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The Victoria NATURALIST

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Members are encouraged to submit articles, field trip reports, natural history notes, and book reviews with photographs or illustrations if possible. Photographs of natural history are appreciated along with documentation of location, species names and a date. Please label your submission with your name, address, and phone number and provide a title. We request submission of typed, double-spaced copy in an IBM compatible word processing file on diskette, or by e-mail. Photos and slides, and diskettes submitted will be returned if a stamped, self-addressed envelope is included with the material. Digital images are welcome, but they need to be high resolution: a minimum of 1200 x 1550 pixels, or 300 dpi at the size of photos in the magazine.

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COVER PHOTO: Snow covered Garry oak.
Photo: Claudia Copley

What a lovely fall we've been having – days so warm and sunny I've still been picking sun-ripened tomatoes from the garden. And Victoria's version of fall colour has not only had a chance to develop, but we can enjoy being outside to really appreciate it. Even the weeds are wooing me with their show: "Look at you, Blackberry!"

Talking of fall colour reminds me to mention that I have quantities of back issues of Ontario naturalist club magazines available to the first person to show an interest in them. One of them has a regular column called "Weather (This Time Last Year)" which always makes me smile. In case you had forgotten about the weather, this time last year, remind yourself by reading about Victoria's Christmas Bird Count (p. 10).

The talk of snow and the *mast seeding* event (production of many seeds) for Garry oaks this year prompted my choice of the cover image. I've been surprised not to see any Steller's Jays taking advantage of the bounty – the only thing missing from the spectacular autumn display.

Claudia

President's Message

By Darren Copley

What do I like the best about the City of Victoria? Beacon Hill Park. How about Vancouver? Stanley Park. New York? You guessed it. Central Park. Thankfully the founders of these cities had the forethought to establish a large park near the city core. Sounds like an easy thing to do, but now that I am working for a municipality I am even more aware of the pressure there must have been to develop in other ways. I can't think of a single large park that has been acquired near one of the larger municipalities in recent years. Ideally, all rapidly expanding urban areas would have the same foresight to establish large parks within walking distance of their core.

The pressures on these natural areas persist even after they are established, so really we have the "Friends of" groups to thank for their continued protection from alternate uses. Our Society has recently helped the Friends of Beacon Hill Park by contributing funding towards interpretive signs promoting some of the plant life found in the park. More

than 50 species of wildflower are reported in the park, and some of these species are critically endangered. If you can't make it to the park to see the new signs, then check out the Friends website at <www.friendsofbeaconhillpark.ca> to learn about the park's history and see how you can support their important efforts.

On an unrelated note, I'd also like to point out something that Ann Nightingale has done for the Society that many of you may not be aware of: she signed us up to an e-mail list service called Vertical Response. It allows you to choose for yourself which events you would like to be reminded about; simply visit the following page on our website <www.vicnhs.bc.ca/announcements.html> and sign up. This is our way of keeping you up-to-date with any last-minute program changes, as well as volunteer opportunities and other related events. I know we all receive a lot of unwanted e-mails, but this is a great way of staying involved with your Society.

Hope to see you at an upcoming event!

Beacon Hill Park Wildflowers



Common Strawberry
(*Fragaria virginiana*)



Harvest Brodiaea
(*Brodiaea coronaria*)



Oceanspray
(*Holodiscus discolor*)



White Fawn Lily
(*Erythronium oregonum*)



Yampah
(*Perideridia guindneri*)



Death Camas
(*Zigadenus venenosus*)



Yarrow
(*Achillea millefolium*)



Great Camas
(*Camassia leichtlinii*)

Garry Oak Woodland Edge

Beacon Hill Park is one of the largest remaining areas of deep soil Garry Oak habitat in Greater Victoria. Historical burning by First Nations kept the meadow clear of shrubbery and conifers for the cultivation of Camas, a major part of their diet. The oaks which grow here are stunted and shaped by the wind and weather. Flowers thriving on this side are slightly more shade tolerant than in the open.

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One of the three new signs up along Circle Drive in Beacon Hill Park.

VNHS Awards

Call for Nominations

VNHS members contribute to the Society in many ways. Some write articles for the *Naturalist*, some lead field trips, others serve on the board or on other committees. There are some who go out of their way just to make sure other members can continue to be a part of Society activities, by visiting shut-ins, or driving others to Society functions.

The Victoria Natural History Society Board of Directors established the Distinguished Service Award in 1988. This prestigious award is meant to honour those members who have given freely of their time over a long period, in a variety of ways for the Society. Any member of the Society can nominate any other member who in their opinion merits this honour.

The VNHS Distinguished Service Award is given annually to members who have shown such dedication. The Society may also bestow Honorary Life Membership on a member whose involvement with VNHS has been exceptionally long and dedicated. Please consider nominating a member, and send your nomination to the Society's address, or give it to one of the directors. **Nominations should be forwarded by February 28, 2010.**

All nominations must be in writing and should be signed by at least two members of the Society. A brief biographical sketch and a description of the contributions and achievements of the nominee, along with his or her address and telephone number, should be included. The Awards Committee reviews the nominations and makes recommendations to the Board of Directors, which grants the awards.

VNHS Distinguished Service Award Recipients

- 1989 Lyndis Davis, David Stirling, Katherine Sherman
- 1990 Anne Adamson, Charles Trotter, Robb Mackenzie-Grieve
- 1991 Ed Coffin, Mark Nyhof
- 1992 David Fraser, Margaret Mackenzie-Grieve
- 1993 Giff Calvert, Harold Pollock
- 1994 Kaye Suttill
- 1995 Bryan Gates, Bruce Whittington
- 1996 Gordon Devey
- 1997 Michael Carson
- 1998 No recipients
- 1999 Tony Embleton, Dorothy Henderson
- 2000 Tom Gillespie, Marilyn Lambert, David Pearce
- 2001 David Allinson, Beverly Glover, Hank Vander Pol
- 2002 Norm Mogensen
- 2003 Bob Chappell
- 2004 Oluna and Adolf Ceska
- 2005 Rick Schortinghuis
- 2006 Phil Lambert, Tom Burgess
- 2007 No recipients
- 2008 Ann Nightingale
- 2009 No recipients

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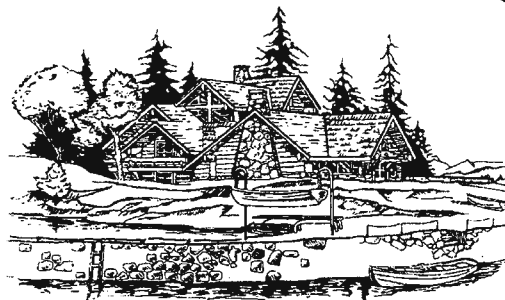
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Picking Up Chicks on Haida Gwaii

By Anne Hansen

I have a crush on oystercatchers, which is quite apparent in my paintings. Anything to do with these comical tide-line clowns completely captivates me. One day last winter, while walking on the beach at Dallas Road in Victoria, I struck up a conversation with an artist whom I had not previously met. As we talked about “my” oystercatchers, it emerged that she had lived on Haida Gwaii (the Queen Charlotte Islands) for several years. She mentioned that an organization there seeks volunteers to work at their marine bird research camp.

Next I rushed to the internet and soon found myself salivating over the volunteer guide booklet of the Laskeek Bay Conservation Society, based in Queen Charlotte City. Black Oystercatchers were featured prominently. The Society calls upon ordinary citizens to help biologists during their field season for a few weeks in the first half of summer. Their work is centred on the Ancient Murrelet, but they also monitor plants, marine mammals, and other birds.

The Society’s camp is on East Limestone Island, just north of the Gwaii Haanas park boundary. This isn’t far from the legendary Haida village of Skedans, immortalized in Emily Carr’s 1912 painting of the same name. According to the Laskeek Bay Conservation Society brochure, “It all started around a campfire back in 1989 when Dr. Tony Gaston of the Canadian Wildlife Service was talking to some local friends about the end of his six-year research project on Ancient Murrelets on Reef Island ... By the next year the Laskeek Bay Conservation Society had formed. In the spring of 1990, volunteers built a tiny cabin on East Limestone Island, hired a camp coordinator, and bought enough food and supplies to run a nine-week field research program. Local volunteers helped collect data, did observations and worked on the Ancient Murrelet project.” This citizen-run organization now celebrates its 20th anniversary.

Their original cabin has expanded. It has a wood stove, a fully-equipped kitchen fueled by propane, cold-and-cold



Jake Pattison and Anne Hansen handling oystercatcher chicks, Haida Gwaii. *Photo: Kevin Neish*

running water, coat racks, nature books, a stereo, and dining area with a view. An additional building also serves as a solar-powered internet office and meeting space for large groups. These cozy daytime quarters take the edge off rainy nights in tents, pitched nearby on tarped-over platforms.

