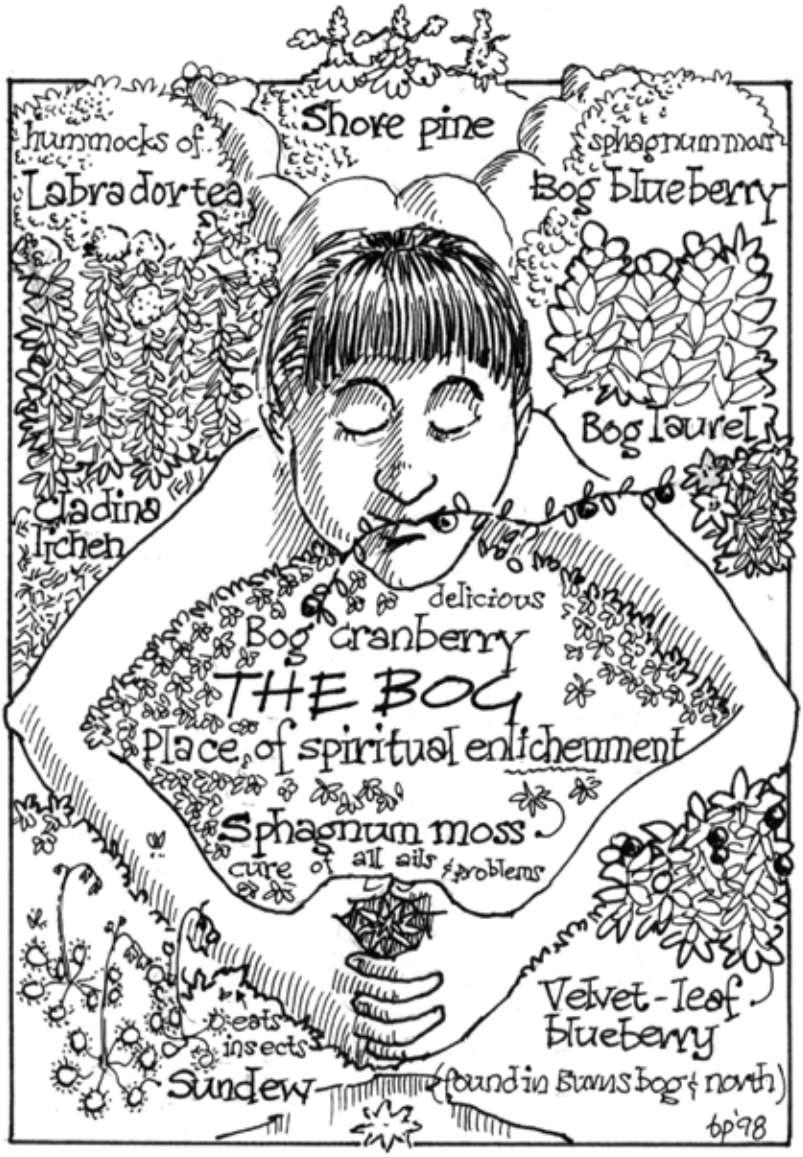
It was a meal on the Skeena River, composed of gathered wild food from the forest and river and some harvested agricultural food, like apples from an abandoned orchard, that set James Mackinnon and Alysa Smith to write the book 100 Mile Diet, documenting their year trying to eat food gathered or grown locally. "We were motivated by the need to protect our wild foods and biodiversity as much as our agricultural biodiversity, but funnily enough that element of the book has been completely overlooked by most people." The bestselling book, which has gone on to become a popular coined phrase, was according to Mackinnon, primarily about the process of reconnecting with the natural landscape. What does our local landscape provide for us to eat? What did people eat here over the millennia and are there any of those foods left? How can eating thimbleberry shoots replace asparagus imported from California? "In practice, people from cities found it easier to wrap their heads around looking at labels on produce and choosing local grown asparagus than taking the next step of going out and gathering local thimbleberry shoots." Thimbleberries are native berries which provide fresh greens and edible blossoms in the spring to berries in the summer. They grow in wetlands and are a highly important food source to coastal indigenous people; they are virtually unknown to the general population.

The original 100 Mile diet is of course a native diet, but that knowledge has never been widely disseminated outside of First Nations communities. Reconnecting with a more recent agricultural tradition

has had a wider audience, according to Mackinnon, and as a first step is necessary as it is about reducing food miles and carbon emissions. But the second step is about reconnecting with nature in a fundamental way. Mackinnon believes one leads to the other. "Last spring I went out into my garden and heard a soft crunching around me and I realized it was paper wasps chewing up the corn husks to build their nests. It is exciting to feel that progression toward more awareness of the way the environment ticks."

Residents of southwestern BC, the couple have been giving extensive lectures and workshops around North America on how individuals





and communities can reconnect with both traditions. "Exciting people about history and ecology is what has become most important to me, like what an ecological meal might have looked like in the Fraser Valley where I live in 1918." He describes a meal of wapato, sturgeon, bog cranberries and canvasback ducks—all of which are species of concern in the region, having once been so plentiful that they kept alive entire nations of people. "With the 100 Mile diet you become more and more interested in the place you live and what you can do to protect it."

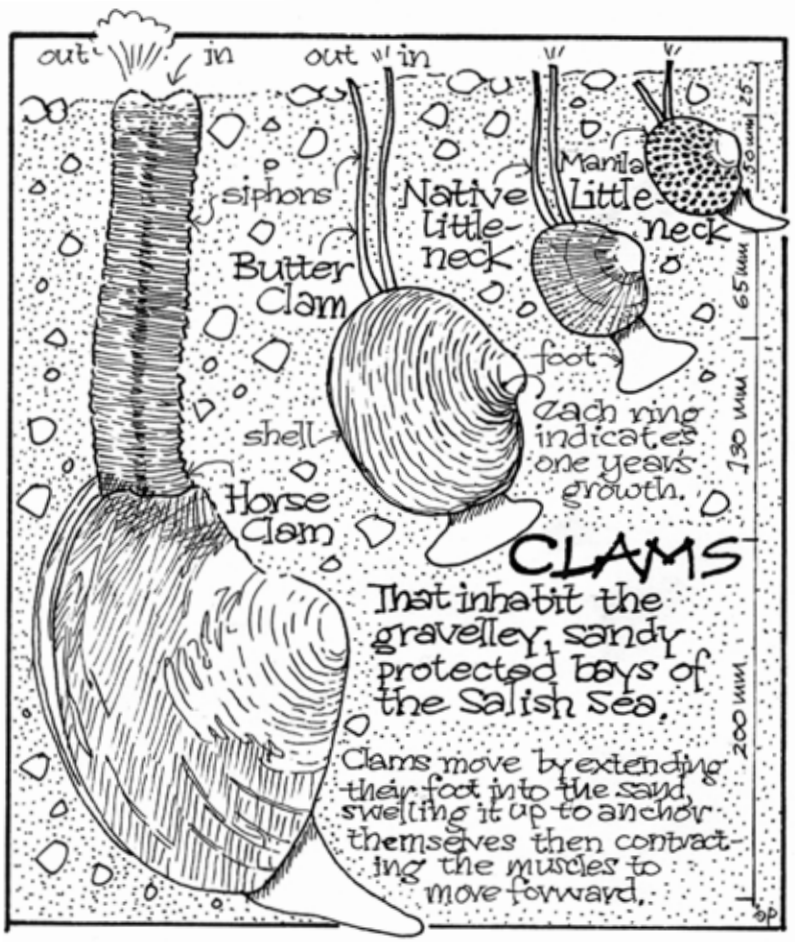
Agricultural Biodiversity: Red Fife Wheat

In 1987, Sharon Rempel, who worked for The Grist Mill Living History Museum in Keremeos BC received a small package of seed in the mail with the note, 'I'm retiring and these are now your responsibility.' The package was from Dr. Leigh Crowle, a plant breeder from Saskatchewan, who prepared for his retirement by packaging up what was possibly the last pound of Red Fife seed in the world and sending it to the only person he could think of who might know what to do with it.

Red fife is a type of wheat that is a 'folk' variety—the wild varieties of any plant that plant breeders use to breed 'new' and 'improved' varieties. Dr. Crowe had kept this variety alive as a personal contribution to biodiversity throughout his long career and now he was looking for a custodian of the seed. He had heard about Sharon's work with other endangered folk varieties and had sent her this bag of Red Fife. She planted half a pound in her living museum of wheat and started building up a seed bank she could share with other seed savers. Old farmers who came to visit the growing plots of red fife with their huge stalks and distinctive seed heads couldn't believe their eyes. Here was one of North America's oldest wheat varieties that had been brought out from Europe in the 1860s to feed Canada but hadn't been seen by most farmers since 1900. Sharon heard the old farmers tell their families that the Red Fife variety was a life-saver because it could grow anywhere, even in the poorest soils without all the tools of modern agriculture at hand, such as fertilizers, pesticides and irrigation. Because it could adapt to a diversity of growing conditions the folk variety was a critical seed for farmers in unknown or changing environmental conditions

In today's large industrial farms, landraces are rarely grown for their own qualities or merit because they don't produce the biggest or most productive seeds. It is in fact illegal to sell unregistered landraces for export. Today after 20 years, Sharon's efforts of keeping Red fife alive have led to a huge increase in the amount of Red fife seed being grown by small farmers and the raising of awareness of a whole new generation—faced with a future of unknown and changing environmental conditions.

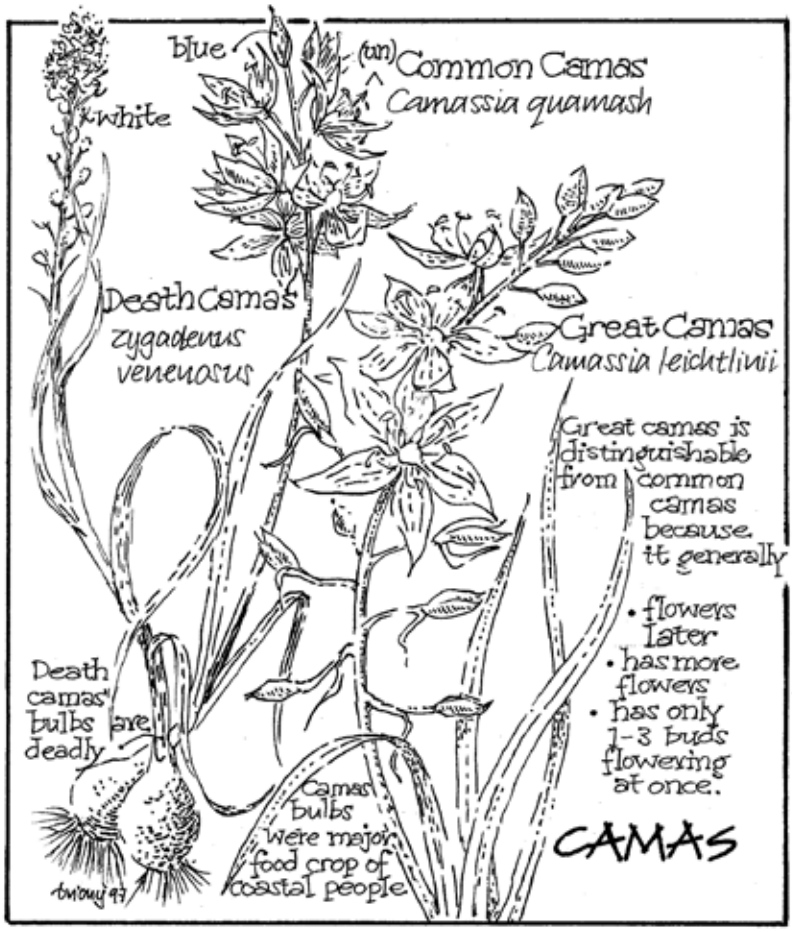
With encouragement from advocates like Sharon, bakeries started buying Red fife wheat, milling it themselves and selling baked bread similar to those from pioneer ovens. This demand for local supplies of wheat got more and more local farmers involved. People started



buying 'Red Fife' wheat and milling it for their own consumption. The Land Conservancy of BC, who had created a certification label called Conservation Partners, could provide farmers who used heritage varieties with a Conservation Label and helped bring market awareness to their efforts. Organisations promoting local and slow food, like Slow Food International, recognized the work of people like Crowe and Rempel and declared Red Fife wheat a candidate for "the ark of biodiversity."

