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The Victoria NATURALIST

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Editors: Claudia Copley, 479-6622
Penelope Edwards, James Miskelly
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SUBMISSIONS

Deadline for next issue: **February 1, 2007**
Send to: Claudia Copley

657 Beaver Lake Road, Victoria BC V8Z 5N9
Phone: 250-479-6622
Fax: 479-6622 e-mail: dccopley@telus.net

Guidelines for Submissions

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.

VNHS MEMBERSHIP

For membership information and renewal, please contact Darren Copley, 479-6622, or write to Membership Committee c/o The Victoria Natural History Society, Box 5220, Victoria, B.C., V8R 6N4. A copy of our membership form is available on our website www.vicnhs.bc.ca.

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Contents

COVER PHOTO:
Red Squirrel. *Photo*: Marie O'Shaughnessy

Cover photos for *The Victoria Naturalist* are always welcome – high resolution, large size, and in a portrait format – but this issue's was particularly welcome. It was a hopeful sign to learn that a native red squirrel can still "make a living" in Beaver Lake Park. Since the "grey invasion" – introduced eastern grey squirrels – red squirrels are much less commonly seen in the Greater Victoria area. I can, however, also appreciate the irony of it being caught in the act of gnawing on English hawthorn berries… Cheeky!

While on the topic of *Naturalist* submissions (we were, weren't we?): Submit! – Articles, photographs, field trip ideas/reports, advertisements, program ideas, and nominations for awards. Help keep our Society vibrant by being involved.

Happy New Year!

Claudia

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 Honourary 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, 2007.**

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

VNHS Honorary Life Members

Mrs. Lyndis Davis, Mr. Tony Embleton, Mr. Tom Gillespie, Mrs. Peggy Goodwill, Mr. David Stirling, & Mr. Bruce Whittington.

Free Binoculars!

Now that your interest has been piqued, read on for an update on the VNHS Schools Project.

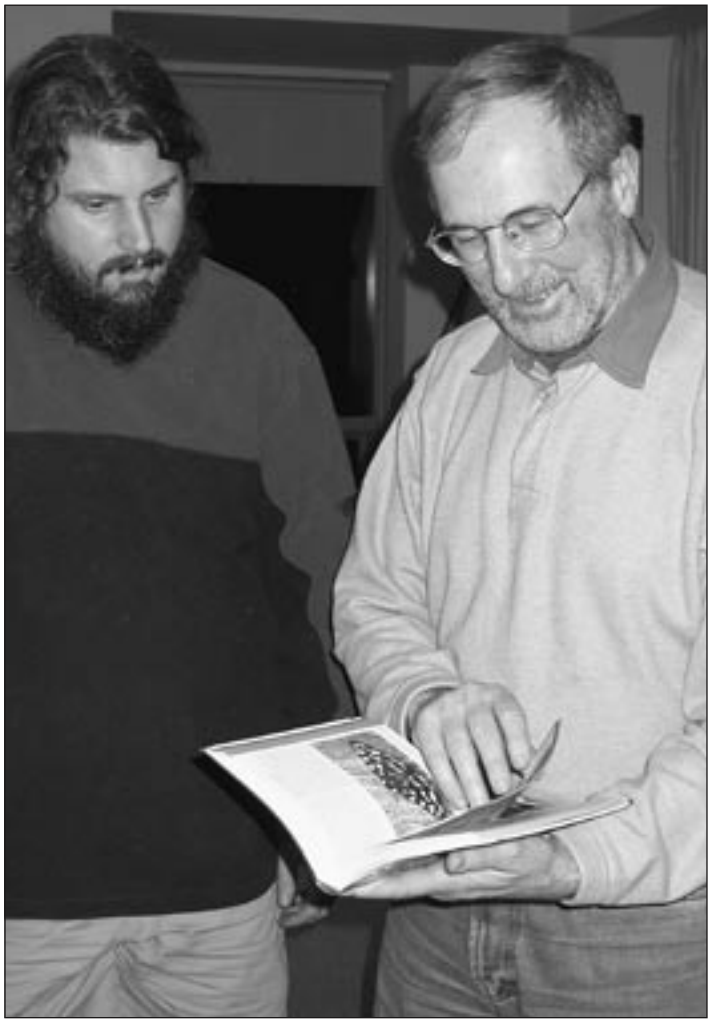
"Free binoculars" isn't just an attention grabber – it's true! Thanks to a $5000 grant from Nature Canada, the VNHS Schools Project now has class sets of "naturalist tools" available for members to use when they volunteer for school field trips. There are 30 binoculars (each numbered so they are easy to keep track of), and 15 of each of the following field guides:

Birds: *Birds of Southwestern British Columbia* (Cannings, Aversa, and Opperman)
Marine: *Whelks to Whales* (Harbo)
Botany: *Plants of Coastal British Columbia* (Pojar and MacKinnon)
Fungi: *All That the Rain Promises, and More...* (Aurora)
Insects: *Insects of the Pacific Northwest* (Haggard and Haggard)

In addition, there are 15 bird checklists, 30 insect nets (three styles/sizes) and 15 kid-friendly magnifying viewers that are perfect for passing things around in. They even hold water samples, so marine or freshwater specimens can be kept "comfortable" while being appreciated. (See photo below.)

So, for all those members who are volunteering as field trip resource people, please don't hesitate to use the equipment. These naturalist tools are housed at the Swan Lake Christmas Hill Nature Centre, so call the Centre (479-0211) to let them know when you'll be coming by, and return them as soon as possible after the outing is over. When not in use by our members, these supplies are available for the staff and volunteers at Swan Lake to use for their school programs, so we hope they will get a lot of use.

We'd like you to take advantage of these class sets – they are a valuable addition to this important project.



Your directors trying out our new resources. Darren Copley, left, Gordon Hart, right and Tracy Anderson. *Photos*: Claudia Copley.

What Are "Saprophytic" Plants All About?

By Bryce Kendrick

Those of us who penetrate the depths of our local forests inevitably come across plants that have no chlorophyll. Indian pipe (*Monotropa uniflora*) is the most common of these, but there are others, including the rare phantom orchid (*Cephalanthera austiniae*). These have generally been called saprophytic plants, the assumption being that, since they can't make their own food by photosynthesis, they must be absorbing nutrition from the decaying remains of other organisms in the soil as, for example, many fungi do. We have recently learned that this is ***not*** the case, and that none of these achlorophyllous plants are, in fact, saprophytic. So what is really going on? The somewhat weird relationships between the non-photosynthetic flowering plants in that strange sub-group of the Ericaceae, the Monotropoideae, and other organisms, have recently been clarified, in particular by the work of Martin Bidartondo and his associates in California.

The roots of *Monotropa* species have a fungal mantle outside and something resembling a Hartig net of fungal hyphae inside. The one distinguishing morphological feature is that the fungus sends a single haustorium-like peg into each root cell. So you might think that the plant was in a normal mycorrhizal relationship (such as that between many fungi and Douglas-fir). But since the plant cannot photosynthesize, it has no energy-rich carbon compounds to give the fungus. This eventually led mycologists to suspect that the plant might in fact be parasitic on the fungus. This turned out to be the case. The plant is indeed taking food from the fungus.

The main fungi so far identified as being associated with *Monotropa* species are species of the mushroom genus *Russula* and some other mushrooms in the family Russulaceae, and the association is often extremely specific and exclusive.

The monotropoid genera *Allotropa* and *Pityopus* have victims in the mushroom genus *Tricholoma*, and other monotropoid genera are tied to different fungi. For example, the genus *Pleuricospora* has associates in *Gautieria,* while *Sarcodes* and *Pterospora* have associates in *Rhizopogon*

Short-stemmed Russula (*Russula brevipes*). *All photos provided by author*

(*Gautieria* and *Rhizopogon* are both hypogeous basidiomycetes – genera which fruit underground). *Hemitomes* and *Monotropopsis* associate with *Hydnellum,*(a tooth fungus) while *Cheilotheca* and *Monotropastrum* are associated with members of the *Russulaceae*.