One of the Society's goals is to "provide opportunities for non-scientists, especially students and local residents of Haida Gwaii, to participate as volunteers in our field programs, and to offer training to impart necessary field research skills." Outdoorsy people from all over the world are drawn to this little-advertised opportunity to be immersed in one of the world's most biologically-rich places. Volunteers donate a modest (tax-deductible) \$200 for food and transportation for their week, and, every Friday morning during the field season, a new set of volunteers is taken by float plane to Limestone Island, which in turn picks up the outgoing crew. We signed up for the week of June 13th, when the northern days are luxuriously long. Food, gear, and people are exchanged or unloaded into a motorboat, which moors a five-minute ride away in Boat Cove on East Limestone Island.

Upon setting foot on Limestone, we portaged all the stuff to the cabin, a half-kilometre away. It's a well-used trail traversing mossy rainforest with little understory – a perennial biological problem on the island since the introduction of deer. There is surround-sound, with thrushes on flute, woodpeckers on drums, and Winter Wrens assigned to the arias.

We are a group of five, led by Jake Pattison, a remarkably capable biologist, camp manager, and Jake-of-all-trades. We later learn – while being bowled over by the exquisite tomatoes served at dinner – that Jake's father is "Island Joe", famous for his tomato and cucumber grow-op on a small island within sight of the Queen Charlotte City. His farm serves the islanders from Sandspit to Masset. Jake's mother runs the natural foods store in town.

We were introduced to various safety procedures, particularly to the VHF unit, which is the lifeline to the outside world. That includes the Laskeek Bay Conservation Society office in Charlotte ("please bring more chocolate with next Friday's groceries"), other boaters, visitors approaching Limestone, researchers from another organization based on the adjacent Reef Island ("the Reef crew", whom we later have the privilege of meeting) – and the all-important weather channel.

There is also regular contact with the Haida watchmen at nearby Skedans Village. As the number of visitors to Haida Gwaii increased over the years, the Watchman program was established in 1981 to protect the villages, cultural resources, and artifacts of the Haida. In close coordination with Parks Canada, the Watchmen live at five village sites during the summer. They serve as guardians and provide interpretation services for kayakers, recreational boaters, researchers, and others.



Oystercatcher banded a previous year, Haida Gwaii. *Photo: Anne Hansen*

Jake divvied up our camp duties on the kitchen blackboard, so each person knew their practical jobs for the week, which included doing dishes, making supper, sweeping the cabin, making daily log entries, and checking raccoon traps. The best job was dumping the compost, which involved the beautiful hike back to Boat Cove.

The cabin's other little blackboard outlined the research tasks: check wildlife trees, sit at the edge of a magnificent cliff to look for whales, prune the trails, pull thistle, paint trail markers, look for blooming plants, and do seabird flyby counts at dusk. It being mid-June, there was nothing pressing to do in the auklet and murrelet breeding season department.

So where do the oystercatchers come in?

Seafaring on Haida Gwaii is always weather-dependent, so it was a couple of days before Jake took us on our first group motorboat foray to the outlying islands. We moored the skiff off a rocky headland of Low Island. Being some distance out, Low is one of the few islands that is deer-free. This is where we were introduced to the Reef crew, led by Jean Louis Martin, a scientist based in France, who has spent many summers in Haida Gwaii.

Meanwhile, I was very eager to visit the oystercatcher I spied peeking over the rocks.

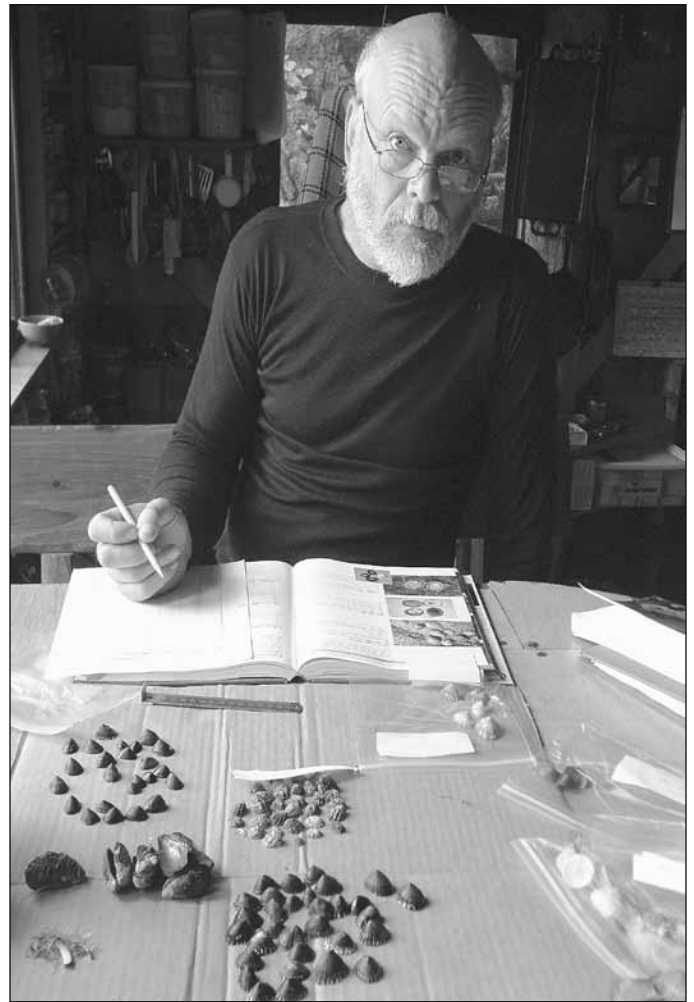
But not so fast!

First we had to go on a tour of the island. The energetic Jean Louis hustled us along a cliff edge, up to a higher elevation. After struggling through jungle for half an hour, we arrived at a nominal clearing. Jean Louis gave a fascinating talk on ecosystem possibilities on deer-free islands, and how their browse habits correlate to the presence or absence of predators. On Low Island, there were columbines, chocolate lilies, cow parsnip and lupines in profusion at the forest edge. The understory was virtually impenetrable, which is not the case on Limestone due to the abundance of deer.

Returning to the rocky headland where our boats were moored, we lunched on the knife-sharp rocks. With the comings and goings of oystercatchers over yonder, Jake extracted the "BLOY-kit" from his gear – BLOY being the four-letter code used by scientists to denote "BLack OYstercatcher." (Song sparrow is SOSP, varied thrush is VATH, etc.). The BLOY-box housed a notebook with previous data, weigh scales, bird-banding paraphernalia, draw-string cotton bags for chick containment, and measuring tools.

With instruction from Jake on what to look for, we combed the dark, jagged terrain in search of an oystercatcher "nest," which, hardly qualifying as a nest, is called a scrape. There were some very unhappy, agitated adult oystercatchers flying back and forth around us. Our untrained eyes were not accustomed to honing in on well-camouflaged scrapes, eggs, or oystercatcher chicks – all of which Jake summoned up for our wonderment.

Then we set into motion to "pick up chicks." That involved putting each baby oystercatcher in a little cloth bag, while notebook and weigh-scales are pressed into service. Jake called out some numbers for one person to enter into the appropriate column in the notebook, for example, the length of the tarsus (lower leg) and culmen (length of upper bill



Kevin Neish of Victoria, sorting shells found around oystercatcher nests. *Photo: Anne Hansen*



Introduced coastal black-tailed deer on the islands of Haida Gwaii have severely impacted forest understory vegetation. *Photo: Claudia Copley*



Transient killer whale. Photo: Marie O'Shaughnessy

mandible). The other person collected empty mollusk shells from the nest area, for further study back at camp. This procedure was followed later the same afternoon at South Low Island, where more oystercatchers were found.

The following morning two of us sat at the kitchen table, entering the previous day's oystercatcher-feed data in the permanent record. That involved separating the dozens of seashells by species. There was the occasional chiton or mussel, but limpets formed the bulk of the oystercatcher diet. With the help of the stunningly-photographed book *Marine Life of the Pacific Northwest* by Lamb & Hanby, we handled limpets that were either shield, masked or ribbed. We then measured and recorded the span of each shell. Conclusions can be drawn from this kind of data when compared over several years.

The next day was chosen for the group's day off. I sat on the beach and painted a couple of watercolors. Then some noisy resident oystercatchers announced their arrival, so I stalked them with my gumboots and camera. We then explored the only trail that we hadn't yet visited out of the half dozen on the island. Later, the waft of homemade cookies and bread emerged from the cabin, thanks to the efforts of two young women in our group, from Australia and Germany. In the cabin, Leonard Cohen's *I'm Your Man* album played on the stereo. When back in "civilization", I bought this recording, to bring back memories of this place.

The best oystercatching was yet to come the next day, June 17th.

Our first stop was to the Reef crew at their camp. We visited two sets of oystercatchers on Reef, one being what Jake later described as a "very experienced" pair. These parents had used the same site for many years, and one had a leg-band from a previous time. Their offspring were robust, and one was large enough to be banded. The "BLOY-feed" findings from this site confirmed that this oystercatcher family ate considerably more, and bigger, limpets than some of the others – which explained the healthy size of these chicks.