Other Solutions

Everything we eat has an impact on biodiversity. Look for these websites on what kinds of foods limits your impact on nature, from which seafoods to which grains.



SeaChoice is a worldwide movement promoting sustainable seafood as the key to the ecological recovery of our oceans. Sierra Clubs have created SeaChoice seafood guides to alert consumers about which seafood species that we consume are under threat..

Vegan and vegetarian diets are obviously low impact on animals but what about the impact of monocultures of GMOs (Genetically Modified Organisms) soyabeans on natural systems that are displaced? And the impact of genetic drift on wild varieties. Avoid GMOs.

Eating locally is one way to ensure that you are minimizing your impact on the environment. Join Slow Foods. Consider nominating your community as a Slow City

Look for labels that say 'Buy Local' or 'Conservation Partner' labels of farmers who consider natural biodiversity.

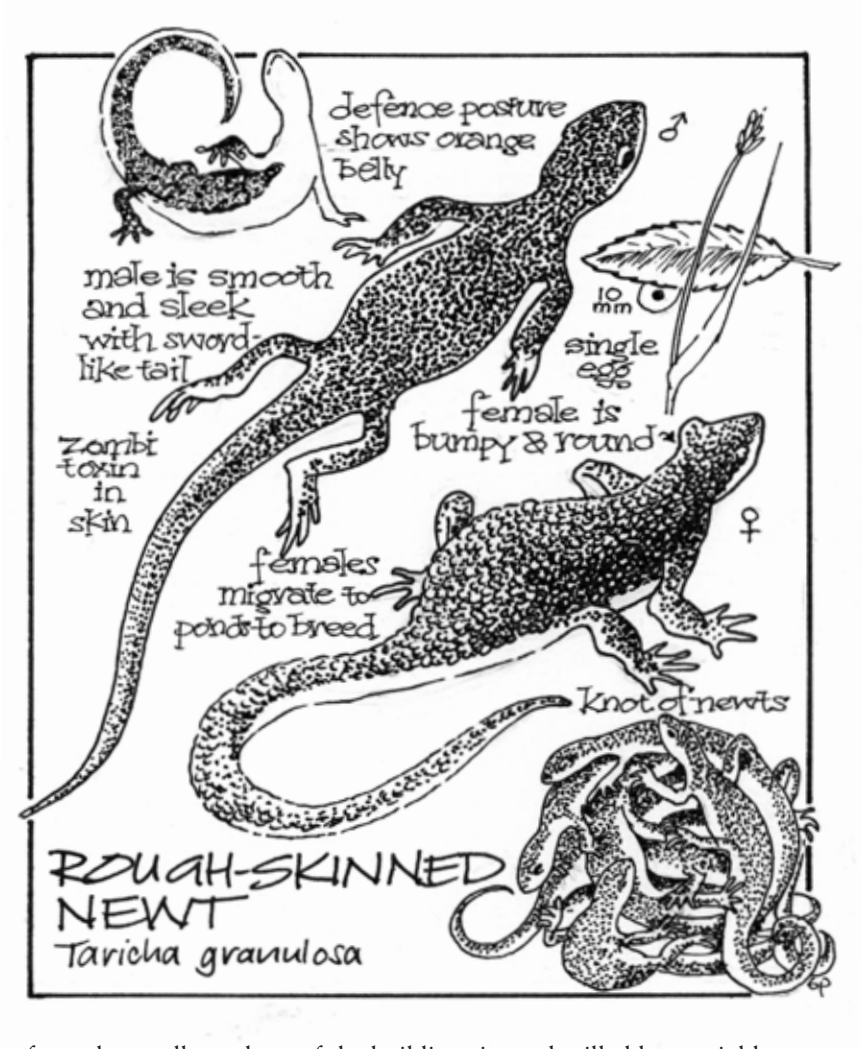
SECTION 1.12

100 Mile House: Building a Home with Nature in Mind

Watching beavers build dams out of local materials while working as a cowgirl proved a useful experience for Briony Penn when faced with the daunting task of building her own home. "Beavers build small, local and warm and create habitat for other species than themselves." Wanting to limit her impact with house building not just in energy conservation but biological conservation, Penn adopted a set of principles borrowed from nature as well as the 100 Mile Diet which she called the 100 Mile House.

The principles were like: 1) protect as much of the natural world as possible; 2) find materials from within 100 Miles or thereabouts, use recycled where possible; 3) limit waste; 4) create as much habitat as you destroy; 5) use no toxic substances and, 6) be mindful of wildlife as you build. The siting of the house was in the most damaged area of the property already, close to the road. Ninety percent of the five-acre parcel was put under a conservation covenant to protect a creek, forest and rocky outcrops that were home to several species at risk.

The house was kept to a small footprint of 700 square feet with another second storey loft. A small, engineered wetland was created as the final destination for all the water use, septic and rain catchment. No paints or toxic preservatives were used in the building. "My agreement with the frogs and newts is that if I keep them here then I'm living right. If they disappear then I am living wrong." As beavers could verify, there is no shortage of wood on the west coast. Driftwood salvaged and milled by a friend provided all the external cladding. Trees taken down

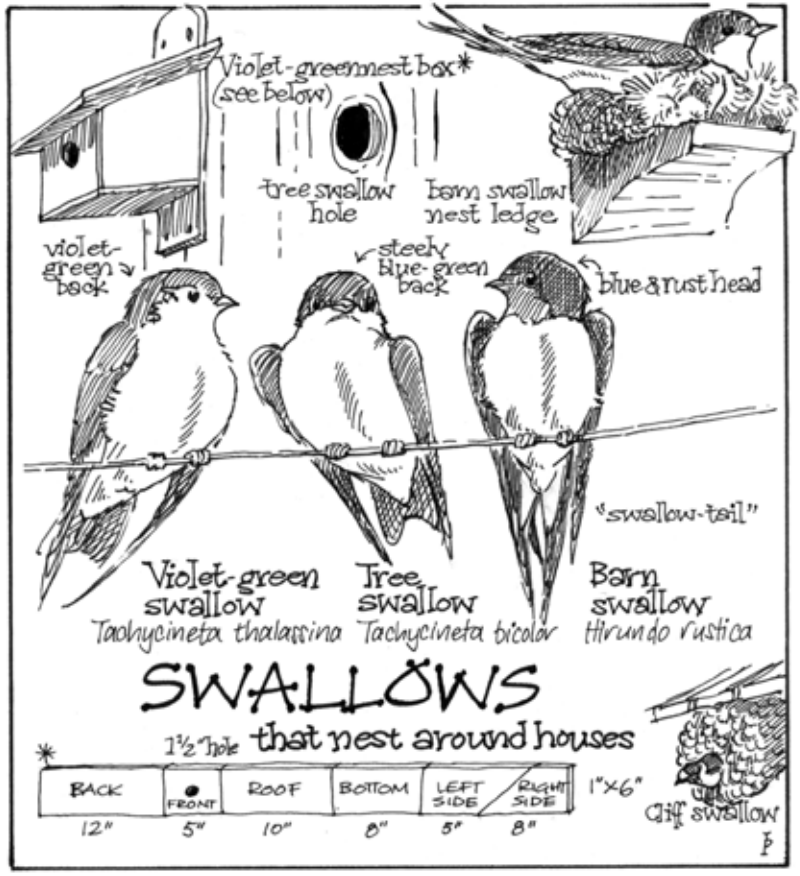


from the small envelope of the building site and milled by a neighbour, formed the internal framing. "I've used the same number of trees that a beaver would take down for his lodge, but we've created a wetland and protected the rest." Materials from local salvaged buildings provided most everything else. A pair of eagles continued to nest near by while the house was being built. "Their approach to getting timber was to fly up to a big old maple tree, grab a dead branch with their talons and break it off with a deafening crack. We were a little more subtle."

The roof of the house was a recycled slate roof, which was ideal in providing niches for bat roosts. Certain products like plywood that were unavoidable, because of building regulations, were sourced as Forest Stewardship Council (FSC) products, ensuring a high standard of forest

stewardship. Swallow nesting platforms and winter wren niches were part of the design, as were artistic imprints of these different creatures in the foundations. Energy conservation measures to limit impact on climate change were adopted like good insulation, solar hot water heating and photovoltaics.

"The most important part of a 100 Mile House is hiring local builders who care for nature too." The builders put a lot of effort into limiting the impact of their work on the site and keeping it clean so that any local squirrel or frog was welcome. "Far from the brutish industry that construction is portrayed as, builders are literally at the cutting edge of how to curb waste and do things better. We just haven't been very good clients up until now, demanding quantity instead of quality." Asked for a simple explanation of a 100 Mile House, Penn responds, "Make your house friendly for frogs and bats. That is all you need to know."




snowberry,
garry oak tree,
common camas
red currant.
easter lily,
nootka rose &
ocean spray,
osoberry,
fritillaria
serviceberry,
stonecrop
buttercup
shooting star
satin flower,
chickweed
bearclaw
oregongrape
duskywing
larkspur
oak lichen
balsam

SECTION II

Legislative and Planning Tools and Standards

The tools to protect nature at the local government level are limited, yet some of British Columbia's most endangered species are within municipal limits from the Garry oak meadows to our pocket deserts, threatened by urbanization and agro-business. Creation of nature reserves in communities are not the only answer. Leaders are looking at the adoption of innovative tools to ensure there are incentives to protect biodiversity in everyone's backyard, including conservation covenants held with community organizations, natural community burial grounds, linking certification standards with land-use practices, tax incentives for nature protection and new models for forest community zoning.

SECTION 2.1

The Natural Step in Whistler

The mountain ski resort Municipality of Whistler, a few hours north of Vancouver, was named after the hoary marmot, a large rodent that lives in the alpine habitat. Their piercing whistles that alert the young to predators, like the golden eagle, are heard in the summer by visitors to the mountains. In the last few years, this community (and the marmot) have received international attention, because Whistler was the host mountain community of the 2010 Olympics. It also won the United Nations Environment Programme (UNEP) Livable Communities award for Planning for the Future. However, the future for marmots and other wildlife wasn't always as hopeful.

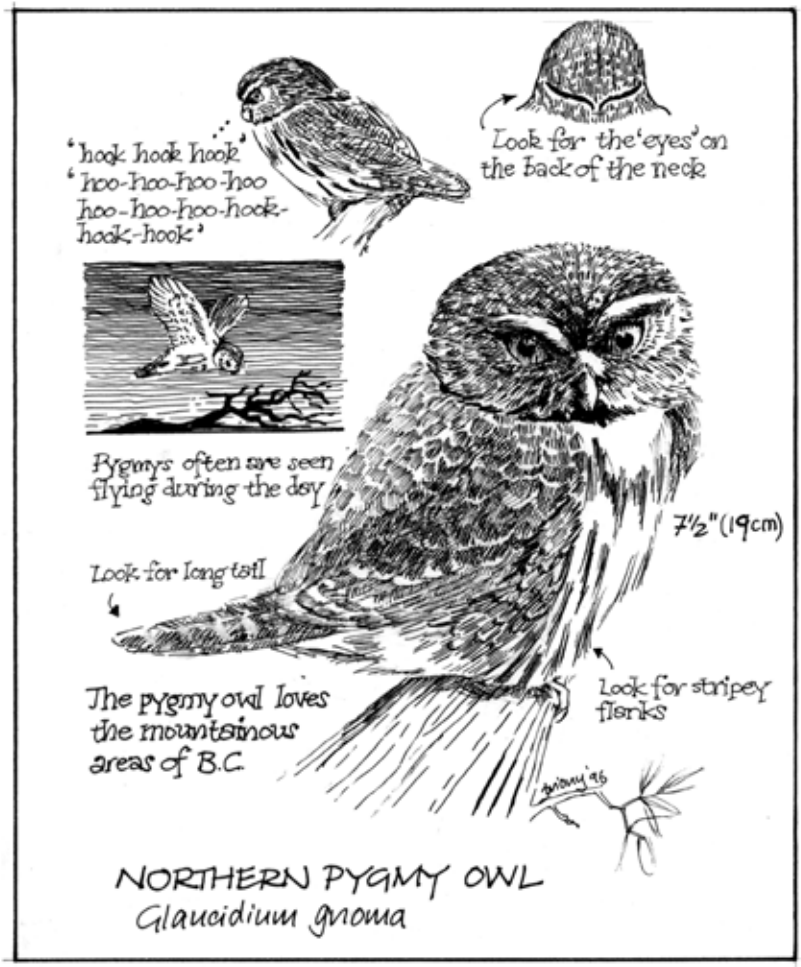
The town had experienced extraordinary growth since 1966 when Whistler Mountain opened and a road was put in to the undeveloped Alta Lake watershed. For the first 25 years, wildlife was still common in the valley. The lakes were important staging grounds for ducks and trumpeter swans while bears and marmots regularly passed through enroute to other alpine habitat. As the resort grew, the valley bottomlands and wetlands were being incrementally encroached upon, much to the dismay of the young skiers and hikers who had a real passion for the landscape in which they had settled. One of them, Ken Melamed, was a founding director of a grassroots citizen organization called AWARE (Association of Whistler Area Residents for the Environment. Melamed later went on to found Smart Growth BC.) "When I first came, I just wanted to ski and party but there was a raising of awareness that started in 1987 and we began to learn ourselves that the heart of the issue was land use decisions." When a controversial rezoning development for the Green Lake Golf Course politicized the group, Melamed decided to get

on council to change the way Whistler made land use decisions. "Green Lake and the loss of prime wetlands and sensitive habitat was a turning point for the community."