Whatever the morphology suggests, the fact is that the achlorophyllous *Monotropaceae* are taking food from the fungi, and no one knows if they are giving anything at all in exchange.

The key to the situation is that the food in question has been found to be coming from a large neighbouring plant (a green one this time) with which the fungus in question has a normal ectomycorrhizal relationship. So we are looking at a tripartite relationship. Coniferous trees, such as Douglas-fir, make sugars and pass them to *Russula*. *Russula* translocates them through its mycelium in the soil, and then, for reasons unknown, hands over part to the *Monotropa*, which thus seems to exploit the fungus directly, and the conifer at second hand as an epiparasite.

Top:Indian Pipe (*Monotropa uniflora*). Below: Phantom orchid (*Cephalanthera austiniae*).

Pseudotsuga ---> Russula ---> Monotropa

So, despite what you read in even the most up-to-date dictionary (and the one I have, the Canadian Oxford Dictionary, was published in 1998), *Monotropa* species are not saprophytic, and can more correctly be described as parasitic on their associated fungus. Interestingly, mycologists have known this since 1960. It makes me wonder about lexicologists.

How did this strange group of plants and its even stranger fungal relationships evolve? I suspect that it all began in a regular ectomycorrhizal relationship (to judge by the way the fungus still grows around and into the roots of the plant) and somehow became turned around, possibly when the ancestor of the plant group lost its ability to produce chlorophyll, and found that the fungus had another source of food, and could be exploited. Even in normal ectomycorrhizal fungi, food moves back and forth between plant and fungus depending on the needs of each partner. Sometimes the mycorrhizal mantle is a food bank for the tree, and sometimes the root is a food bank for the fungus. So you can see how it might start.

Another similar case has also recently been worked out by Bidartondo *et al.* (2003). The non-photosynthetic liverwort *Cryptothallus* has an obligate fungal root associate, a species of *Tulasnella*, from which it *takes* food. The *Tulasnella* gets *its* nourishment from a true mycorrhizal relationship with a nearby birch tree. The liverwort is clearly another epiparasite.

J.R. Leake (2005) presents a wide-ranging discussion of plants that are now known to be parasitic on fungi, the antithesis of a mycorrhizal symbiosis. Leake notes that this phenomenon extends to over 400 achlorophyllous plants in 87 genera. The fungi exploited by these plants represent a wide taxonomic spectrum: *Glomeromycota* (arbuscular mycorrhizal fungi), basidiomycetes in the *Ceratobasidiales*, *Sebacinales*, *Tulasnellales*, resupinate *Aphyllophorales*, *Russulales*, *Boletales* and *Agaricales*, as well as ascomycetes in the *Pezizales* (cup fungi and truffles).

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Birds as Barometers

By Marie O'Shaughnessy

Word has it that many species of bird know what is going on better than the Almanac. When it comes to weather patterns, aren't birds the barometer for change? Aren't they the ones that usually fly before the storms arrive? Haven't birds been used for human purposes throughout the millennia, forewarning of danger? Aren't they the indicators of changes in our environment for better or for worse? For some time now, birds have been warning us of the deteriorating health of our planet. In some areas their numbers are falling dramatically, but in others, species are on the rise. While some are on the brink of extinction, other new species are found. When environmental changes occur we need to recognize the behaviours associated with those changes, and what they indicate.

How many of us observed this fall the unusual influx of those raucous, blue and black charmers, the Steller's Jays? I did for one, and knew something unusual was happening. They suddenly appeared in unprecedented numbers. Our provincial bird, the Steller's Jay was descending upon our garden city and they were everywhere. Just by their sheer numbers, fall/winter 2006-2007 was going to be an interesting season. The last time I remembered so many of these birds in the urban setting was a year when we experienced heavier than usual snow fall. Was it not surprising then, to see our beautiful city hit with such a blast from the arctic that many of us were caught unprepared. Even though officially winter had not yet arrived, we were inundated with blizzard-like conditions that remind us of the winter months in the more northerly parts of British Columbia. Could we have learned something beforehand by observing nature?