Our other mission was to observe activities on a sea lion haul-out. Jake wrote down some observations on this group of a hundred or so blubbery, grunting beings, basking on their rocky, windswept knoll out in the middle of nowhere.

The oystercatcher experience would have been thrilling enough, but add to that an extraordinary crossing of paths with a pod of orcas which kept emerging at close range. What luck to have encountered them in the morning and again in the afternoon! I don't know how Jake managed the motorboat, camera, and note-taking simultaneously, but his skills and keen eye paid off.

The Limestone Log (June 13-26, 2009), says: "A group of transient (mammal-eating) whales was seen on three occasions, and we were able to get photos as they passed by the sea lion haul-out at Reef. These photos are sent to the Pacific Biological Station in Nanaimo and help whale researchers keep track of the family dynamics and movement patterns of the whales. By consulting the photo catalogue of known whales, we were able to identify two distinctive individuals in the group – large bulls named T162 and T163. T162 has a very distinctive notch in the trailing edge of his dorsal fin."

At Oystercatcher stop #2, we climbed up on the rocks where there was a pair of birds exhibiting distress at the arrival of our intrusion. This was an advertisement to look for young ones camouflaged in the crevasses. We looked and looked, and found no evidence of a scrape, let alone young ones. So we retreated to the boat, went out a safe distance from the rocks, and bobbed in gentle waves under the mid-day sun. I remarked, "Wouldn't it be funny if a baby oysty came out of the rocks now?" Sure enough, a few minutes later, we saw a little grey chick emerge and scurry up the rocks towards its parents. And then another one! We sidled up to the shore and wandered around. With much difficulty, we found chick #1, lodged with determination in a deep crack. We'll never know whether chick #2 was a figment of our imagination, or very good at hiding.

Several weeks after returning home to Victoria, I see in the "Limestone Logs" on the website that in early July the camp crew spotted an oystercatcher that they had banded in 1994. Long live the oystercatcher!

For further information on the Laskeek Bay Conservation Society, go to <<http://www.laskeekbay.org/>>

Anne Hansen's oystercatcher art can be seen at <<http://www.oystercatchergirl.blogspot.com>>

Counters Needed!

By Ann Nightingale

If this was 1899, and not 2009, the title of this article would likely have been “The Christmas Bird Hunt”. Beginning on Christmas Day 1900, ornithologist Frank Chapman, an early officer in the then budding Audubon Society, proposed a new holiday tradition to replace the hunt—a “Christmas Bird Census” – that would count birds during the holidays, rather than shooting them. While elements of a hunt – the competition, quests for unusual birds, etc. – still persist, our “weapons” are now optical, not lethal, and there is no sense of waste or guilt in “collecting” thousands of individuals.

The Victoria Christmas Bird Count Circle, one of thousands across North America, is centred in the Marigold area. The goal is to count all birds seen or heard within a 7.5 mile radius of that spot, meaning our area stretches from Central Saanich to Metchosin. Other south island circles include Duncan, Salt Spring Island/Sidney, and Sooke.

Last year, we attempted to break the 200 participant level to commemorate our 50th anniversary of our count circle. Unfortunately, Mother Nature had other plans, and we were in the midst of a week of ice and snow! Still, 164 field participants and 79 feederwatchers counted 68,621 of 137 species. That was the highest species count in Canada,

The Christmas Bird Counts

Victoria – Saturday, December 19, 2009

Sooke – Sunday, December 27, 2009
(tentative)

Saltspring Island/Sidney
– Monday, December 28, 2009

Duncan – Friday, January 1, 2010

and the first year we’ve had that honour since 2004. This year, we’ll be trying to keep the crown and break the elusive 200 field participant level, too.

Birds of note in 2008, despite, and in some cases, because of the extreme weather included American Tree Sparrow, Least Sandpiper, Rough-legged Hawk and an amazing 79 Red-breasted Sapsuckers (usually only a few are seen). Other species with new high count records were Spotted Towhees, Golden-crowned Sparrows, Fox Sparrows, Dunlin, Mourning Dove, Downy Woodpecker, and Hairy Woodpecker. New species added to Victoria’s Christmas list were Eurasian Collared Dove and Gray Jay.

Count week runs from three days before, to three days after the actual count day, and allows us to pick up species that were not seen on the count day itself. Last year will be remembered for the return of Western Bluebirds during the Christmas Bird Count week for the first time since 1964. A flock appeared in Fairfield on December 22 and individuals remained in the area for several weeks.

2009 Bird Count Areas

	Area Name	Leader	Phone	Email
1	Butchart Gardens - N. Highlands	Warrem Drinnan	250-652-9618	drinnan99@telus.net
2	Central Highlands	Rick Schortinghuis	250-652-3326	shylo@islandnet.com
3	Goldstream - Finlayson Arm	Robin Robinson	250-391-5995	robinsnestridge@msn.com
4	Thetis Lake - Hastings Flat	Chris Motherwell	250-652-6450	cmtrain@shaw.ca
5	Langford Lake	Glen Moores	250-652-7072	gmoores@islandnet.com
6	Albert Head - Triangle Mountain	David Allinson	250-391-1786	passerine@shaw.ca
7	Esquimalt Lagoon - Mill Hill	Carol Wardle	250-294-9458	cwardle6@gmail.com
8	Esquimalt Harbour	Ian Cruickshank	250-382-1652	ian.cruickshank@telus.net
9	Portage Inlet - The Gorge	Daniel Bryant	250-361-9049	jingming@uvic.ca
10	Victoria Harbour	Mitchell Grant	250-384-4949	mdgrant@telus.net
11	Beacon Hill Park	Tom Gillespie	250-361-1694	twgille@telus.net
12	Oak Bay	Mike Edgell	250-656-5998	dadv@uvic.ca
13	University - Cadboro Bay	TBA	250-652-6450	motmot@shaw.ca
14	Ten Mile Point - Arbutus Rd	Andy Stewart	250-477-1328	andy.stewart@shaw.ca
15	Gordon Head - Mt. Douglas	Margie Shepherd	250-477-5280	c/o motmot@shaw.ca
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18	Elk Lake - Cordova Bay	Mike McGrenere	250-658-8624	mmcgrene@shaw.ca
19	Prospect Lake - Quick’s Bottom	Dave Fraser	250-479-0016	Dave.Fraser@gov.bc.ca
20	Martindale - Bear Hill	Mike Bentley	250-479-7024	mbentley@lgl.com
21	Zero Rock (ocean)	TBA	250-652-6450	motmot@shaw.ca
22	Chain Islets (ocean)	Marilyn Lambert	250-477-5922	lambert@pacificcoast.net
23	Juan de Fuca (ocean)	Ron Bates	250-386-1264	rbates@bc1.com

You don't have to be an expert birder to participate. Counters under 18 years of age and Bird Studies Canada members are invited to participate at no charge. Other counters are asked for a \$5 tax-deductible contribution to offset the costs of the count and follow-up publications. Novices will be teamed up with more experienced counters. Anyone can help out by acting as a tally person or as a spotter. There are a few "keeners" who go out looking and listening for owls in the pre-dawn hours, and a few teams of boating birders who check out the offshore waters, weather permitting and suitable boats available. Feeder counts can be reported via the VNHS website.

If you are curious, interested, would like to see lists and pictures of the region's winter birds, or just need more information, please check out the VNHS website <www.vicnhs.bc.ca/cbc/> and the Christmas Bird Count site <www.birdsource.org> or contact Ann Nightingale at 250-652-6450 or by email at motmot@shaw.ca for the Victoria count; Jean Brouard at 250 653-2335 or by email at johnbro@saltpring.com Salt Spring/Sidney counts; and Derrick Marven (marven@shaw.ca; 250-748-8504) for the Duncan count. If you have a preference to count in a specific area, you may contact the team leader for the area directly.

Save the Sooke CBC!

The Sooke count is looking for a new leader. It has a much smaller group of volunteers to wrangle (usually fewer than 50), but still a good core of people who know where to find the birds. If you can spare a few organizational hours – even if you can't personally get out to count the birds – you could save the Sooke Christmas Bird Count. Dick Cannings can provide all of the background you need, including contact info for previous counters. I'd be happy to help coach a new leader to make sure that nothing slips through the cracks.

Post-Count Gathering – Saturday, December 19

After the day of counting is over, we'll have a post-count gathering to share stories and find out how we have done as a group. The idea of a pot luck definitely seemed to have more interest than actually bringing food, so this year, we're trying something a little different. You can bring a salad, a dessert, a pot luck entree or contribute \$7 towards other items, which will include a variety of pizza this year. Everyone who plans to attend will need to register their item on the VNHS website or by phoning or emailing me (Ann Nightingale, 652-6450, motmot@shaw.ca). The post-count gathering will begin at **5 pm at St. Luke's Church Hall, at the corner of Cedar Hill and Cedar Hill Cross Roads.** I am always looking for a helper or two to handle the post-count gathering, so if you can help out, please let me know. You don't even have to be a birder!

Here is this year's list of leaders. If you'd like to be a bird counter this year, please contact the leader for the zone you'd like or register on the VNHS website. And don't forget to invite a friend!