In 1997, under the leadership and guidance of Mayor Hugh O'Reilly and Town Administrator Jim Godfrey, the community developed its first five year plan with five priorities including Environmental Stewardship. But in the face of huge development pressures, Melamed found it difficult to communicate the more scientific concepts of conservation and sustainability and wasn't able to build broad support for it. Then in 2000, Karl Henrik Robert, the Swedish founder of The Natural Step Framework, visited Whistler. He gave several talks in the community and Melamed realized that this approach resonated with the business community because of its simplicity and could gain a broader support. The four Natural Step principles of sustainability are: 1. Substances from the earth's crust cannot systematically increase in the biosphere. 2. Substances produced by society cannot systematically increase in the biosphere; 3. The physical basis for the productivity and diversity of nature must not be systematically destroyed; and 4. There must be fair and efficient use of resources to meet human needs.

O'Reilly and Melamed convinced the rest of council to form an Early Adopters group of business, local government and community organizations that would implement the Natural Step framework within their own organization. The idea was for these groups to champion community adoption and to be an example for the rest of the community. An education programme was developed called 'Whistler It's Our Nature' that brought in speakers and generated educational resources. By 2002, the vision had largely been adopted by the community and a new plan was formulated to guide future development.

Whistler2020 was the result—a community vision of a Journey to Sustainability using the Natural Step Framework as its foundational strategic approach. It was integrated across all functions of local government from budgets and land use zoning to purchasing, policy and project assessments. Every action or policy in council had to meet



the four principles. The saving of the Emerald Forest, over 31 hectares of critical valley bottomland in the village, according to Melamed, "constituted the first acknowledgement by council of conservation after nearly a decade of fighting since Green Lakes." Part of the plan was to identify measures of success, and Melamed points to Emerald Forest and an additional 82 hectares of greenway protected as the retention of the urban containment boundary. "One of the biggest successes was to lay out the conditions that Whistler would participate in the 2010 Olympic bid—no new hotels or construction and adherence to our OCP." Today, real marmots, not just the Olympic mascots, might still be seen migrating through Whistler enroute to their alpine habitat, thanks to some converted ski bums.

SECTION 2.2

The Land Acquisition Fund: Protecting Green Space through Conservation Strategies

When Jeff Ward moved to the Capital Region District (CRD) to take up a post as a parks planner in 1987, he was astounded by the amount of natural areas within a very short distance to the urban areas, such as the nearby Juan de Fuca coastline that was still in an undeveloped state. He took his family hiking, cycling and kayaking along the rugged coast and developed a great respect for the conservation vision that various islanders had had over the last half century for this exceptional place. "There was a long history in the CRD for doing this but it has taken 50-60 years to implement it," the lesson being persistence and holding on to the early visions.

When Ward arrived there was a strong public interest in a conservation strategy for the region, a strategy that two decades later has now gone on to set the standard in Canada for protection of endangered ecosystems in urban areas. The Green/Blue Spaces Strategy was adopted in 1997 followed by property tax levy to fund the acquisition for priority conservation areas through the Regional Parks and Trails Master Plan. Nearly three thousand hectares has been protected or restored in partnership with land trusts in the Victoria capital region through the Land Acquisition Fund which generates $1.65 million dollars a year and provides the leverage to work with the land trusts. It was explicitly aimed at protecting the natural environment, safeguarding endangered species and ecosystems and maintaining biodiversity because the Capital

Region was such a biodiversity hot spot in Canada. The principles of the strategy included:

- Conserve rare, threatened, or endangered ecosystems and species in the CRD.
- Maintain biological diversity by protecting and enhancing a variety of habitats.
- Conserve ecologically valuable areas in large, diverse, contiguous units and connect them with greenways
- Maintain the character and diversity of green/blue spaces in the CRD.
- Enhance and restore areas that could have green/blue space values.

- Develop a comprehensive set of priorities for the conservation of green/blue spaces in the CRD.
- Educate people about the value of protecting green/blue spaces in the CRD.
- Foster partnerships for the conservation and stewardship of green/blue spaces.

Many attribute the completion of the Blue/Green Spaces to Ward's strong commitment, public education programmes and the strong partnerships with other levels of government and land conservation groups like The Land Conservancy of British Columbia.

Ward recognizes that the pace of urbanization has been the biggest threat to natural areas, yet what people seek is nature close to home. "Being able to go out into a wonderful natural area then come home and sleep in your bed at night provides people with the connection between

the urban environment and the natural environment." Ward also was aware of the high proportion of species at risk in this region, and the regional role in international goals to protect biodiversity. "We would lose so many critical areas for species at risk if we weren't protecting these areas, and losing them would have had an impact on the planet." Ward's own motivation is his own childhood spent with his friends and family outside. "Spending time outdoors is a whole different way to connect with people and you develop life long bonds with them." The Blue/Green strategy has included a regional trail system including the Galloping Goose Trail which connects people along old railway tracks to many of the regional parks. The integrated trail system was begun in 1981 with the vision of an earlier group called the Greenbelt Society headed up by Dr. Bob McMinn. Those original plans were adopted by the CRD under the Blue Green Strategy and Regional Parks Master Plan and have led to one of the most highly loved trails in Canada. Ward says of his job, "I feel incredibly fortunate that I have the job I have because it gives me the opportunity to give back."

SECTION 2.3

Saving Nature through Land Trusts: The Story of the Land Conservancy of BC

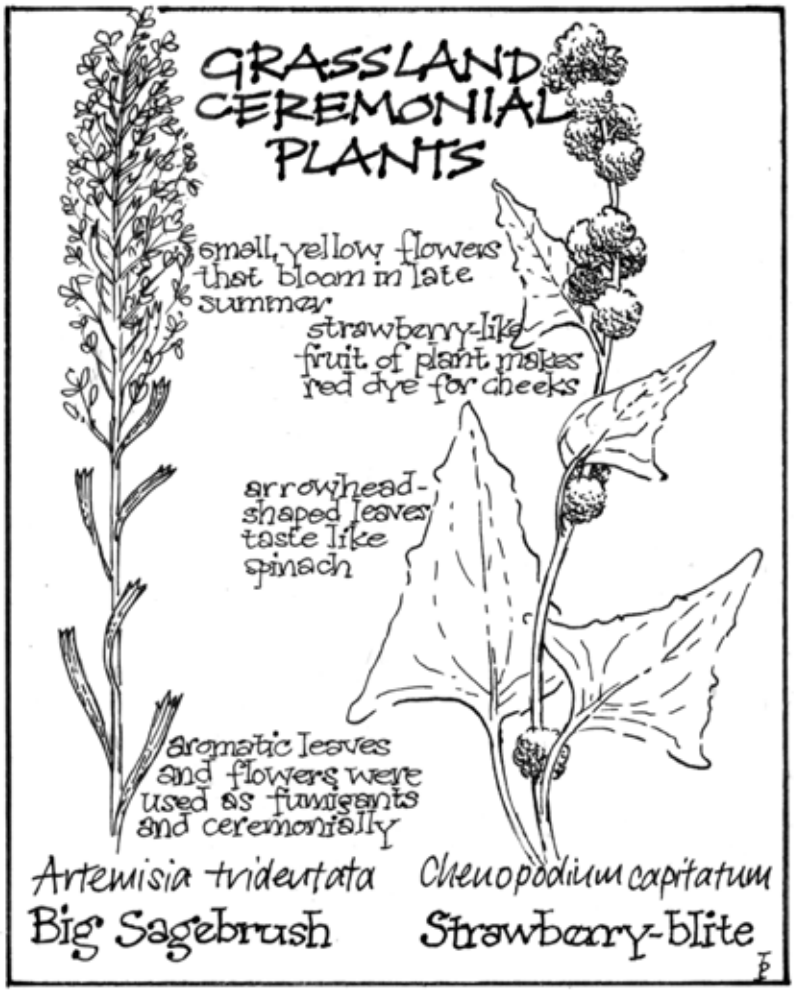
One of the most unlikely but most successful people in Canada to appear on the nature conservation scene is an ex-cop, ex-businessman, ex-realtor called Bill Turner. For the last decade, he has devoted his time to building up a land trust called The Land Conservancy of British Columbia (TLC) with a combined set of skills that have proved a winning combination for nature—handling people, business deals and land titles. "I've always loved nature and I like working with people so to put the two together seemed a natural fit." With most of the endangered species of the province on private land, it was critical that the land trust movement get involved in the acquisition of private land, because as Turner points out, "government wasn't fast enough to respond to the urgent need to protect endangered species and ecosystems, nor can it respond to the speed at which property deals unfold."

Whether it is the protection of an endangered Townsend's bat maternity roost in a heritage barn or a 10,000 hectare ranch with nesting long-billed curlews, The Land Conservancy has been able to respond to the needs of the public and scientists alike to save critical habitat. Turner with his consummate skills in negotiating real estate purchases and dealing with difficult landowners has won the Order of Canada for his work and saved, with the help of an extraordinary team of volunteers

and workers, and in conjunction with a huge list of partners, over 80,000 hectares of land.

The key to Turner's success has been his ability to work with just about anybody from distrustful ranchers and skeptical politicians to specialized scientists and temperamental donors. His biggest achievements have come in bringing together all levels of government and NGOs to secure large properties, such as the Capital Region's Blue/Green Spaces Strategy, for which he has been a major negotiator, helping to provide matching funding "Being a cop prepares you for dealing with anybody and finding a solution to seemingly intractable problems." Turner's first inspiration comes from the passion he holds for the coast where he grew up, followed by the interior grasslands. "It just so happens that the two landscapes I fell in love with are also the most endangered."

Turner's inspiration for TLC came from the National Trust movement in the United Kingdom. "I saw what was going on in other countries and thought, We should be doing this here." Much of the success of TLC derives from following the UK National Trust model whereby saving heritage properties and greenspace in near urban areas are the means by which members and volunteers are drawn to the organization and then they assist with the protection of larger areas outside urban areas for conservation. He describes the UK model as a "castles to coastlines" approach. "People were initially engaged by their desire to see castles. But once inside the castle gates, there was an opportunity to educate people about the landscape and natural areas around them."