If some of us were surprised by this early storm. Some of the birds were too. A Brown Pelican was seen frequently in small numbers at Race Rocks and even Goldstream estuary the month of November. Why these birds, who winter in great numbers in Mexico, have remained in this area is a mystery. Could there be an abundance of small fish out there in the waters off Victoria? Could the behaviours of the jays have warned us humans ahead of time of what was

Steller's Jay.

Anna's Hummingbird. *Photos:* Marie O'Shaughnessy

coming? Would we have taken the time to even notice? Did other wildlife give us some indication? Those Steller's Jays must instinctively have known months ago that there was a difficult season ahead. Day after day they were busy gathering and hiding their caches. It is well documented that jays are intelligent birds and have an ability for memory recall when it comes to relocating things hidden. Did the Steller's Jays give us ample warning? I believe they did. Several people asked while in my company, "why were there so many jays this fall in and around the city?" My reply to them was always the same. "These birds know something we don't. Be prepared!"

Generally speaking, Steller's Jays are a somewhat secretive and fairly shy bird, preferring the seclusion of the woods. However, it appeared their need to gather acorns and hoard food overcame their avoidance of city life. So while the jays gathered in preparation, the humans watched not only the birds, but also the rain that fell in November. It wasn't enough for the west coast to have the wettest month on record, we then had to be engulfed by the white stuff and reduced to conditions that are better tolerated on the prairies.

With subzero temperatures it was a challenge to keep the bird feeders full and keep the sweet nectar liquid for the Anna's Hummingbirds. This unusual weather found me struggling out of bed at early hours to prepare the feeders for those half frozen Anna's Hummingbirds to tank up. Without the sugar solution at first light, they would surely have died. Although my spirit was willing, my flesh at that time of the morning never is. However, to save a life of a little feathered friend was all I needed to get me motivated. My early rising managed to save three.

Meanwhile, where were the jays? I didn't see any in my back yard. Perhaps they were somewhere else, stealing a sunflower seed from a bird feeder. Perhaps even a peanut or two from a thoughtful human, or just remembering where they had hidden all those tasty, life-saving caches that would keep them alive during any storm. When it comes to memory, I hope theirs is better than mine.

Climate Change Has Birds Out on a Limb

Editor's Note: This was a media release (November 14,2006) from World Wildlife Fund (WWF). To see more specific examples of how climate change is affecting some bird species around the world, visit http://www.panda.org/news_facts/newsroom.

A new report released today by WWF finds a clear and escalating pattern of climate change impacts on bird species around the world, suggesting a trend towards a major bird extinction from global warming. The report, Bird Species and Climate Change, reviews more than 200 scientific articles on birds in every continent to build up a global picture of climate change impacts.

"Robust scientific evidence shows that climate change is now affecting birds' behaviour," said Dr. Karl Mallon, Scientific Director at Climate Risk Pty Ltd and one of the authors of the report. "We are seeing migratory birds failing to migrate, and climate change pushing increasing numbers of birds out of synchrony with key elements of their ecosystems."

The report, prepared by international climate change specialists, identifies groups of birds at high risk from climate change: migratory, mountain, island, wetland, Arctic, Antarctic and seabirds. While bird species that can move and adapt easily to different habitat are expected to continue to do well, bird species that thrive only in a narrow environmental range are expected to decline, and to be outnumbered by invasive species.

The report also shows that birds suffer from climate change effects in every part of the globe. Scientists have found declines of up to 90 per cent in some bird populations, as well as total and unprecedented reproductive failure in others.