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Well-rooted

By Kem Luther

Rain came down in heavy bursts yesterday, ending one of the driest summers on record. Mushroom season will soon begin on the southern tip of Vancouver Island. This morning I climb to a forested area where I have found carpets of mushrooms in past years (Figure 1). I haven't come to my old haunt this morning to gaze on fungi, though. The rain was just an invitation to the mushrooms. More water and more time are needed to coax the fruiting bodies into view. I am visiting before the mushrooms arrive to think about the role played by the invisible mushrooms of these forests.

On the way to the top of the hill I push through bushes laden with the bounty of late summer: salal berries, huckleberries, blackberries. Red-breasted Nuthatches make the woods ring with their nasal taunts. Near the top of the hill I plop down on a bed of tree moss and lean back against the fallen bole of a forest giant. The scene in front of me is dominated by stands of Douglas-fir.

There is more life in this forest than the fraction of it that I can see. Most of the biomass is in the ground, even on these thin-soiled hills. A quarter or more of that underground biomass is the invisible hyphae of fungi. The message of isolation presented by the separate trunks is also misleading.

The trees touch lightly at their crowns, but sky handshakes are just polite, pass-on-the-street greetings. The nub of the conversation between the trees goes on unheard, a susurrus of chemicals at the margins of the overlapping rhizospheres. The words spoken by the trees babble along a network of mycorrhizal fungi.

With my fingers I turn up a patch of ground next to me. Yesterday's heavy rain has not penetrated – I'm soon clawing through a lace of dry roots. I bring up a clump of soil and look at it with a hand lens. Here are the telltale signs of mycorrhizas: blunt lateral rootlets covered with what looks like tightly-wound gauze bandages. Interlaced with the roots are the white mycelia of decomposing fungi. I put my nose into the hole I have dug. The smell of mold and mushroom fill my senses.

Mycorrhizas

We have been slow in coming to an understanding of the fungi that share the earth with us. In the last two centuries we have put names to a hundred thousand species. Mycologists believe, however, that this figure represents less than 5% of the earth's fungal species. We have been even slower



Figure 1. Photo: Kem Luther. Unless otherwise noted, images are the property of the National Research Council of Canada and used with permission.

to grasp the significance of the mycorrhizal fungi that live in symbiosis with the plants. In the last 50 years, an intense study of mycorrhizas has overturned many of our early assumptions about mushrooms. Mutualism between fungi and the higher plants, once thought to be an exception, is now considered the rule. More than 90% of plant species are capable of forming fungal partnerships. We now know that mycorrhizal fungi, not plant roots, are the principal organs for nutrient uptake from the soil.

A few of these mycorrhizal relationships may be purely parasitical, the plant exploiting the fungus or the fungus living off the largesse of the plant, but the vast majority of the arrangements are tit for tat. The plants photosynthesize carbon compounds and pass them along to the fungi at their roots. Host plants tithe and even double-tithe their net production of carbon to support their fungal partners. In return for this generosity the fungi enlarge the rhizospheres of the plants. Suzanne Simard at UBC has calculated that fungi expand the surface area of some root systems by sixty-fold. The minute fungal hyphae, wedging into spaces too small for root hairs to reach, shuffle a steady supply of water and nutrients—phosphorus and nitrogen in particular—to the host plant. To acquire these, the fungi employ enzymes to deconstruct biological sources of the nutrients. Some fungi use hydraulic action and acids to break down mineral components of the soil. In their relentless search for nutrients, mycorrhizal fungi even resort to predation: in 2001 a soil ecologist at the University of Guelph discovered that springtails, which often feed on fungi, dropped dead when they fed on *Laccaria bicolor*, a mycorrhizal companion of local conifers. The *Laccaria* mycelium absorbed the nitrogen from the dead insects and passed it along to the conifers. Imagine sitting down to eat your favorite pub grub and having it eat you and serve up your leftover body parts to the kitchen staff!

Exchanges of carbon and nutrients are the essence of mycorrhizal symbiosis, but the pact between fungi and their plants often include less tangible benefits. Mycorrhizal fungi protect their hosts from a variety of pathogens. Fungi also provide a soil context that encourages the establishment of new host plants. And the fungi encourage the growth of essential soil bacteria and their grazers, both of whom play crucial roles in the lives of fungi and plants.

Arbuscular Mycorrhizas

In the forest before me there are two important kinds of mycorrhizal relationships. The oldest of these connections between host plants and fungi is one that mycologists call “arbuscular mycorrhizas (AMs).” Spores that are typical of AM fungi appear in Silurian fossils that are 440 million years old. The earliest exemplars of these fungi, it is now believed, may have appeared a billion years ago. That would place the emergence of AM fungi before the oldest incursions of plants onto the land. Could a fungal association have made possible the migration of photosynthetic water plants onto the soil-free land? The lichenized fungus eking a living off of the bare rock near me suggests that the idea has some



Figure 2. A light microscope image of the hyphal coils and arbuscules of *Glomus intraradices* in cortical cell of a Ginseng root.

merit. I don’t see any vascular plants nibbling away at the rock.

AM connections are characterized by the coils of hyphae and the tree-like arbuscules that form inside the root cells of the host plant (Figure 2). The fungi that make AM connections belong to the Glomeromycota, a group recently raised to phylum status. Only 150 species populate this phylum, but there will surely be many more when taxonomists get their act together. *If* they get their act together—as taxonomists like to point out, “fungal systematics” is an anagram for “fantastic ugly mess.”

For the most part the primitive fungi of the Glomeromycota reproduce asexually. They don’t form fruiting bodies. They are, however, extremely common: two thirds of all known species of land plants accept AM symbiosis with a member of this phylum. It may be that all land plants have the genetic disposition to form a partnership with AM fungi, and species that don’t allow AM connections have rejected, somewhere in their evolutionary careers, the deep code of this symbiosis.

AM fungi colonize new plants with phenomenal speed. Transplant a new seedling into a location inhabited by the right fungi, and hyphae several centimeters away will immediately start to grow toward it, presumably attracted by some chemical signature in the seedling. Within two days of contact the AM fungi will form its first structures on the exterior wall of the root. In less than two weeks after contact, the new plant will be maximally colonized and arbuscules inside the cells will be well-formed. From then on, the AM fungus and the host plant are an almost indissoluble unit.

Ectomycorrhizas

AM connections are characteristic of species-rich ecosystems. A typical AM event would involve an agricultural plant on lush prairie soil or a fast-growing tree in the tropics. The biogeoclimatic zones of Vancouver Island are not their favorite ecosystems. Still, AM connections are frequent in these soils. When we think of mycorrhizal associations in this area of the world, however, the ones we call “ectomycorrhizas” (EMs) command our attention.

EM associations are much more recent than their AM counterparts. EMs may have arisen in the early Carboniferous, a mere 130 million years ago. Fewer than 5% of plant species form EM connections. Their importance is multiplied, however, by the type of plants and the amount of the earth's surface occupied by these plants. Trees in the pine and oak/beech families—the kinds of trees that predominate in the Pacific Northwest—seem to prefer EM connections.

Three features mark an EM colonized plant: (1) a sheath of hyphae, a “mantle,” around sections of the plant root; (2) an extension of the fungus into areas between the cell walls of the root that takes the shape of “Hartig net” (Figure 3); and (3) a network of hyphae that reach into the soil around the root. The name “ectomycorrhizal” comes from a supposed fourth feature, the failure of the fungi to reach into

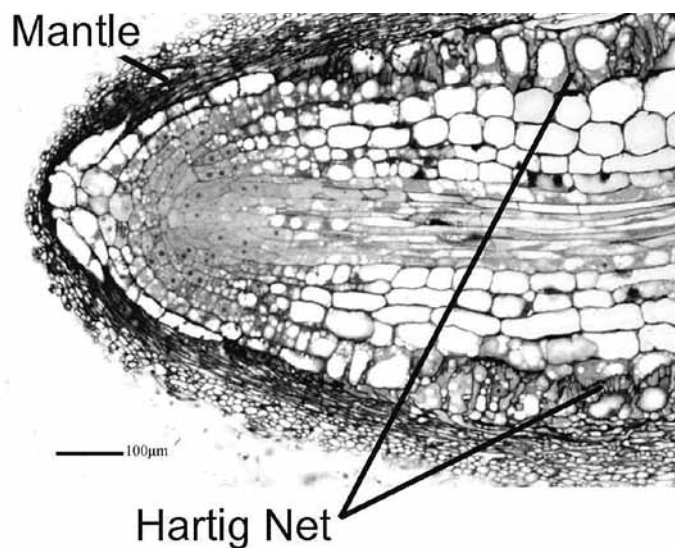


Figure 3. Longitudinal section of the root of an Alder colonized by the Red Gravel, the truffle *Alpova diplophloeus*, showing the mantle and Hartig net of the fungus.