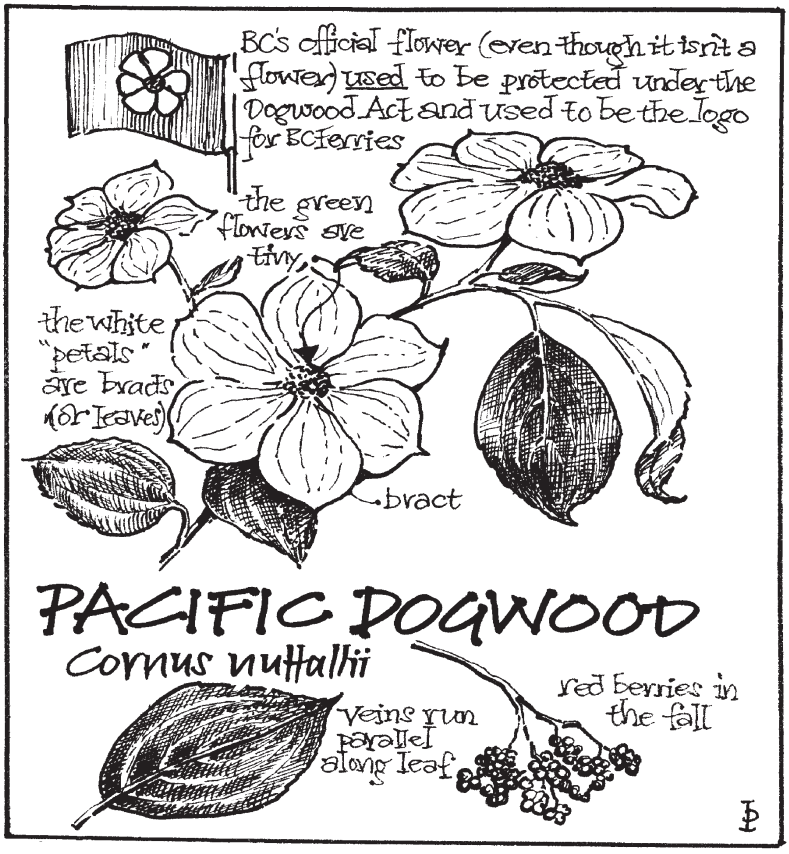
As a result, the choice of properties is not driven always by scientific rationale, but which places people and communities want to see saved. "You have to go where the passions and energy flow with saving places." With a slogan of *Saving special places, forever and for everyone*, which Turner takes very seriously, the possibility is endless. Sometimes this energy is coming from a fishing lobby group to save a critical salmon spawning river and sometimes it is coming from the arts and cultural community to save a famous writer's home or food enthusiasts to save a heritage farm. As a result, TLC taps into a wide range of donor sources, some of which are often not available typically to the conservation community. "Even if some properties aren't necessarily ecologically important, we can practice ecological restoration and manage them for ecological values alongside heritage and social values." His sense of what makes things work is that members have "a sense of ownership of the land and that they are a part of nature not outside looking in."

SECTION 2.4

Covenanting for Conservation: Ruth Masters Wildlife Corridor and Bloomfield Flats

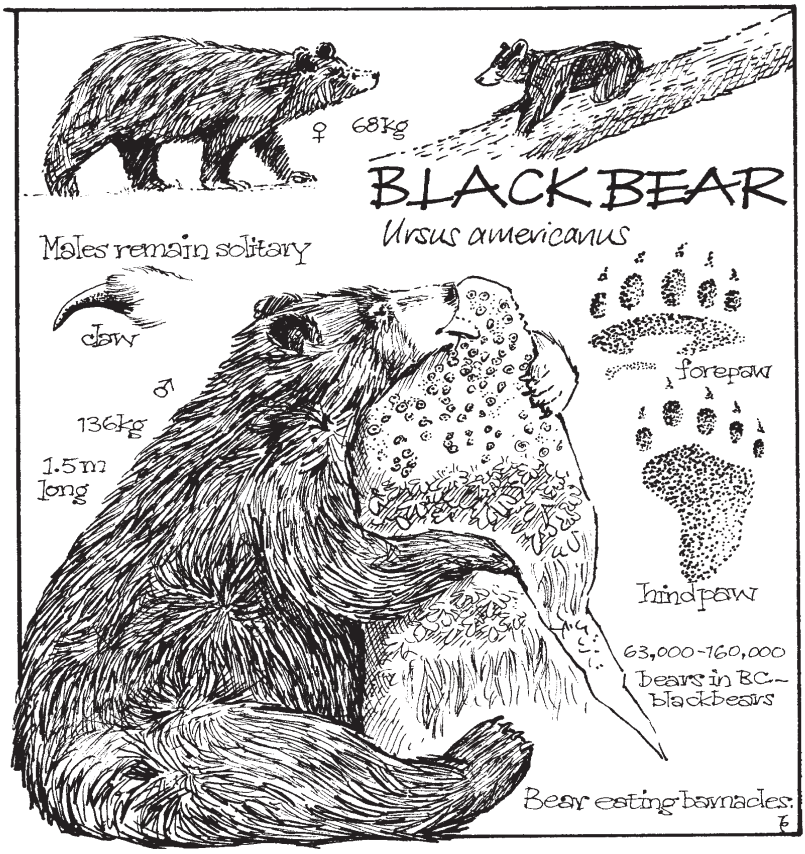
Ruth Masters, at nearly 90, has hitchhiked around the world, joined the airforce in World War 2, worked as a legal secretary and fought for the protection of parks in her region all her life. She describes herself as an SSD, "senior shit disturber." When it came down to deciding what to do with her own 20 acres of forest along the Puntledge River in Courtenay, BC, she jumped at an opportunity to save it forever. "It's a greenway and a wildlife corridor and some trees I call Ruth's babies—if you stretch your neck far enough you can see the top of them. There's dogwood and trilliums and tiger lilies everywhere." When she was approached by the regional district to provide a lease for a greenway, she went two steps further. She placed conservation covenants on it to be held by a local land trust in perpetuity then transferred 18 acres to the Regional District in trust in perpetuity. The covenant with the land trust ensures that it can never be developed or logged. It is a legally binding agreement that flows with the title of the land to keep the land in its natural state.

Ruth's passion came from watching the forests around her being levelled and subdivisions going up with no real regard for the wildlife and watershed. "I am proud to be able to save it! I wouldn't have been happy sunning my aging body down in Hawaii while another 100 or so condo's go up here." It helped her financially because she could continue to live in her home and enjoy this riverside forest without paying the rising property taxes.



Bloomfield Flats

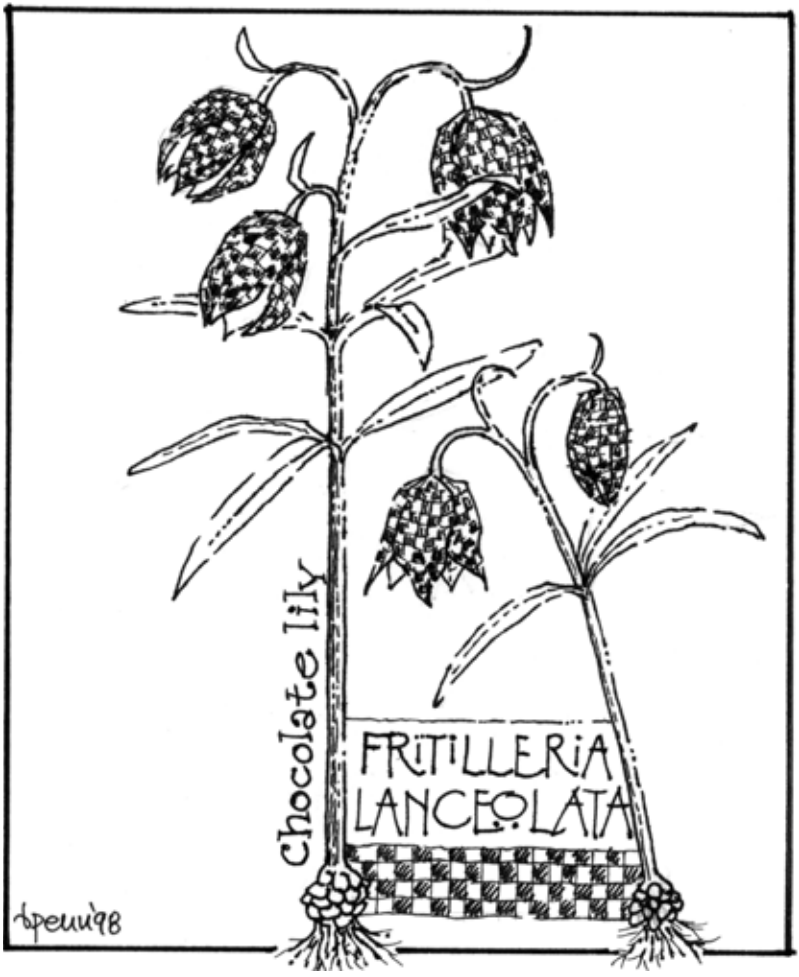
When Judy and Brian Bloomfield moved on to their 20-acre land in the Comox Valley with a salmon rearing channel on it, the first thing they did was to restore the channel of Millard Creek so that salmon populations would return. The channel was part of a larger Millard Creek riparian corridor that provided a natural passage for wildlife from the creek's headwaters through the township of Comox to the estuary. The side channel that they restored provided rearing habitat for Coho and cutthroat trout—both of which are at risk. Over the years they had sighted wolf, black bear, cougar and black-tailed deer utilizing the corridor. When they decided to downsize, they registered a conservation covenant on their property in conjunction with the Comox Valley Land Trust and another non-profit the Millard/Piercy Watershed Stewards.



"We wanted to know that when we moved on in our lives, the creek would still be protected. We can move on now knowing we've done something for future generations."

Denman Island Chocolate Factory Covenant

Chocolate lilies are one of the rare plants that grow on Denman Island where Daniel Terry has built a unique chocolate factory business. The property on which the factory sits is in a rare coastal Douglas-fir and arbutus zone, with stunning spring wildflowers like the chocolate lilies. Terry's business is fair trade and organic chocolate bars and so it was part of his business plan to register a conservation covenant with his local land trust on his four acre factory property to protect the rare species that



occurred there. Besides being someone who loves his island, Terry sees it as a shrewd business move. "The retailers I sell to and the consumers who love our chocolate have environmental concerns and they want to support businesses that exhibit the same concern for things that they have." As he sees it, a conservation covenant is a legal mechanism that provides evidence of a commitment to conservation as well as ensure for future generations that this site is protected.

A land trust is a non-profit charity committed to the long-term protection of natural heritage. Land trusts acquire or work with landowners to protect features of their properties through conservation covenants/easements.

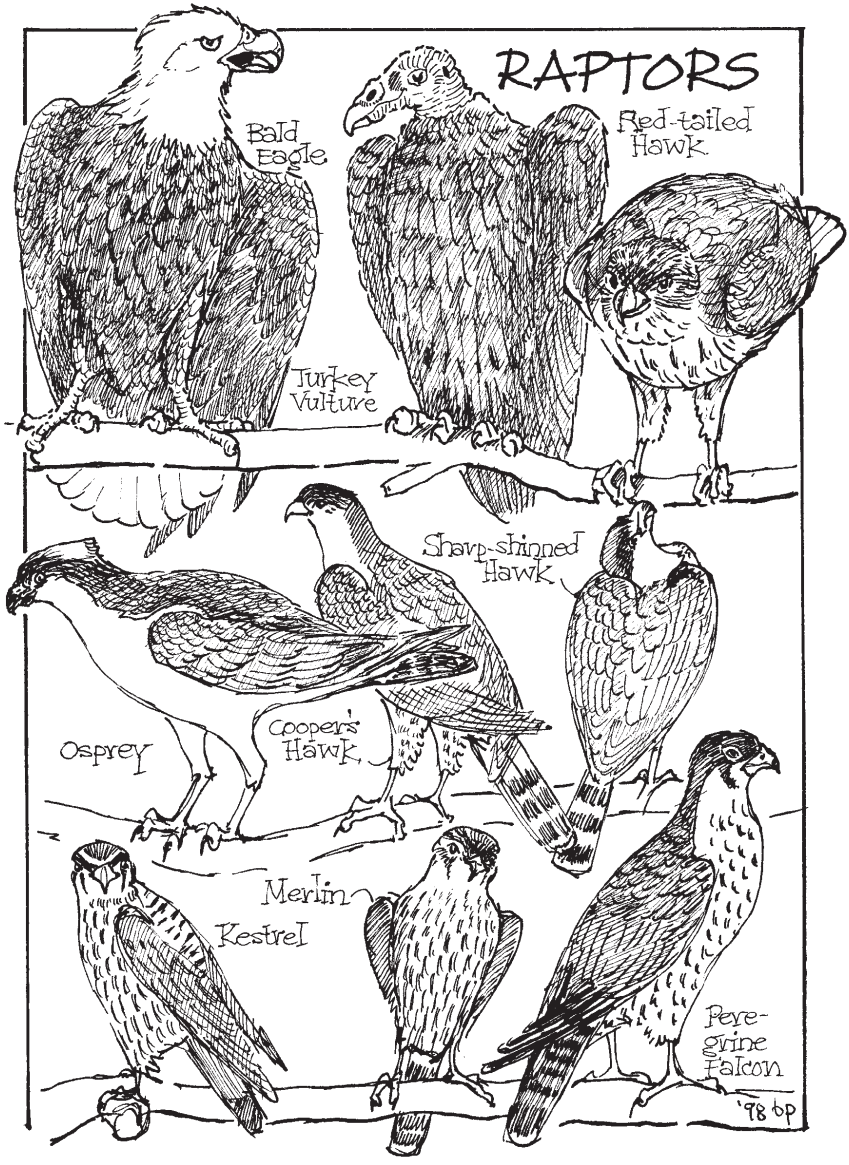
SECTION 2.5

Farmers and Wildlife

Winter Forage for Wildlife

A flock of snow geese grazing on a field of winter wheat are so thick on the ground it looks like snow. They are the welcome visitors to the Singh Organic Farm in Delta, BC where up to 20,000 of them forage on the farm alone. The Fraser River Delta is a key wintering and migrating area for well over 300 species of birds, like the snow geese, in the Pacific Flyway who breed farther north. The Singh farm is on an island in the river adjacent to the George C. Reifel Migratory Bird Sanctuary and the Alaksen National Wildlife Area, which have been declared part of a RAMSAR site because of the internationally significant population of Lesser Snow Geese. The adjacent privately-owned farms, like the Singh Farm, traditionally provided thousands of hectares of additional wildlife habitat, which pushed up costs for farmers. Because the geese move from the intertidal marshes up to the fields to forage as the tides and weather change, vegetables, grass and grains would be eaten by the geese, impacting already small profit margins. In 1995, Ab Singh negotiated a leaseback agreement that allowed them to harvest vegetables in the spring and summer when the overwintering geese were gone, and Ducks Unlimited to share in the management costs of planting a winter crop for the geese to forage. The Delta Farmland and Wildlife trust also works with the farmers like Ab Singh to develop Best Management Practices for wildlife and farming. Ab Singh states, “This conservation