Scientists also analyzed available projections of future impacts, including bird species extinction. They found that bird extinction rates could be as high as 38 per cent in Europe, and 72 per cent in northeastern Australia, if global warming exceeds 2ºC above pre-industrial levels (currently it is 0.8ºC above). "Birds have long been used as indicators of environmental change, and with this report we see they are the quintessential 'canaries in the coal mine' when it comes to climate change," said Hans Verolme, Director of WWF's Global Climate Change Programme. "This report finds certain bird groups, such as seabirds and migratory birds, to be early, very sensitive, responders to current levels of climate change. Large-scale bird extinctions may occur sooner than we thought."

If high rates of extinction are to be avoided, rapid and significant greenhouse gas emission cuts must be made, WWF says. The global conservation organization also believes that the current approach to bird conservation, focused on protecting specific areas with a high bird diversity, will fail because climate change will force birds to shift into unprotected zones. A major change in approach to bird conservation is required, according to WWF.

For further information

Brian Thomson, Press Officer, WWF International.
Email: bthomson@wwfint.org

Kimunya Mugo, Communications Manager,
WWF Eastern Africa Regional Programme Office.
Email: kmugo@wwfearpo.org

Protecting a World Treasure: the Enos Lake Stickleback

By Ross Peterson, chair of both the Nanoose Naturalists Stewardship Committee and the Enos Lake Recovery Implementation Group

The Nanoose Naturalists have become a part of a national initiative under the federal Species At Risk Act to recover and protect the endangered stickleback of Enos Lake in Nanoose Bay – fish that are regarded as having global significance.

Why are they important?

First, a bit of background is necessary. Officially these are termed "stickleback species pairs", small freshwater fish descended from ubiquitous sea-going stickleback scattered around the northern hemisphere. What's interesting is that these species pairs are rapidly evolving into two distinct forms living side by side (or rather top to bottom) in the same lake. The speed at which this divergence is taking place is practically unheard of in evolutionary biology. And, this process is taking place in only four lakes in the world, and they're all around here (Texada and Lasqueti islands, and Nanoose Bay)!

The two forms (or species pairs) in these lakes have adapted to different parts of the water column. One, a benthic form, is closely associated with the lake bottom and its vegetation, where it builds its spawning nests and finds its invertebrate food organisms. The other, called a limnetic form, lives more in the mid-water parts of the lake, and finds its food from the mid to upper parts of the water column. This separation has already resulted in the two forms having marked different physical characteristics and is thought to be enough to keep them apart reproductively, and hence to drive them ultimately into two distinct species. All this since the last ice age!

This evolutionary trick has put these stickleback pairs on the list of the 10 most important scientific breakthroughs in the world, published in the journal *Science in* 2005.

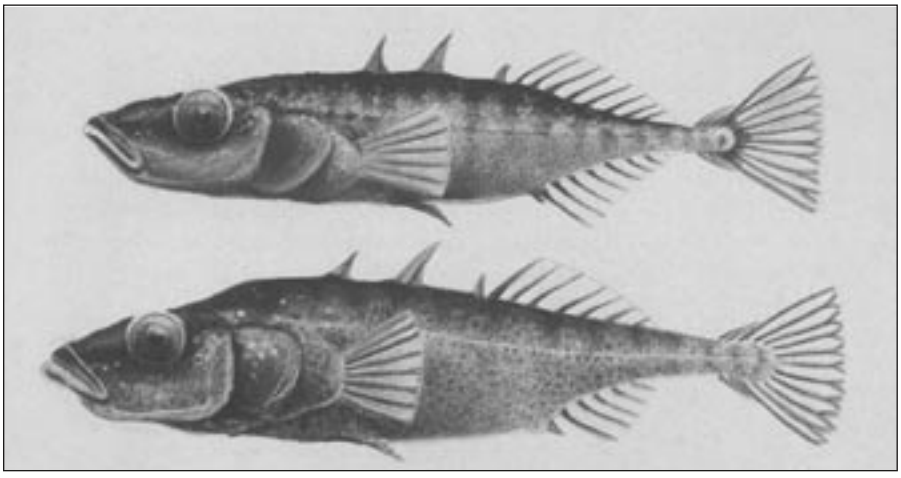
As if this were not enough, our Enos Lake sticklebacks have caught the attention of medical researchers. The Fred Hutchinson Cancer Research Center in Seattle has established a laboratory for the study of these sticklebacks. Uncovering the rapidly evolving stickleback complete genome has helped to understand the genetic and molecular basis for evolutionary change and response to environmental conditions. This in turn is showing to be useful in understanding genetic and environmental links in human cancers.