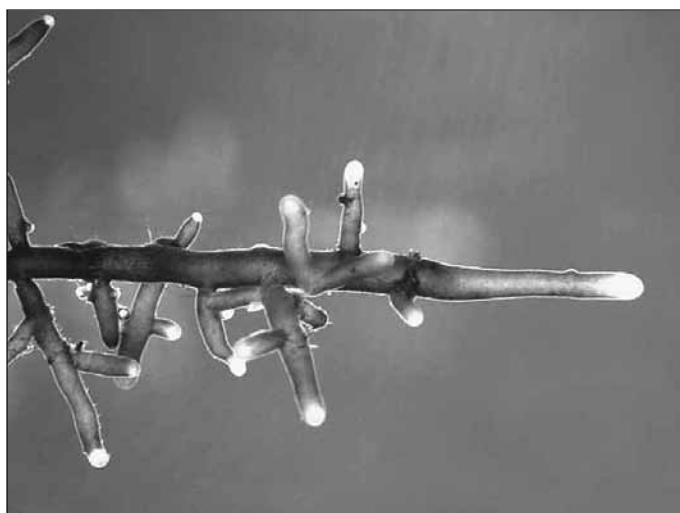


Figure 4. Slimy Milk Cap (*Lactarius pseudomucidus*) mantles on the root tip and lateral roots of a Western Hemlock. Photo: Marty Kranabetter.

the cells of the root in the way that endomycorrhizas (AM fungi) do. But this is no longer considered an invariable feature: under certain situations EM fungi may penetrate the cell walls of the host plant. Using what looks like nomenclatural sleight of hand, mycologists transfer most of these cell-invading exceptions to new categories of mycorrhizal associations.

EM fungus-root associations are more visible than AM connections. Not only can we see the mantles and bundles of EM hyphae with a good hand lens (Figure 4), the fungi that make EM connections are the familiar mushrooms whose fruiting bodies pop up every autumn. At least 6000 different species of fungus are known to make EM connections to host plants (Figure 5). When we happen on Boletes, Cortinarias, Chanterelles, Fibreheads, Hedgehogs, Russulas, Trichs, and Amanitas growing around our local trees and bushes, chances are good that the fungi have EM associations with the plants. While some EM relationships are between specific fungal and plant partners, such as those between certain *Suillus* species and their hosts, generality seems to be the norm. Over its range a given species of tree may cohabit with thousands of fungal species and a single tree can have ten or more different EM associations. The specific partnerships vary as the host plant grows, but by the time a tree has reached 40 years of age it generally has the EM relationships that it will keep for the rest of its life. The Douglas-firs in the forest around me are especially promiscuous when it comes to choosing fungal partners.

In some cases EM fungi envelop 90% of the root tips of the trees that are their symbiotic partners. The mantles



Figure 5. *Gomphus kauffmanii*, an example of a fungus that forms ectomycorrhizal connections. Photo: Adolf Ceska

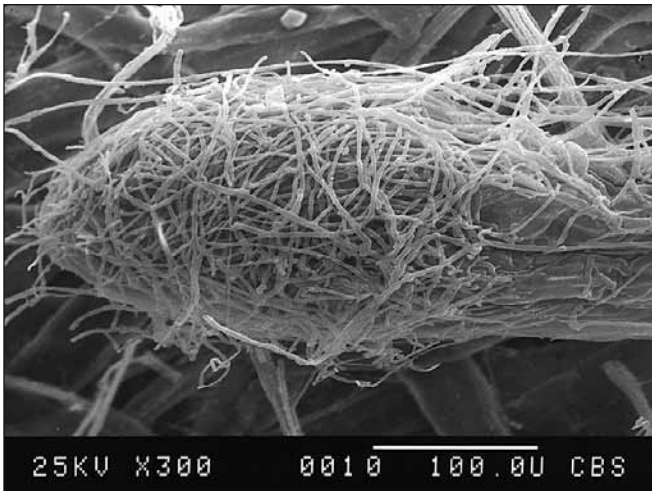


Figure 6. A scanning electron microscope image of an Alder (*Alnus crispa*) root tip that has been colonized by the EM mushroom Poison Pax (*Paxillus involutus*).

they form often replace the root hairs that the plants would employ in the absence of fungal liaisons. Mantles send out hyphal extensions into the surrounding soil (Figure 6). If conditions are right, the hyphae expand the rhizosphere of the root at one or two centimeters a week. A single kilogram of dirt from a forest like this can contain 200 kilometers of fungal strands.

Common Mycorrhizal Networks

Thinking about host plants and their EM or AM fungi as a single unit is a revolutionary idea. But research over the last twenty-five years hints at an even more radical concept. We know that a given mycorrhizal fungus may colonize several plants in the same area, even plants of different species. We have also discovered that the hyphae of compatible mycorrhizas readily fuse into a single, interconnected mesh. These complex meshes we call “common mycorrhizal networks (CMNs).” Radioactive tags demonstrate that carbon compounds from one photosynthesizing plant are shunted along the interconnected hyphal strands of a CMN. The carbon made by one tree can end up in the root systems and even in the shoots of another plant,

We can see evidence of ectomycorrhizal CMNs in our Vancouver Island forests. When a tree that is part of a CMN is cut off a meter above the root, it doesn’t always die. It can persist as a living stump, begging crumbs of sugars and nutrients from the fungal mesh that it once supported (Figure 7). Other clues to the presence of CMNs are the herbaceous plants that do not make their own chlorophyll. The local monotropes, Indian Pipe and Pinesap, are not saprophytes living off the decaying duff of the forest floor. As Bryce Kendrick pointed out in the January/February 2007 issue of this magazine, their roots form mycorrhizal partnerships with *Russulas* and other fungi that are part of CMNs. The carbon and nutrients that monotropes require are derived from their CMN partners. Several of the coral-root orchids have the same arrangements.

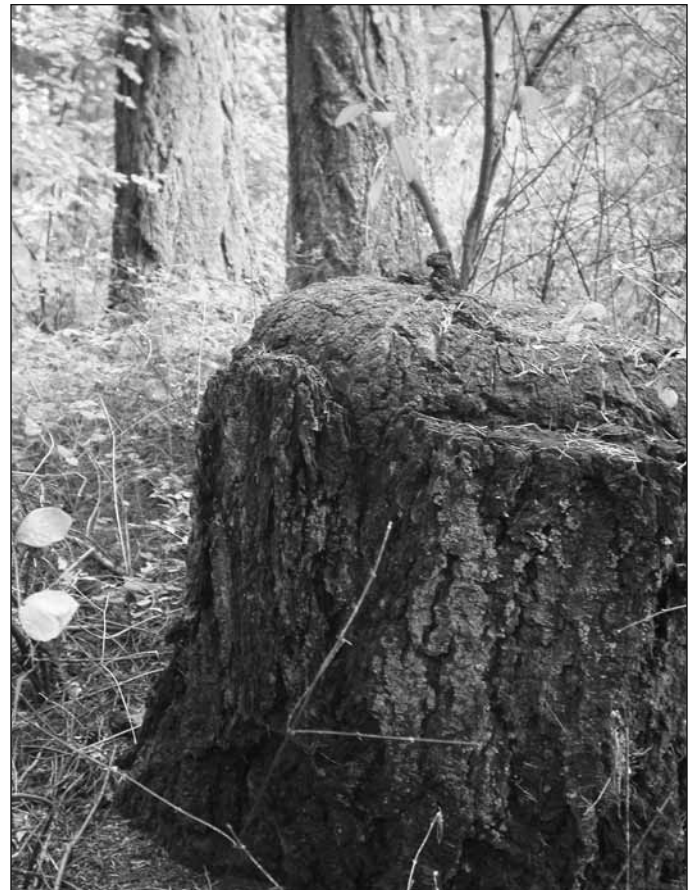


Figure 7. A living stump, kept alive by fungal-root connections. Photo: Claudia Copley

The mere existence of CMNs is one of those paradigm-busting ideas that threaten to overturn the way we think about the world. When a forest ecologist told the late Donella Meadows, one of the authors of *Limits to Growth* and the founder of the Sustainability Institute, about CMNs, the revelation stopped her in her tracks. “The trees pass stuff around?” she asked, “What does that *mean*?”

We have only begun to put answers to Meadows’ question. At a minimum, CMNs threaten to overturn our notions of evolutionary competition, ecological dynamics and forest management. But the study of CMNs may carry us much further in coming decades. Our picture of what happens in scenes like the one in front of me this morning is decidedly phytocentric, biased toward the vascular plants that fill our fields of vision. It is the fungi we can’t see that are managing a significant part of the forest budget, sharing out the limited resources, deciding who thrives and who dies. To really comprehend what is going on we may have to shift to a more myocentric view, one that sees the forest and not just the trees.

I lever myself from my seat of moss and shift my weight to legs gone stiff from the long sit. I begin to make my way down the hill, already thinking about my return. I’ll come back in a month, when the little managers of this forest, busy with their riot of reproduction, make themselves more visible.