programme assists the family farm to stay a family farm, rather than being sold out to a corporate interest or to some foreign investor who is not interested in the farm but who is speculating on the possibility of the land increasing in value." Singh has the added opportunity of a marketing advantage in that consumers buying his organic vegetables also support the snow geese.



Labelling for Wildlife-friendly Food

One of the first labelling programs for farmers to improve their viability through marketing themselves as farmers working for wildlife was developed by The Land Conservancy of BC. In addition to "organic" or "buy local" labels, farmers can also qualify for a "Conservation Partners" label, if they have conservation covenants on their land and pass the criteria of the land trust. TLC advertises Conservation Partners to its membership and provides the labels free of charge for use in the farmer's own marketing. Regional voluntary initiatives such as this carry with it a type of local branding and the credibility of local organizations and are an excellent solution in the absence of any international standard for labelling farmers that meet biodiversity objectives.

SECTION 2.6

Full Circle: Community Woodland Burials

In the early 80s, Nick Albury was pondering why modern cemeteries in his native England had become increasingly sterile zones of grass and herbicides instead of the rich pockets of wildlife and hedgerows that traditional graveyards had once been — refugias for ancient lichens, native flora and wildlife. But modern day corporate cemeteries are now part of the problem not the solution with high toxin levels coming from both the embalming and the herbicides and no attention given to impacts on the local biodiversity.

Part of the answer, he felt, lay in our increasing disconnect with the earth and our lack of understanding about how we can give back something back to the earth upon our death. Instead of barren cemeteries, he had a vision of woodlands where natural burials and the nutrients in our bodies were part of the restoration of the woodland. People can also feel that they are part of a process of capturing carbon through reforestation.

Since his initial idea, the natural death movement with woodland burials has become one of the fastest growing elements of the environmental movement in the UK. Nearly 200 woodland burial sites have been created in the 20 years. They are largely run by non-profit trusts, private individuals and district councils. What they provide is a plot in a woodland in the process of restoration, a woodland warden and guidance on the process. The woodland warden plans the restoration of the woodlands so offers suggestions for types of native trees and flora that can be planted with the burial.

If you don't have the family or friends to do everything then the burial grounds have staff that can fill in the gaps: from laying the body out and providing a simple biodegradable cardboard box or finding someone to give a service. The woodland burials are cheery places full of life. People are out walking and communing with nature. Families are engaged in the burials from digging the graves to planting the trees. They are affordable since you have DIY options and no expensive caskets, just a plot in the woodland.

Hearing about these woodland burials, Mildred McLeod, a founding member of The Memorial Society of BC, wanted to get one established on Vancouver Island. Or at least reestablished, as First Nations have been doing it for millennia and pioneers seemed to manage just fine. Mildred came up against a lot of opposition from vested business interests. Her research determined that it was legal to conduct burials without funeral parlours and without embalming. Mildred died in the fall of 2000, never getting her wish for her own green burial because there was no burial ground that would accept those conditions, so she left an endowment to the Memorial Society to pursue the vision. Nine years after her death, the lobbying efforts of the Memorial Society and other interested people, led to the opening of the first green burial site in Canada on Vancouver Island. Royal Oak Burial Park, a city-owned burial park, now offers a natural burial where:

- Remains buried in this area may not be embalmed
- Remains may be placed directly in the ground so long as they are enclosed in a biodegradable shroud or container
- Families are encouraged to plant indigenous plants or trees on their gravesites.
- An inscription of names on a common memorial cairn, made of local stone, at the entrance to the site will replace individual memorial markers at each grave.
- Outer liners will not be used and caskets made of non-sustainable or non- biodegradable materials are not permitted.

Royal Oak Burial Park lies within the endangered Garry oak meadow ecosystem and now there is another way that people can give something back to the earth in perpetuity.

SECTION 2.7

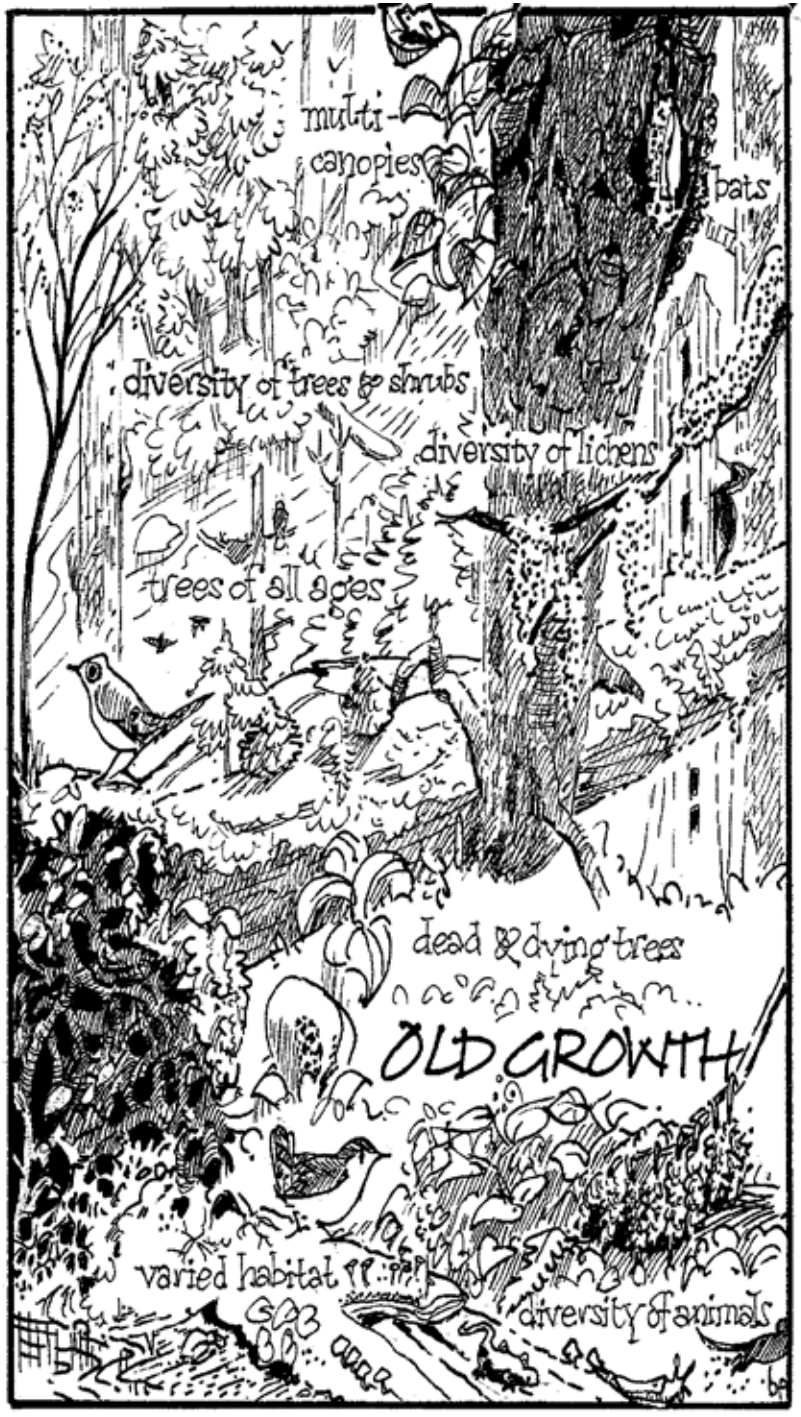
Stewarding the Forest: Promoting International Standards for Forestry

Keith Moore grew up in the Kootenays in British Columbia, exploring the Rocky Mountain Trench that divides the Rockies from the mountain ranges to the west. The Trench is a remarkable area for biodiversity in that it has a range of habitats from arid grasslands in the trench to alpine peaks and meadows with temperate rainforest on the western slopes of the mountains. It is known as Canada's Serengeti for its herds of elk, mountain caribou, mountain goat, bighorn sheep, moose and white-tailed deer as well as top predators from grizzly to cougar. The Kootenays are also a hot spot for economic activities from gold mining and outdoor recreation to clear cut logging; conflicts between industry and wildlife have marked this region's history. Keith's early experiences were fundamental in leading him to seek out solutions that tackled poor industrial practices. Trained as a forester, he has moved sustainable forest certification ahead in North America through the Forest Stewardship Council. Certification of forestry lands in the Kootenays has already had a profound effect in protecting the integrity of vast areas of habitat required for these ungulates and top predators.

Moore characterizes his move into forest certification as a long logical process. First he worked as an activist lobbying to save key protected areas but realized that saving one park after another was not going to adequately protect biodiversity or full ecosystems. The broader question

of how to protect landscape in all its varying land uses led him to government and work as a regulator. "I got known as a big stick sort of guy." From this work he was asked to help develop a forest practices code for industry. It eliminated the worst of the industry practices, "but what I realized is that it couldn't reward the best practices. It was a legalistic world and just became a race for the middle."

When the code was dismantled and he lost his job under a new government, he moved into what he calls Phase 3. "I switched from the guy with the stick to the guy with the carrots." He found that in the broad principles of FSC, which are built around an international certification for good stewardship with a long-term commitment to the land, local biological conditions, communities and indigenous people,


multi-
canopies
bats
diversity of trees & shrubs
diversity of lichens
trees of all ages
dead & dying trees
OLD GROWTH
varied habitat
diversity of animals

that he could assist companies who followed these best practices. “It was a new niche for saving the world”.

Shortly after, he gained his accreditation to certify forests for FSC through one of their affiliates Smartwood, he met with an innovative new forestry company called Tembec that was founded by pulp mill workers in Quebec when their mill was going to close. Determined not to repeat history, the mandate of the group under the visionary leadership of Frank Dottori, the company CEO, was social and environmental responsibility. They made a protocol with World Wildlife Fund Canada that they would take all their operations through the FSC process and in return they would get supported for their product.