The uniqueness and limited distribution of these species pairs have earned them the status of Endangered Species under the federal *Species At Risk Act*, which requires that measures be taken to protect them. The potential for land development around all the stickleback lakes adds a further risk, and protective measures must be taken soon so that we can assure the future of these important fish.

What's happening?

We may already be losing a part of the battle to save these special fish. The pair from Lasqueti Island has become extinct because of the introduction of a predatory fish into their lake. Another pair, in Enos Lake, has hybridized over the past few years; that is, the two forms have started to breed with each other, so that the forms are not as distinct as they once were. The reason for this is unconfirmed, but it is suspected that crayfish introduced into Enos Lake have destroyed much of the lake's bottom vegetation, thereby reducing the major mechanism that keeps the forms apart. The species pairs in the two Texada Island lakes, however, are still separate forms. If we are to keep this evolutionary wonder intact, we have to protect the integrity of the Texada Island population, and find ways to restore the pair in Enos Lake.

How can we do this? Under the federal *Species At Risk Act*, a National Recovery



Stickleback species pairs. *Illustration by Michael Hames*

Team (mainly scientists and government officials) has been established to carry out research programs and oversee local groups (termed Recovery Implementation Groups or RIGS), which initiate and carry out on the ground measures that will protect and recover the species pairs. One such RIG has been established for the Texada Island lakes, and another for Enos Lake.

A committee of the Nanoose Naturalists is the core of the Enos Lake RIG and is developing programs for 2007 to confirm the cause of the hybridization, test methods to reverse this process (such as crayfish eradication, vegetation replanting) and return Enos Lake to its former condition so it can once again support the distinct species pairs. The RIG will also work with the landowners to protect water quality and flow regime from the effects of urban development and land use, and will deliver a public information and education program to alert residents to these fish and their global importance, and to the dangers of introducing alien species into our ecosystems. To do this work, the Nanoose Naturalists have applied for funding support from the federal Habitat Stewardship Program, and has secured support from Malaspina University College, provincial Ministry of Environment, and Fairwinds Corp., the major landowner surrounding Enos Lake.

The Nanoose Naturalists are excited to be playing a role in this attempt to recover and protect such an important evolutionary treasure.

Wildlife Poisoning

By Tracy Anderson, Senior Wildlife Rehabilitator at the Wild Animal Recovery Centre (Wild ARC)

On September 18, 2006, a Canada Goose was brought into the BCSPCA's Wild ARC in Metchosin. The finder said that this goose had been staggering in and around his yard for about two weeks. Prior to this, we (Wild ARC) had received a number of reports about geese that were showing similar symptoms (staggering and/or having problems with balance) in two different locations, Esquimalt Lagoon and Sooke. This was the first time one could be caught and brought into care.

He was able to stand but had poor balance and staggered when he walked. However, he was mentally alert and had a good appetite. Toxicity was suspected but, because of the length of time that he had been down, there was little that could be done. We provided supportive care and monitored for improvement. Blood was sent away for testing but it came back inconclusive. He remained stable for a few weeks but, by the middle of October, he began to decline and the decision was made to put him down and send his body for testing. The body was sent to the provincial pathology lab in Abbotsford and the results eventually came back as organophosphate poisoning.

Organophosphates are a group of chemicals used as insecticides in agriculture. They are usually spread on crops in the spring. The method of application can vary, but the ones that are laid down in granule form cause the most problems for geese and ducks, as the granules are about the same size as the grit and pebbles they swallow to grind food in the gizzard.