Tar Sands Oil Development Could Claim More Than 160 Million Boreal Birds

Science-Based Report Outlines Devastating Impact for Birds in U.S. and Canada

Extraction and refining of heavy oil from Canada's tar sands is taking a significant toll on migratory birds throughout North America, according to the report: *Danger in the Nursery: Impact on Birds of Tar Sands Oil Development in Canada's Boreal Forest*. This peer-reviewed policy and science document outlines the current and projected impacts the tar sands oil industry is having on migratory bird populations in the boreal forest of Alberta and along the hemisphere's flyways. The report is available online at <http://www.nrdc.org/wildlife/borealbirds.asp>

"At a time when bird populations are rapidly declining, this report puts into perspective the far reaching effects of tar sands oil development on North America's birds," said

the report's lead author Jeff Wells, Ph.D. of the Boreal Songbird Initiative. "The public needs to understand the real and long-term ecological costs of this development and determine if this is acceptable."

Canada's boreal forest is a globally important destination for birds as a nesting area and breeding habitat, especially for an array of wetland-dependent birds. Unfortunately the rapidly expanding tar sands oil extraction industry increasingly puts these birds at risk. It is estimated that half of America's migratory birds nest in the boreal forest, and each year 22–170 million birds breed in the area that could eventually be developed for tar sands oil. The report projects that the cumulative impact over the next 30–50 years could be as



Suncor Millenium Mine north of Fort McMurray. Photo: David Dodge, Pembina Institute

high as 166 million birds lost, including future generations. The report suggests impacts will increase in the next 30–50 years, despite international treaties to protect these birds.

Almost every aspect of oil development affects migratory birds throughout the flyways of North America. In Alberta, tar sands mining and drilling causes significant habitat loss and fragmentation. Toxic tailing ponds result in 8,000 to 100,000 oiled and drowned birds annually (for example, 500 ducks died in a single incident after landing in one of the polluted water storage lakes). Tar sands mining is a water-intensive process, licensed to use more water than a city of three million people.

The threat to birds is not contained exclusively in Alberta. Increasing development of tar sands refinery and pipeline infrastructure is creating a direct pollution delivery system into the Great Lakes. The resulting decrease in air and water quality affects migratory birds, which will suffer elevated mortality as a result of contaminants and toxins from refining. Most importantly, global warming changes already affecting boreal birds are exacerbated by the tar sands, which account for Canada's fastest growing source of greenhouse gas emissions.

The report was released by a group of concerned environmental and conservation organizations to highlight the growing problem. In the report, experts from the Natural Resources Defense Council, Boreal Songbird Initiative, and Pembina Institute outline potential policy changes that can

The loss of as many as 166 million birds is a wholly unacceptable price to pay for America's addiction to oil.

be made on both sides of the border. The report was peer-reviewed by 10 scientists in the U.S. and Canada.

"This report is yet another wake up call to the government in Alberta, as it confirms that the cumulative impact of oil sands development is on an unsustainable trajectory," said Pembina Institute's Simon Dyer, a contributing author to the report. "It is clear that oil sands mining and in-situ development is already taking a toll on boreal birds. Alberta must move quickly to implement long overdue conservation planning and policies to address these impacts."

"The loss of as many as 166 million birds is a wholly unacceptable price to pay for America's addiction to oil," said NRDC's Susan Casey-Lefkowitz, a contributing author to the report. "Birds tell us so much about what is going on in the environment around us. This report makes it very clear that they are telling us it is time for a change in American energy policy. There are better energy options available



Oiled duck. *Photo: Sun Media Corp.*

in North America that do not foul our air, poison our waters, or kill our backyard birds.”

Tar Sands

The tar sands oil boom in Alberta has been fueled by an increasing market in the U.S. for the synthetic crude oil refined from bitumen. The bitumen is mixed in the sandy soil below the boreal forest, and mining, extracting, and upgrading it into synthetic crude produces significant greenhouse gas pollution. Producing one barrel of synthetic crude generates three times the greenhouse gas emissions of a barrel of conventional oil. Tar sands crude has been the source of significant controversy on both sides of the border. The U.S. Conference of Mayors and United States federal government have both pledged to focus on fuel sources with lower emissions. In the Great Lakes region, there has been a public outcry over lax pollution permits granted to a number of high profile projects being undertaken to increase tar sands refining, such as the BP expansion in Whiting, IN. More information is available at <www.oilsandswatch.org> and <www.nrdc.org/energy/dirtyfuels.asp>

Birds of the Boreal

The report identifies a variety of species threatened by tar sands extraction and refining, including Whooping Cranes, Buffleheads, Bohemian Waxwings, Canada and Blackpoll Warblers, White-throated Sparrows, goldeneyes, Lesser Scaups, and a variety of jays. More information is available at <www.borealbirds.org/>

Editor's Note: This report was released in early December last year, and I have thought about including a mention of it in every magazine issue since then. The press that followed it was the usual few column mention that conservation issues typically get, so it was easily missed. Greenpeace activists have been working hard to keep the media's attention on the issue, and I thought some people might want to read the original report to remind themselves of the reasons for their protests.



Evening Grosbeaks are among the bird species impacted by the tar sands. Photo: D. Faucher, Ducks Unlimited

The **Natural Resources Defense Council** is an international, nonprofit organization of scientists, lawyers and environmental specialists dedicated to protecting public health and the environment. Founded in 1970, NRDC has 1.2 million members and online activists, served from offices in New York, Washington, Chicago, Los Angeles, San Francisco and Beijing. <www.nrdc.org>

The **Boreal Songbird Initiative** is a non-profit organization dedicated to outreach and education about the importance of the boreal forest region to North America's birds. BSI works to mobilize environmental and birding groups and individuals to protect North America's birds. <www.borealbirds.org>

The **Pembina Institute** is a non-profit sustainable energy think tank that advances solutions through innovative research, education, consulting and advocacy. It promotes environmental, social and economic sustainability in the public interest by developing practical solutions for communities, individuals, governments and businesses. The Pembina Institute provides policy research, leadership and education on climate change, energy issues, green economics, energy efficiency and conservation, renewable energy and environmental governance. <www.pembina.org> and <www.oilsandswatch.org>

Welcome to New VNHS Members

Our Society grew by 14 new members since the last issue. The following agreed to have their names published in our “welcome” column:

Josephine Munro
St. George's Lane
native plants

Jenny Clark
Hilda Street
birds, botany, marine

Roger White
Rathdown Place
Birds, geology, travel

Rosanne Fife
Seaton Street
birds, local natural history

David Blair
Esplanade

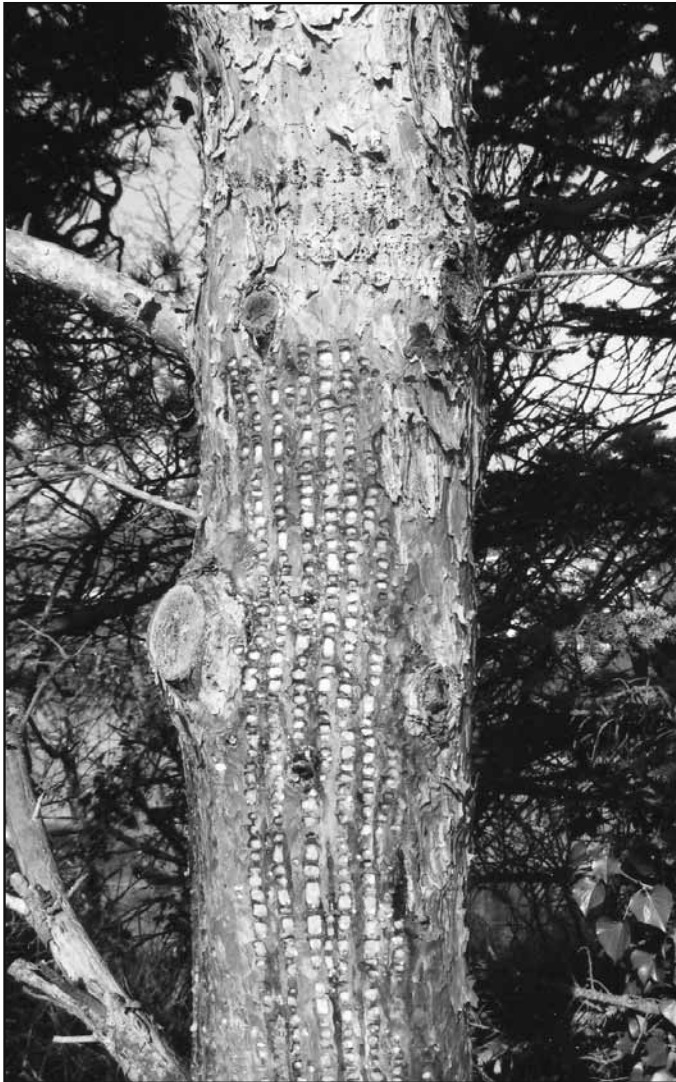
Karen Ferguson
Saltspring Island
*All natural history:
especially birds, botany,
marine, butterflies*

Dr. Jennifer Dodd
Drennan Street
*All natural history. Back-
ground is science teaching
and environmental
education.*

Woodpecker Workings

By David Stirling

Seventy nine Red-breasted Sapsuckers were recorded on the Victoria 2008 Christmas Bird Count. A record! Previous high was only 15 (Nightingale, 2009). The severe weather had pushed these birds out of their normal habitat to seek unfrozen nourishment at lower elevations (Guiguet, 1954). Sapsuckers were suffering. Sufferin' sapsuckers! Sounds like an expletive Gabby Hayes, that old time western movie actor, might have used when he wasn't calling someone a "no good sidewindin', hornswaglin' cracker croacker." Sapsuckers have a penchant for fruit trees and ornamental trees that are not part of their normal diet. In Victoria they have a liking for the sap of the Scots Pine. Perhaps it is the sapsucker's equivalent of single malt.