Tembec had acquired over a million hectares of land in the Rocky Mountain Trench and Keith was called in to take the company through the accreditation process and the land he knew so well. The end result has been that the company have exceeded all standards for working in endangered caribou habitat and have raised the bar on forestry practices in high biodiversity areas. The strict standards of the FSC has ensured them recognition internationally as leaders in wildlife protection. At the same time they get price premiums and access to markets they wouldn’t normally have had access to in a volatile. “Tembec has been rewarded in the market place for their commitment to FSC and I get the satisfaction of seeing habitat better protected”

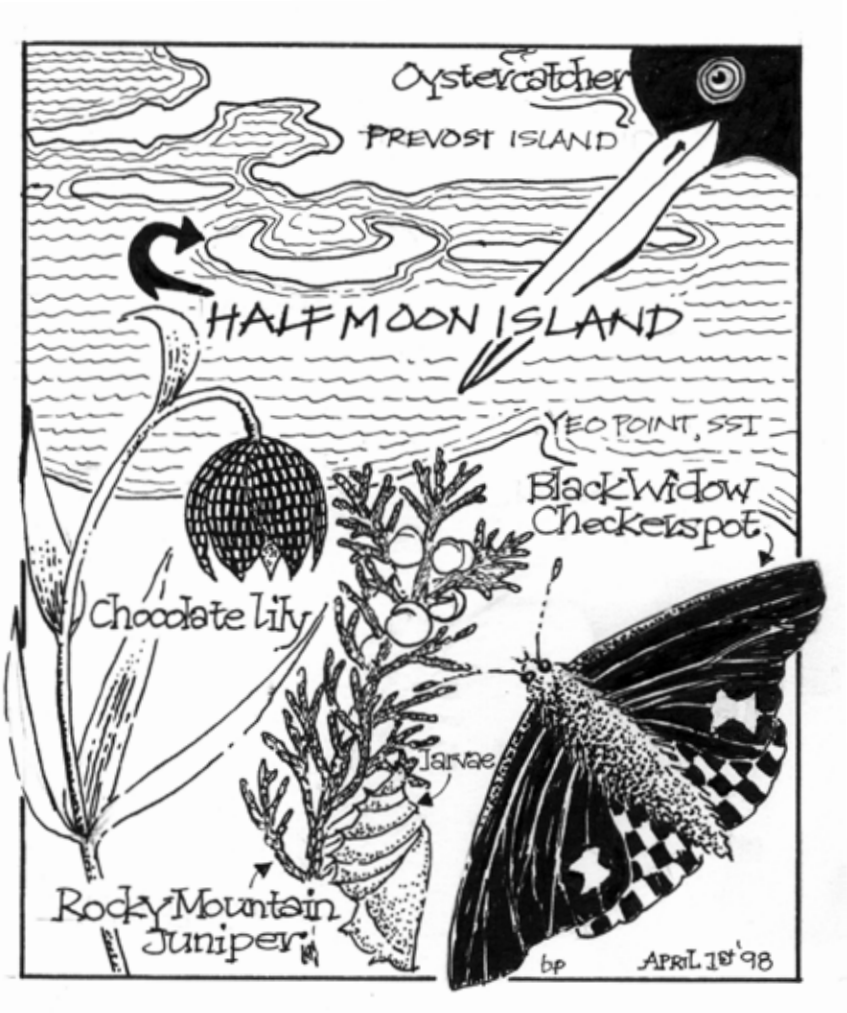
FSC is an international non-government organization with a membership driven NGO board elected within membership and three chambers (social, environmental and economic). There is a north/south split as well. The first role is to establish international standards for forestry management and to set up processes to adapt 10 FSC principles. There are both global standards and national/provincial entities to adapt to local conditions. FSC accredits other organizations to award certificates to companies. Fifteen organisations around the world are accredited to hand out certificates. Smartwood is one of those accredited certifiers. Smartwood operates in over 60 different countries and the largest organization in Canada. Keith works as an independent environmental forestry RPF consultant certifier for Smartwood. So any company wishing to seek FSC certification needs to study BC standards, then pick one of the accredited certification bodies to conduct the assessment. FSC audits and trains the accreditors. See www.fsccanada.org/

SECTION 2.8

Islands Trust Act: A Pioneering Conservation Legislation

In 1974, a far-sighted piece of legislation was enacted provincially in BC called The Islands Trust Act. It was a law far ahead of its time. It created a unique jurisdictional model "to preserve and protect" the natural landscape and character of the Trust area and some of the most biologically diverse areas in Canada. The Islands Trust Area covers the islands and waters between the British Columbia mainland and southern Vancouver Island. This is a unique and special place composed of 13 major islands and more than 450 smaller islands covering approximately 5200 square kilometres of land and water—an area almost the size of Prince Edward Island. A population of about 25,000 people live on these islands.

An increased ferry service, beginning in 1963, put the Islands firmly into the path of on-rushing metropolitan expansion. Mudge Island, a tiny bit of farmland off Gabriola, just 3 kms by 1 km in size, was totally subdivided into 185 lots in 1963 while four years later, Magic Lake Estates on North Pender became the largest subdivision in the newly-formed Capital Regional District with about 1200 lots. Other subdivisions on islands added fuel to fears that the islands would lose their rural and largely undeveloped "green" character, so the far-sighted government of the day implemented the Act creating a Trust with the power to manage development through land-use planning authority. The Trust used the only tool available at the time to preserve and protect—zoning. It became



one of the first conservation zoning models in the province and remains the only local governance model of its kind in Canada.

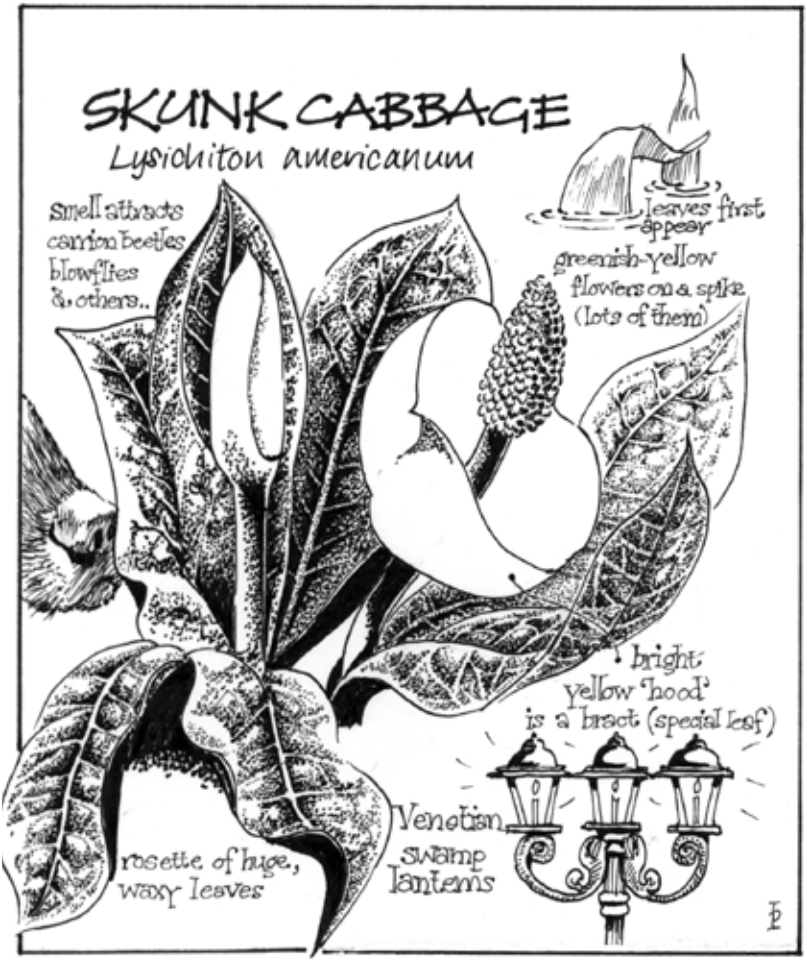
The basic principle of the Trust was to cap development throughout the islands to one home for every 2 ha (5 acres) of land or 8 ha (20 acres) in watersheds. In existing densified villages, density was higher but there was a strict urban containment boundary under zoning and Development Permit Area (DPA) designations. Both at conception and throughout the years, it has been a politically difficult law to maintain. At its conception, the law was fought because landowner's development rights were limited by the zoning; and over time, there were critics on both sides because the demand for living in a beautiful place has sent property values skyrocketing and the pressure to develop is relentless.

When Peter Lamb, an economist and former engineer, first came to Saltspring Island in 1989, the Trust model of governance had been around for nearly 20 years. He was originally engaged with the community through the regional district park function and then with the Trust in a review of its Official Community Plan. Subsequently, he became involved with the local land conservancy to work on covenants and acquisitions. The more he learned the more he could see the need to strengthen the Trust model, both from a conservation perspective and a political perspective.

The success of the model was that the Trust area has become a major refugia for species at risk for the bioregion. In adjacent urbanized areas, those same species have disappeared — from red-legged frogs to cutthroat trout. The failure of the model was that there was increasing fragmentation of the landscape as development continued, fuelled by the high real estate values. Although zoning limited the number of lots that could be created, there were few tools to limit the types of land-use on those lots or the siting of buildings and other structures on those lots. Clearcutting, soil removal, blasting, etc were all still having an impact on biodiversity. Lamb asked the question, "We have a situation where critically important areas are being disturbed so why would we increase housing in this ecosystem or put a road through an endangered species habitat?

In 1998, the Salt Spring Local Trust Committee had introduced creative tools to address this concern in the form of Density Transfer and Amenity Zoning policies but, in practice, they had been ineffective. It wasn't enough to appeal to the best intentions of people to do what needed to be done. "In addition to encouraging voluntary stewardship of the land, we needed clear government direction and enforcement of its bylaws and other regulatory measures." In 2005, he ran for, and was elected as, one of the two Local Trustees for Salt Spring Island, and helped initiate a long overdue review of the Official Community Plan. Through extensive community consultation, various improvements in conservation zoning were made that give priority to the natural environment and social fabric of the community. Policies were introduced to address climate change and energy efficiency concerns.

First, there had to be a clear vision for the Trust and a commitment up front in the OCP preamble to biodiversity. The goal of protected areas was raised to 30% of the land base from the original 15% and direction given to implement protective measures through a variety of



tools including Development Permit Areas (DPAs) for watersheds and Environmentally Sensitive Areas (ESAs). The mechanism of DPAs is to guide development within watersheds and ESAs, including ecosystems at risk and habitat for species at risk mapped by provincial conservation agencies. In ESAs where development is excluded, covenants and other tools can be used to provide tax breaks for landowners. More formal consultation with First Nations is also provided in the OCP as well through new protocol agreements.

The revised OCP also sets out the elements of the precautionary principle to guide development applications, including a consideration of alternatives, the burden of proof residing with the proponent and an assessment of long-term costs and benefits. "It questions the myth of

the three legged stool because we know that the natural environment is the base upon which all human activities depend," says Lamb. This principle is manifested in a Development Approval Information bylaw that establishes clear rules for an applicant to provide about the impact of their proposed development. The Trust model of governance is still a leading edge model and the importance of it is that it generates its own defenders by the beauty it protects.

What follows here are some examples of recent actions or initiatives that reflect good practice and confirm the value of the Trust in preserving and protecting the amenities and environment of the islands.

- Developing comprehensive and innovative Official Community Plans on all the islands after extensive public consultation and focus group work. While an OCP is a mandatory requirement for local government, the scope and depth of an OCP is dependent on the willingness of Trustees to adopt the strongest measures possible, such as a decision-making policy that gives priority to the natural environment and social fabric of a community.
- The establishment and gradual strengthening of the Islands Trust Fund, a land trust for conserving land.
- Supporting stewardship on private land through the Natural Area Property Tax Exemption Program (NAPTEP)(see next story).
- Proposing a Land Use Bylaw to implement an OCP policy requiring environmental buffers on large properties, significant setbacks from the ocean, upper limits on the size of dwellings and more modest lot coverage ratios.
- Establishing a Development Permit Area covering all of an Island's foreshore.
- Establishing a Protocol Agreement with a First Nations Band.