Organophosphate toxicity is due to the ability of these compounds to inhibit acetylcholinesterase. Since acetylcholinesterase is the enzyme that degrades acetylcholine following stimulation of a nerve, its inhibition allows acetylcholine to accumulate and result in initial excessive stimulation followed by depression. All have a cumulative effect, with chronic exposure causing progressive inhibition of cholinesterase.

Clinical signs in birds include goose-stepping, ataxia (poor coordination or lack of control of muscles), wing spasms, wing droop, dyspnea (difficulty in breathing), diarrhea, and salivation. Because birds move around, it is difficult to pinpoint the area where the toxins originated. As you are out birding or enjoying the scenery, please be on the lookout for ducks and geese showing difficulty standing and/or poor balance without accompanying obvious trauma. Please contact Wild ARC at 478-9453 or email info@wildarc.com if you have any information.

Canada goose. *Photo:* David Pretty

Common Household Chemical May Pose Human Health Risk

***Editor's Note: This was a media release (October 5, 2006) from the University of Victoria. To see a copy of the paper visit www.sciencedirect.com and click on* Articles in Press.**

An antibacterial agent used in common household items such as soaps, toothpaste, processed food, and clothing represents a potential health risk to human hormone action, says a new study co-authored by a University of Victoria researcher.

The study, published online this week in *Aquatic Toxicology*, examined the effects of the antibacterial agent known as triclosan on the development, or metamorphosis, of tadpoles into frogs. The study showed that when tadpoles are exposed to levels of triclosan commonly found in the environment, frog metamorphosis that relies on thyroid hormones was significantly disrupted.

Triclosan is of particular concern to toxicologists because it is structurally similar to thyroid hormones, which play a crucial role in early human development. Thyroid hormones and the mechanisms by which they affect cells are highly conserved from frog to mammal, says Dr. Caren Helbing, a University of Victoria molecular biologist. It's highly likely that what affects frogs could affect mammals, even humans. Triclosan is used in a wide variety of products, including clothing, food, personal care products, and some plastics to make them more bacteria-resistant. It is present in municipal effluents, is persistent in the environment, and accumulates up the food chain. The study found that as little as one-millionth of a gram per litre of triclosan interferes with thyroid hormones and their ability to direct the genes responsible for frog metamorphosis. This is the same concentration of triclosan found in 85 waterways tested across the U.S. in another, recent study.

Triclosan has also been detected in human breast milk, notes Helbing. These levels are in the general range of what we tested, so triclosan may be having an impact on babies during a vulnerable time when thyroid hormones are important in their development. Helbing hopes this study will spur further research into how low doses of triclosan might be affecting human and wildlife health. Given that there is already concern over the indiscriminate use of this product and the promotion of resistant bacteria, it would seem prudent to limit its use to those products where it is really needed.

Contacts for more information:

Dr. Caren Helbing (Biochemistry and Microbiology) at (250) 721-6146 or chelbing@uvic.ca

Valerie Shore (UVic Communications) at (250) 721-7641 or vshore@uvic.ca

FBCN Presentation to the Special Committee on Sustainable Aquaculture

18 October 2006, Vancouver, BC

BC Nature (Federation of British Columbia Naturalists) represents over 4,000 members in 48 member clubs in communities throughout the province. Our motto is "To know nature and to keep it worth knowing."