Red-breasted Sapsucker wells. Photo: David Stirling

One of Victoria's 79 sapsuckers found a warm food source on the south facing trunk of a Scots Pine growing against the reservoir on Mt. Tolmie. This picture shows a group of about two hundred sap wells at eye level on the reservoir's top, on a 12 m tall pine with a diameter at breast height of 23 cm. The wells are arranged in five vertical rows on a rectangular patch measuring 13 by 66 cm. Silent Sam, the sapsucker, quietly moved around to the back of the trunk when people approached or, if necessary, fluttered into the thick branches of a nearby Norway Spruce.

At the same time a Pileated Woodpecker was disassembling a fir stump opposite the parking lot at the beginning of the trail to Blenkinsop Lake. The pileated, unlike the sapsucker, is a hardy bird that can survive the winter in the northern boreal forest. At the photo location it was likely digging for the larvae of wood borers or hibernating carpenter ants. Some of these holes were 25 cm deep. This bird was reported to be quite tame and allowed close approach before flying off. A well wisher has tacked up two lard blocks.

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The Victoria Naturalist. Volume 65 Issue 5 p. 14

Guiguet, C.J. 1954. *The Birds of British Columbia: 1) The Woodpeckers; 2) The Crows and Their Allies*. British Columbia Provincial Museum Handbook No. 6. Victoria, BC. 51 p.



Pileated Woodpecker (Photo: Marie O'Shaughnessy) and its excavations (Photo: David Stirling).

Good Neighbours



Living on Vancouver Island and the Gulf Islands is special, and it presents special challenges. We live in the midst of the broad strokes of nature's brush: from the coastal Douglas-fir forests to the kelp forests; the Garry oak meadows to the eelgrass meadows. Of course, the ferries can always take a whack out of your day (and wallet), but for a land trust, it's the sky-high property prices and the lack of public land that make our job of permanently protecting natural ecosystems especially difficult.

Because we cannot acquire everything we need to, HAT believes that private property owners must become stewards of our natural ecosystems if we want to conserve our region's natural values. One way that HAT promotes private land stewardship is through our "Good Neighbours" program. Since 2002, HAT has reached out to thousands of land owners adjacent to sensitive ecosystems, and hundreds of them have agreed to become Habitat Stewards. This year, HAT is focusing on the Millstream Watershed, and next year we will be working at Island View Beach. If you, or someone you know, lives in one of these areas, and is interested in becoming a Habitat Steward, please contact us – our contact information is at the end of the second news item.

—Adam Taylor, Executive Director

What do salmon, native plants, and Scouts have in common? They're all part of the Millstream Good Neighbours Project. This season HAT staff are in the Millstream Watershed working with residents to protect Millstream Creek. As in previous award-winning Good Neighbours projects, HAT staff provide free information packages and confidential visits to landowners interested in learning more about how they can best protect the natural values of their properties.

Draining an area of 26 sq. km. from the Highlands down into Esquimalt Harbour, the Millstream Watershed is home to a self-sustaining salmon run that sees 300 fish return to the creek each year. It is also at an important threshold of 10-15% impervious surfaces: roofs, driveways, parking lots, and other paved surfaces stop water (and pollutants) from filtering through into the ground, instead directing all the runoff into storm drains or directly into the creek. This increases the sheer volume of water and prevents natural filtering processes, altering the natural flow patterns and increasing downcutting and streambank erosion.

HAT Land-Care Coordinator Todd Carnahan and Outreach Intern Maggie Knight also meet with landowners at community events. HAT's Millstream Speaker Series has featured a Garden and Woodland Tour and a Salmon Stream Care and Restoration Walk, with more events to come in the fall. HAT draws on regional experts such as David Polster, Pam Wesley, Bob McMinn, and Peter McCully to share local solutions from neighbour to neighbour. Local Scouts are helping out too, painting yellow fish on storm drains and helping with streamside invasive species removal and native plantings. To receive your free information package, please contact HAT at 250-995-2428 or hatmail@hat.bc.ca. For more information on the project, please visit www.hat.bc.ca

—Maggie Knight, Outreach Intern



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Letters

Thank-you letters from students and teachers participating in the VNHS *Connecting Children with Nature* Project, where member volunteers lead school groups into nearby natural areas.

The letters below are from the Strawberry Vale Elementary School students in Mrs. Mead's Grade 2 class after John Henigman took them for a nature walk around the school as part of the VNHS Schools Project. They are unedited, because that is *my* favourite part.

My favourite part was when you tolled us all about how Garry Oaks got their names – *Georgia*

Thank you for sowing us the mosquito – *Nathalie*

John I never new that the first nashens berned ouk trees! – *Katie*

Thanks for bringing the Bugs. I didn't now mosquitos cared dezezeez – *Keegan*

My favourite part was when you showed us the layers on the rocks – *Kirsty*

I loved the mosquitos – *Spencer*

I liked the Larva – *Payne*

Thank you for taking to us adout masquitos and tacing us usaund are school – *Ryan*

I leared that mosquito bit frogs – *Kayley*

I didn't know that they eat frogs – *Caitlyn*

I enjoyed going on the nature walk – *Khushi*

I liked when you show us the baby mosquito – *Talon*

I like when you sode us the nacher – *Shara*

I liked it when you teaches us about mosquitos – *Darby*

Thank you for takeing us around the school – *Luke*

I loved it when you should us the mosquitos – *Nolan*

I liked when you talked about the bulbs uder the flower – *Chantal*

I did not know that potatos come from flowers – *Brendan*

Thank you for showing us the bugs and telling us about them – *Darian*

Thank you for showing us the macetos – *Bryden*

Thank you for taking us for a nacher wack around the school – *Jessica*



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BULLETIN BOARD

Saturday Birding Group

We send out the time and location on the Rare Bird Alert (250-592-3381) on the Thursday and Friday before that week's walk. For more information, call Rick Schortinghuis at 250-885-2454.

Year-round Tuesday Morning Birding Group

The Tuesday Birding Group meets every Tuesday at 9:00 a.m. at the foot of Bowker Avenue on the waterfront in Oak Bay and decide where they will go birding that morning. The Tuesday Birding group has been around for more than 50 years. Call Bill Dancer at 250-721-5273 for more information.

Venezuela Bird Watching Trip

I am planning to visit Venezuela to watch birds, are you interested? I would like to spend about a month in Venezuela during the period January – March of 2010, visiting good birding spots. Currently plans are flexible. I expect to travel via bus or rental car (likely not in a tour). I may use local guides occasionally. Previously, I have birded extensively in Argentina, Costa Rica and Mexico, and am OK with Spanish. If you are interested in joining me in this trip and developing the plans, contact me, John Henigman, at 250-598-6326 or henigman@islandnet.com.

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CALENDAR OF EVENTS

REGULAR MEETINGS are generally held September-April on the following days: **Board of Directors:** the first Tuesday of each month (directors' meetings are held at Swan Lake Nature Sanctuary at 7:30 p.m.); **Natural History Presentations:** the second Tuesday at 7:30 p.m., University of Victoria; **Botany Night:** the third Tuesday, 7:30 p.m., Swan Lake Christmas Hill Nature House; **Birders' Night:** the fourth Wednesday, 7:30 p.m., University of Victoria. **Marine Night:** the last Monday, 7:30 p.m., University of Victoria. Locations are given in the calendar listings. The VNHS Calendar also appears on the Internet at: <<http://www.vicnhs.bc.ca>>, and is updated regularly.

Codes for Field Trip Difficulty Levels: LEVEL 1 — Easy walking, mostly level paths. LEVEL 2 — Paths can be narrow with uneven terrain. LEVEL 3 — Obstacles in paths requiring agility or steeper grades. LEVEL 4 — Very steep, insecure footing or longer hikes requiring good physical condition.

NOVEMBER

Thursday, November 5

SOUTH VANCOUVER ISLAND MYCOLOGICAL SOCIETY
MONTHLY MEETING

Medicinal Mushrooms

Richard Winder will take us to the forefront of knowledge about medicinal mushrooms and their applications. Pacific Forestry Centre, 507 West Burnside Road, Victoria, B.C., at 7:00 p.m.