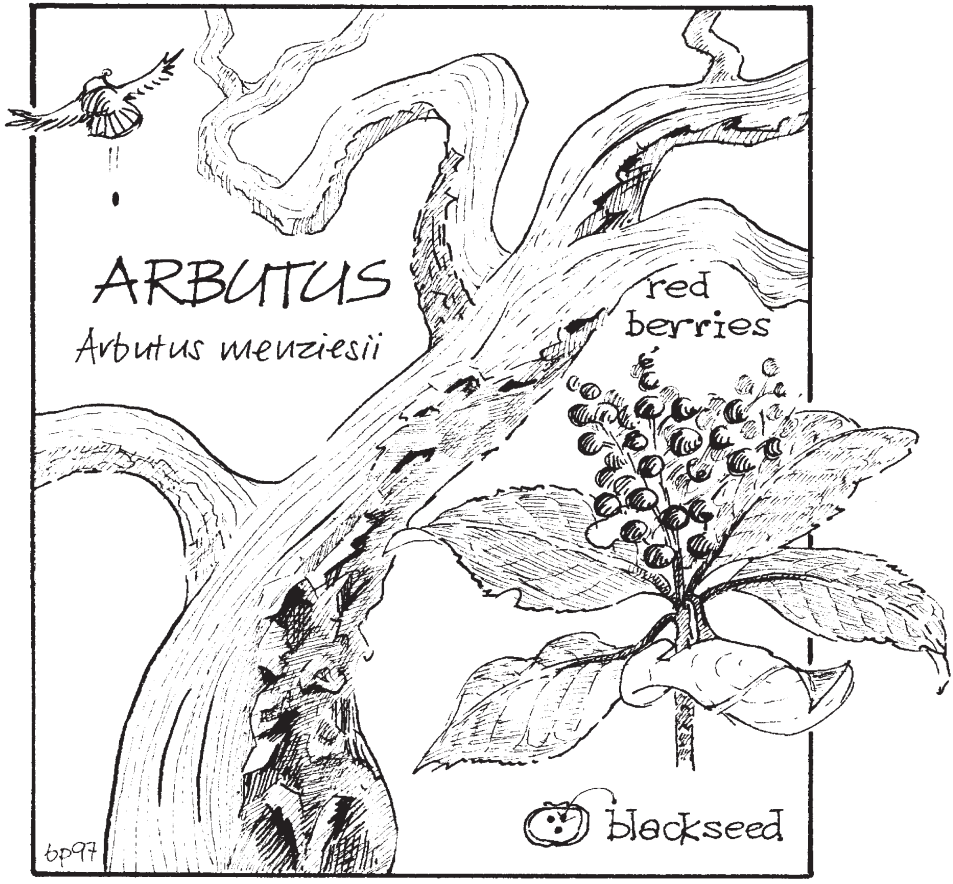
Encouraging the Preservation of Nature: The Natural Areas Protection Tax Exemption Program

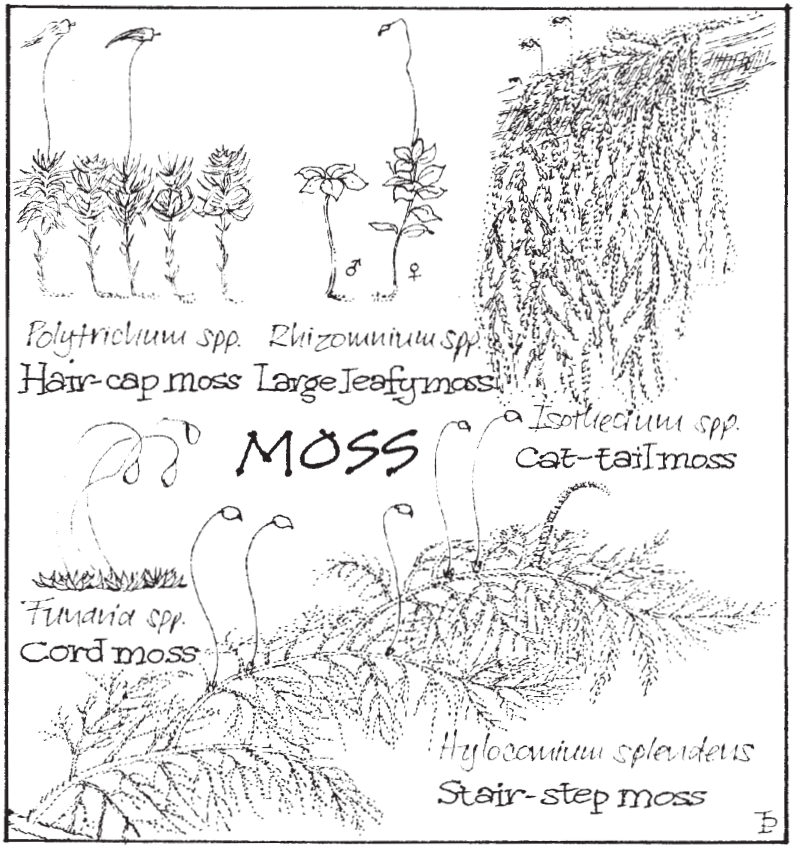
Islands Trust Natural Areas Protection Tax Exemption Program

Ilsa Leader lives on a two hectare parcel of land that is predominantly coastal bluff covered with endangered Garry oaks, arbutus, wildflowers and rare mosses, such as banded cord-moss. As a long term resident, retired widow and weaver, Leader was struggling to pay taxes on her property with a fixed income, while the value of waterfront land skyrocketed. Her desire was to stay on the land and see it protected in perpetuity. "I think living in an environment like this you'd have to be blind not to see the beauty and want to do something to protect it. I was inspired with my weaving and dying by the colours of the arbutus." That desire became a reality when the local government (Islands Trust) got together with the provincial government, and created the Natural Areas Protection Tax Exemption Program (NAPTEP). It is a unique program that provides property tax incentives for protecting ecologically important lands through the security of a conservation covenant held by a land trust delegated to administer the program, the Islands Trust Fund.

"I think it is a wonderful idea to preserve the nature on your property for future generations. It was a wonderful place for my kids to grow up. The changes on the island are happening so fast, I felt that I could something about it," says Leader. She was one of the first people to apply under NAPTEP after its creation in 2005. The first step was to register with the conservation organization. The next step was to have an ecological baseline survey done by a biologist as a prerequisite to her conservation covenant. Her daughter, a biologist, was able to assist and point out the many rare features. Then the covenant with the baseline survey was registered on title. She was now eligible for 65 percent off her property taxes on the covenanted portion of her land.

The program prohibits current and future owners from damaging the land, using herbicides and pesticides, altering natural watercourses, and modifying geological features. Fines must be paid if anyone violates





the covenant, including repayment of all exempted taxes. Although the uptake has been relatively slow, it is a new tool and as it undergoes modifications, it provides an excellent model from which to create a tailor-made tax incentive program for nature by local government in rural communities.

Local government was cautious at first to create this tax incentive program because of loss of property tax base but ten years of a pilot have demonstrated that the tax impact is negligible while the benefits to biodiversity, and carbon sinks are huge.

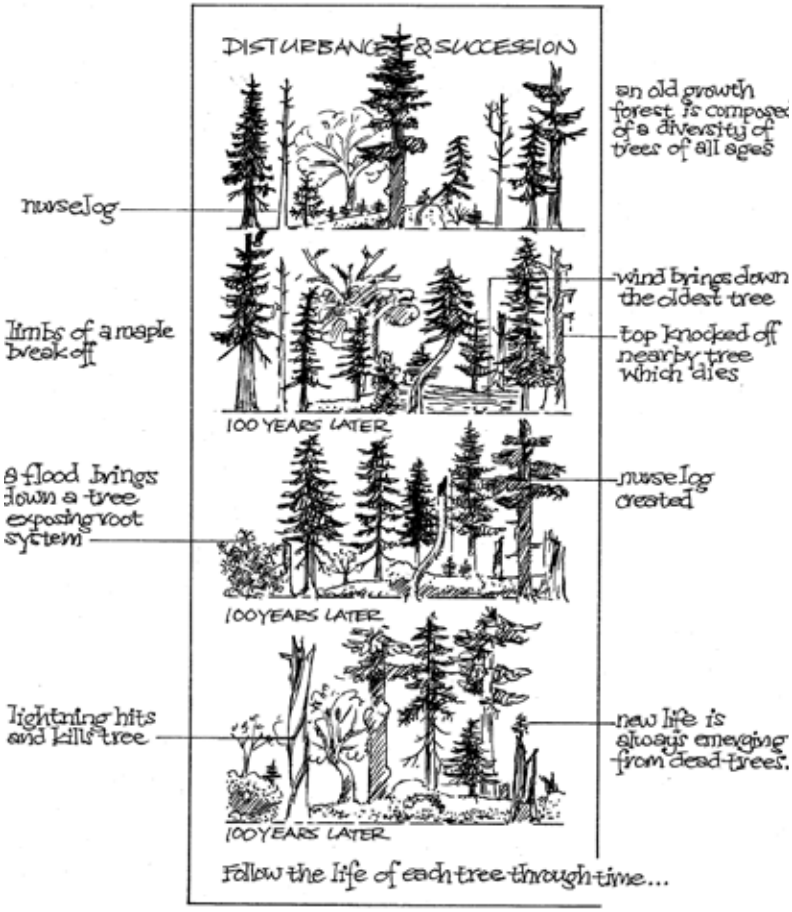
Islands Trust Fund http://www.islandstrustfund.bc.ca/

SECTION 2.10

Living Forest Communities: Investing in Biodiversity on the Urban Fringe

Singer Ann Mortifee had spent her career writing and singing songs inspired by nature so when the forest and wetlands next to her home on Cortes Island were threatened by clearcut logging, she knew that she couldn't let it pass without doing something. "Every spring, the frogs and newts migration was a big part of my life. Owls and eagles nested in that forest and they were part of my life." Knowing that it could be a long, difficult and costly struggle, she asked the forest for a sign that there would be support, "I walked down the path and there on a rock was a perfect white eagle feather." That was it and for the next three years she invested all her time, money and connections into a joint non-profit/business venture that is proving to be a replicable model for responsible development that protects forest ecosystems called Living Forest Communities Inc.

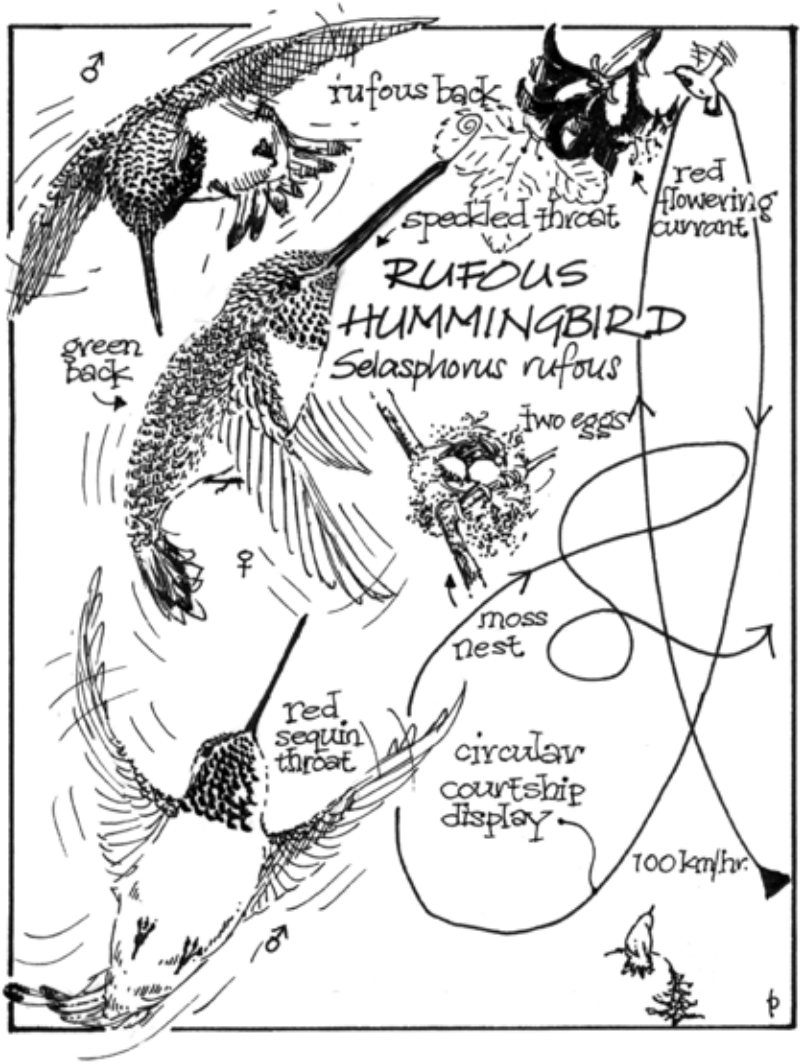
What she learned in purchasing and protecting that one forest block was that ordinary citizens and communities have to be resilient and extraordinary to take on the huge hurdles required to protect parcels of land. A knowledge of land use and zoning bylaws, forestry and corporate structures, financing options and access to green investors were all key pieces of the puzzle so her first task, once she had saved that forest, was to set up a foundation called the Trust for Sustainable Forestry that could provide a clearing house of information and useful templates and



models for communities to follow. "If a community wanted to save a forest, but didn't know how to do it, I wanted a place for them to come and benefit from all the knowledge that I learned. The Trust provides a project manager that can help communities through the daunting task of securing timberlands, covenanting them and providing a funding model that can both purchase and manage the land into perpetuity." To provide the business model to make this work so that communities don't have to rely on outside funding, Mortifee set up Living Forest Communities Inc. This company is able to raise the money from green investors and put together the development plan for the forest, which abide by the rules set by the Trust for Sustainable Forestry.