Saturday, November 7 (1-5 pm)

EVENT

Backyard Winter Birds

Have you ever noticed that the birds around your yard in the winter aren't all the same as were there in the summer? **Ann Nightingale** will get you acquainted with the backyard winter birds of Victoria through a slide-illustrated talk and rain-or-shine walk at Glendale Gardens. You'll also learn what to feed your wintertime guests and put together a suet feeder to take home with you. Ann is president of Rocky Point Bird Observatory, past-president of the Victoria Natural History Society, and coordinator of the Victoria Christmas Bird Count. HCP Members \$30.00 + materials, non-HCP members \$50.00 + materials. Material cost \$8.00 Please call to register. Glendale Gardens 505 Quayle Road <info@hcp.bc.ca www.glendalegardens.ca>

Sunday, November 8

FIELD TRIP (LEVEL 1)

Pelagic Birding on the M.V. Coho

Mike McGrenere will lead this trip on the *M.V. Coho* on its usual sailing across the Strait of Juan de Fuca and back. The crossing takes 1½ hours and this is the best opportunity to see bird species that are usually found further out to sea, including shearwaters, fulmars, and phalaropes. We will be birding from the bow of the boat so dress warmly. Bring a lunch and meet at the Black Ball Ferry terminal in the Inner Harbour at 10:00 a.m. for the 10:30 a.m. sailing (allow plenty of time for parking; street parking is free on Sundays. Ferry cost is \$32.00 CAN and *It is essential that you have a passport to get through U.S. Customs.* We'll return on the 2:00 p.m. sailing.

Sunday, November 8

EVENT

Saanich Tree Appreciation Day

Volunteers needed to plant native trees at two Saanich Parks: Baxter Park and Mt. Douglas Park, 10:00 a.m. – 1:00 p.m. Baxter

Park is adjacent to the Pat Bay Highway. Park at end of Baxter or Judah Roads off Glanford Avenue. Meet in main parking lot by the washrooms in Mt. Douglas Contact Saanich Legislative Division at 250-475-1775, ext. 3506 or <www.saanich.ca>.or **Bob Bridgeman** at rbridge@shaw.ca for Mt. Douglas Park info.

Tuesday, November 10

NATURAL HISTORY PRESENTATION

70 Days on the Road in South Africa

(**NOTE ROOM CHANGE) VNHS member, **Clive Prior**, will share his photos of wildlife and wild places from a 10-week trip last winter, covering 8000 km through eight National Parks and Reserves. These range from Tsitsikamma and George on the Garden Route in the Western Cape to North Kruger in Mpumalanga near the Mozambique border. From cheetahs, pregnant rhinos, and dwarf mongoose, to Bateleur eagles, ground hornbills and beautiful Rollers, enjoy an armchair tour of an amazing country. Meet at 7:30 p.m. in the new UVic Social Sciences and Math Building, Room A120. Admission is free and everyone is welcome. Bring a coffee cup!

Sunday, November 15

FIELD TRIP (LEVEL 2)

Mushroom Study Session

This outing is intended as an opportunity to hone your skills at identifying mushrooms. Whether you are a beginner or more experienced at identifying these mysterious fungi, we hope you will come prepared to share your discoveries with others. We will have some people who can assist you in your endeavours. Bring your favourite field guide. Please note this is an observation trip, not intended for collecting. However a few selected specimens will be chosen for closer examination. Bring a snack and a drink. Meet at Royal Roads University by the Tennis Courts at 10:00 a.m. No pets please. Call **Agnes** at 721-0634 or email her (thelynns@shaw.ca) if you need more information.

Sunday, November 15

FIELD TRIP (LEVEL 2)

Birding Martindale Flats

Late migrants, winter arrivals, and raptors should make for some great birding with **Warren Drinnan**. Meet at the farm market at the corner of the Pat Bay Highway and Island View Road at 8:30 a.m. Park along Lochside Drive north of Island View Road. Gum boots are mandatory!!!! Call Warren at 250-652-9618 if you need more information.

Tuesday, November 17

BOTANY NIGHT

Farewell to Summer

Bring your slides, memory sticks, or CD's with photographs that you would like to show to others. Please let **Adolf Ceska** know how many photos you would bring and the medium at least a week before: aceska@telus.net or 250-477-1211. Swan Lake Nature House, 7:30 p.m. Admission is free. Bring a friend.

Saturday, November 21

FIELD TRIP (LEVEL 1)

Snow Geese at Reifel Bird Sanctuary

Come and see the annual Snow Goose spectacle at the Reifel Bird Sanctuary. Every November thousands of Snow Geese stop over in this part of the Fraser River delta. Past trips have produced more than 100 species of birds for the day. Participants will carpool from in front of the Elk-Beaver Lake Regional Park Sign on Elk Lake Drive at 5:45 a.m. for the 7:00 a.m. ferry sailing. We will return on the 5:00 p.m. sailing. Cost should be about \$50.00 per person with car-pooling. Bring a lunch and a drink. Call **Rick** at 250-885-2454 to confirm.

Wednesday, November 25

BIRDERS' NIGHT

Ecuador Through the Eyes of a Photographer

The South American country of Ecuador supports more than 1600 species of birds – including toucans, trogons, antpittas, tanagers and more than 130 species of hummingbirds! Join Victoria based nature photographer **Glenn Bartley** as he shares stories and photos from his recent five-month trip to this unbelievably birdy country. We meet in Room 159 of the Fraser Building at the University of Victoria, 7:30 p.m. Everyone is welcome. Admission is free. Bring a friend and a coffee cup.

Monday, November 30

MARINE NIGHT

Super Suckers: The Natural History of Giant Pacific Octopus

Jim Cosgrove is a Royal B.C. Museum Research Associate and co-author of the recently released book, *Super Suckers: The Giant Pacific Octopus and Other Cephalopods of the Pacific Coast*. Tonight he will present an illustrated talk about the Giant Pacific Octopus and his 30+ years of research on that animal. Copies of his new book will be on sale. Meet at 7:30 p.m. in the Fraser Building, Room 159. Everyone is welcome. Admission is free.

DECEMBER

Saturday, December 5

FIELD TRIP (LEVEL 3)

Christmas Bird Count Tune-up

Meet at Helmcken Road Park and Ride at 8:30 a.m. for a chance to tune up your winter bird-spotting identification skills. This trip will cover Knockan Hill Park, Hastings Flats and the roadsides in between, so bring your walking shoes, field guide and note-pad. Special interest for novice or near-novice Christmas Bird Counters. For more info, call **Ann Nightingale**: 250-652-6450.

Tuesday, December 8

NATURAL HISTORY PRESENTATION

Wildlife in an Arctic Bird Sanctuary

(**NOTE ROOM CHANGE) What do geese, sea ducks, shorebirds, arctic foxes, Musk Ox, and Arctic terns have in common? They are all residents of Canada's arctic, an area that teems with wildlife during the short summer season. The Queen Maud Gulf Migratory Bird Sanctuary, Nunavut is located in the central Canadian arctic and is Canada's largest federally-owned protected area. It is home to the largest variety of geese of any North American nesting area and contains the largest known nesting population of Long-tailed Ducks. **Shona Lawson** spent four summers conducting research on several bird species in the region as part of her Masters research, as well as working on other projects. Come and learn about how some of the sanctuaries' wildlife deals with the high-energy demands of reproduction. We meet at 7:30 p.m. in the David Strong Building, Room C103 (Mathews/McQueen Theater) at the University of Victoria. Everyone is welcome. Admission is free. Bring a friend and a coffee cup.

Saturday, December 12

FIELD TRIP (LEVEL 2)

Christmas Bird Count Tune-up

Meet at the viewing tower at the foot of Viaduct Avenue and Interurban Road at 8:30 a.m. We will cover Viaduct Flats and Quick's Bottom and areas in between. Call **Rick Schortinghuis** at 250-885-2454 if you need more information.

Sunday, December 13

FIELD TRIP (LEVEL 2)

Gull Identification Workshop at Goldstream

Learn more than you ever thought possible about the gulls that winter on Vancouver Island. Some come from as far away as the prairies to take advantage of the winter abundance of salmon. Don't be afraid of gulls. Use this as an opportunity to practice for the Christmas Bird Count. Meet at the Goldstream Picnic Area parking lot by the Finlayson Road bridge at 9:00 a.m. Wear adequate winter clothing and boots. Leader TBA.

Saturday, December 19

EVENT

Victoria Christmas Bird Count

See the article in this issue (p.10) or contact **Ann Nightingale** at 250-652-6450 (motmot@shaw.ca) or visit our website www.vicnhs.bc.ca/cbc/

Monday, December 28

EVENT

Saltspring Island/Sidney Christmas Bird Count

See the article in this issue (p.10) or contact **Jean Brouard** at 250-653-2335 (johnbro@saltspring.com) or visit our website www.vicnhs.bc.ca/cbc/

JANUARY

Friday, January 1

EVENT

Duncan Christmas Bird Count

See the article in this issue (p.10) or contact **Derrick Marven** (marven@shaw.ca; 250-748-8504).



Birding from the *M.V. Coho* as part of the VNHS Cape Flattery trip, Sunday 16 August 2009. *Photo: Germaine Taylor*