In the case of Mortifee's first project, the funds were raised by creating a very limited clustered subdivision at the edge of the forest for families

interested in small local economies connected to the forest, such as fine wood crafts. "We saw it as an opportunity to help nature and to give jobs to people who want to stay at home and not go to cities to work. Instead of the same 500 acres being clearcut by ten men in two months of work, you have a couple of families supported over their lives." The use of the forest is regulated under covenants held by land trusts to protect biodiversity values but still allow a limited amount of timber to be extracted. To set up the corporate structure, there is a contract between the Trust for Sustainable Forests and her company who became a limited shareholder. A portion of the profit goes back to the investors, a



portion to the company that manages the deal and a portion to the land trust that monitors the covenants. Money comes from the sale of the lots, from Ecological Gifting tax credits and from limited forest leases.

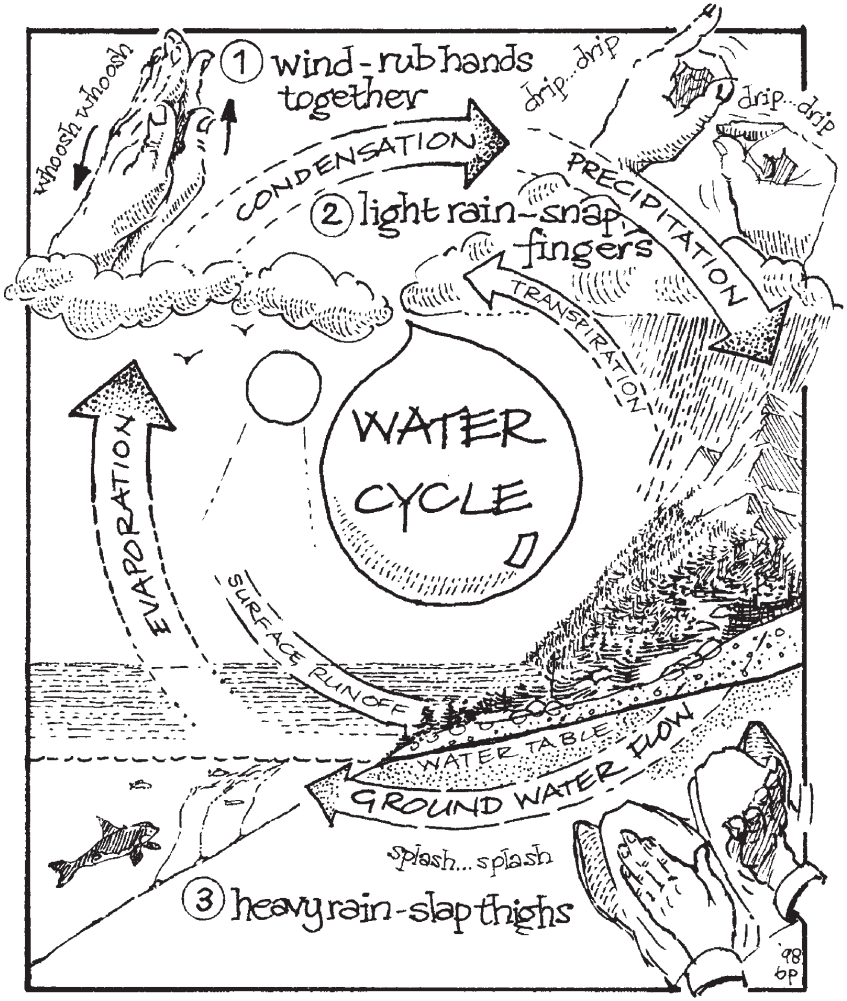
The Living Forest Communities is now working primarily on projects in forested lands near urban areas where there are huge competing pressures for maintaining forests and housing. Regional districts leery of land developers stripping and flipping lands are eager to go into partnership with Mortifee's company because they can offer secure legal protection of the forest and some housing. Logging companies not able to rezone their forest lands to housing are finding a way of getting out of a business that is increasingly difficult close to urban areas. Increasingly, people are demanding socially responsible investment options where investment are low-risk, non-speculative, long-term and don't harm biodiversity. Ann Mortifee can go back to singing again knowing that the eagles and frogs are safe.

SECTION 2.11

Eco-sense: Mud Homes That Meet the Code

On a parcel of land in the Highlands, on Vancouver Island, there is a hill full of rare wildflowers and North America's first code-approved, engineered load-bearing, insulated cob house which owners Ann and Gord Baird describe as a first in North America. What sets their 'eco-sense' home apart from many other green buildings is that they integrated all the principles of biodiversity conservation, energy conservation and sustainability as a replicable, affordable model. They selected a disturbed site for the house footprint, kept it small, used local materials as much as possible, and have tried to mimic natural systems including: solar PV and wind power, grid intertie, solar thermal heating, rainwater harvesting from a living roof, composting toilet, grey water re-use, and passive solar design. Eco-Sense defines natural building as the use of plentiful local and marginally processed natural materials to build a structure with systems (water, energy, waste, recovery) with the most neutral ecological footprint. Natural building also captures the footprint of the building over its entire life span.

"For us, Eco-Sense is a home, a lifestyle, a work ethic and a design for life. We think a home and all its systems should mimic the beauty and function of the natural world. This approach creates safe and sustainable living solutions while not taking precious resources away from future generations. Finally if it's not affordable ...it's not sustainable!" They biggest gift of Ann and Gord is that they have made their house a model



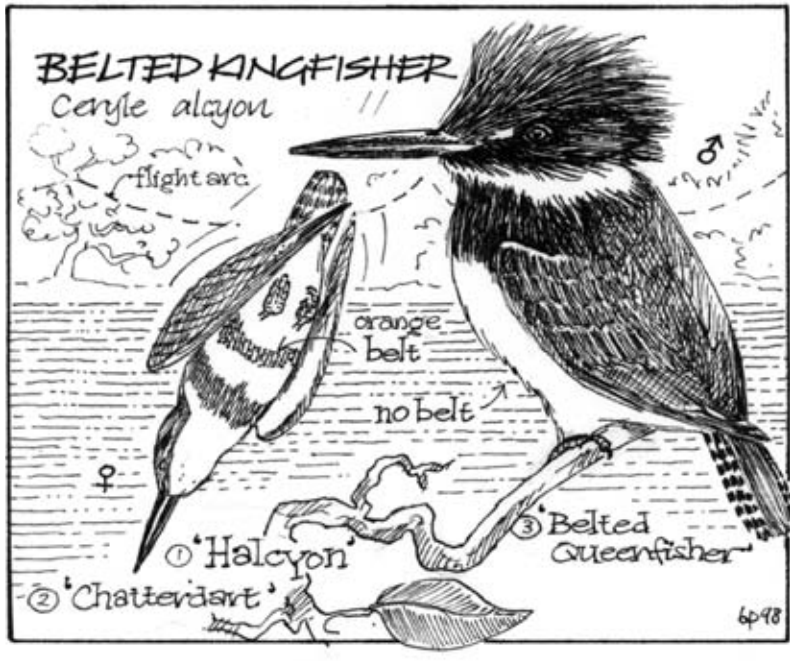
for anyone to copy, offering workshops, tours and a full website on the project. This includes fact sheets, and answers to all the questions people might have to venture on a similar project of their own.

Eco-Sense www.eco-sense.ca

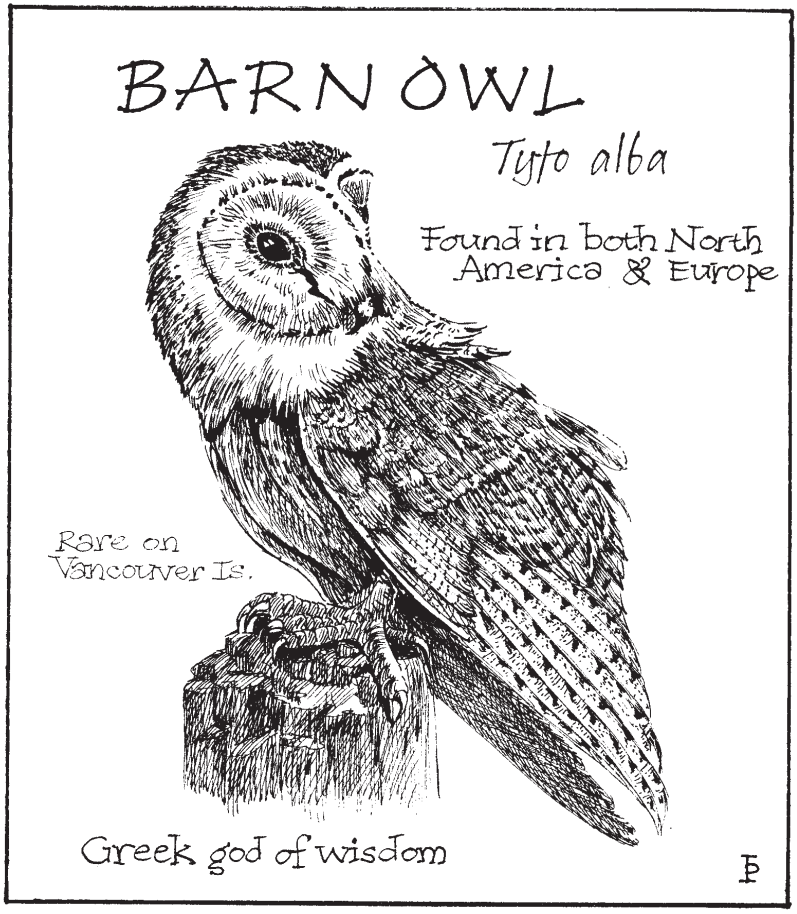
About the Authors

BRIONY PENN is best known for her award winning illustrated *Wild Side* columns in various regional publications and hosting the TV magazine show Enviro/Mental for three years with CHUM TV, nominated one of the top three magazine shows in Canada. A geographer from Saltspring Island, she has lived most of her life on the shores of the Salish Sea. She has operated a consulting business for environmental education and museum design since 1986 in Scotland and BC. She is an adjunct professor and has lectured in the School of Environmental Studies and Restoration of Natural Systems Program of the University of Victoria for over 15 years. An award-winning natural history columnist and feature writer, from *Canadian Geographic* to *Explore magazine*, and a BC Books bestseller with her book *A Year On the Wild Side*, she combines punchy media skills with her research affiliations at UVic.

As an activist, Briony has worked extensively with both local groups and provincial organizations, such as the Land Conservancy of BC (TLC) which she co-founded in 1997, and the Raincoast Conservation Foundation. Raincoast has established an international reputation for combining research and advocacy for the temperate rainforest.



ROBIN JUNE HOOD is an educator, documentary filmmaker and transformational coach. Robin combines creativity, deep listening, compassion and a love of wild places in her work for community and personal transformation. She has facilitated community development processes in Brazil, El Salvador, Guatemala and BC and has worked extensively in war zones with indigenous peoples. Robin was part of the Rainforest Solutions team that negotiated the protection of the Great Bear Rainforest, a vast wilderness area on BC's Central Coast. Robin recently worked for the Canadian Red Cross during the SE Asia Tsunami response and coordinated a global conference on creating resilient communities. Robin is an adjunct professor at Royal Roads University and an Associate with the University of Victoria's Office of Community Based Research. She lives in Victoria, BC.



For the Love of Nature: Solutions to Restoring Biodiversity is volume four in the Centre for Civic Governance's Going for Green Leadership series. With this handbook we've invited Briony Penn and Robin J. Hood to share their remarkable collection of stories about leadership in biodiversity.

Read about people behind initiatives like:

- Portland's City Repair
- Ottawa's Biodiversity Blitz
- Vancouver's Stanley Park Ecology Centre

And about key legislative and planning tools such as:

- Conservation Covenants
- Living Forest Communities
- The Natural Areas Protection Tax Exemption Program

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