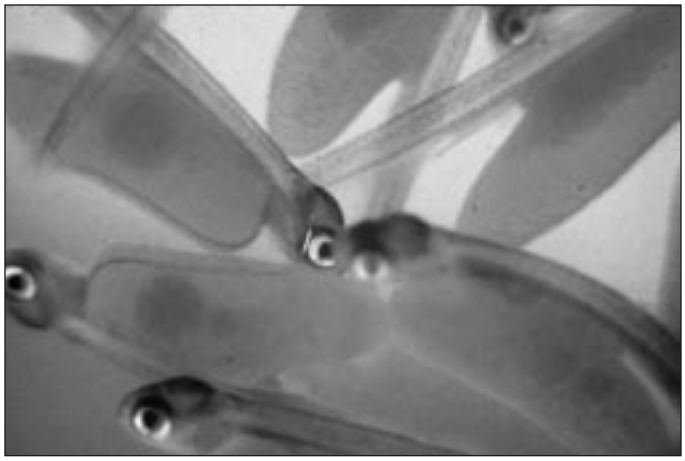
Naturalists are concerned with the conservation of all wild species, including animals large and small, plants and habitat. We have seen with growing concern the degradation of our marine environment, a rich and biodiverse ecosystem. Over-harvesting, proliferation of toxins, the introduction of alien species, the impact of destructive coastal land uses, and the deterioration of inland watercourses with resulting impacts on anadromous fish, have all played a role in this degradation. Fish species are in decline, shellfish beds have been compromised.

Naturalists are gravely concerned about the damage open pen fish farms have been causing to wild salmon populations and other marine species. Flawed government policies, lack of enforcement of the Fisheries Act and a disregard for human and ecosystem health have brought us to a critical period in our coastal history. It is time to take a stand and choose a better path for the future.

Pacific salmon are a superb and valued feature of B.C. waters. These iconic species sustain many other wildlife as they move through the various stages of their lifecycle. They also sustain whole ecosystems, contributing to the health of rivers, estuaries, oceans and forests. The Fraser River is the greatest salmon river in the world and the Pacific Coast has a high biodiversity for salmonids. Wild salmon are important for people too, providing livelihoods and a huge economic benefit to our province through First Nations' fisheries, commercial fishing, sport fishing and ecotourism. Salmon are much more than just a resource: think of the unforgettable sight of a grizzly bear wading into the river to snatch out a spawning salmon! This is what we stand to lose. Wild salmon species *must* be given priority over farmed salmon.

Our concerns regarding salmon farms are not new. In 2003, BC Nature unanimously adopted a resolution at our Annual General Meeting. The resolution called upon the federal and provincial governments to halt the issuance of new fish farm licenses, close fish farms that were spreading sea lice to wild salmon and move towards complete closed containment farms within five years. This resolution was prompted by the lifting of the moratorium on new fish farm leases by the BC government in September 2002. We had then, and still have now, serious concerns that escapees, pollution and the spread of diseases from fish farms would have negative environmental impacts on wild salmon populations.

We knew then that sea lice proliferating in fish farms were strongly suspected to have caused the collapse of



Goldstream file photos

certain wild pink salmon stocks in the Broughton Archipelago. The migratory life cycles of salmon normally keep adult fish separate from juveniles, and thus keep the risk of parasite transfer to a minimum. This natural protective mechanism is disrupted when open-net fish farms, full of adult fish, are placed in areas of out-migrating juveniles. Our concerns have been strengthened today, with the recent release of a scientific study on the effect of sea lice on juvenile pink and chum salmon migrating past fish farms. This research was published in PNAS, a highly-respected scientific journal with a worldwide reputation for excellence. The peer-reviewed report concluded that out-migrating young salmon are highly susceptible to sea lice infestations originating in fish farms and that they experience up to 95% a mortality as they travel past the open-net cages. No species can withstand that high a mortality rate. We understand that the Committee has had an opportunity to hear from one of the authors of that article.

This research is only the latest in a series of studies, from Canada, Ireland, Scotland and Norway, coming to the same conclusion. Sea lice are fatal to young salmonids. Fifty of Norway's wild salmon populations became extinct and the West Coast of Ireland lost incredibly valuable sea trout (sea run brown trout) in this way. Farmed salmon must be prevented from placing British Columbia's wild salmon populations at risk. If Fisheries and Oceans Canada was not in an apparent conflict of interest with regard to the farmed salmon issue, they would surely have considered the siting of fish farms along wild salmon migration corridors to be harmful alteration, disruption or destruction (i.e. HADD) of fish habitat and thus constitute an offence under Section 35 of the *Fisheries Act*.

Diseases, especially viruses, grow rapidly in the close confines of fish farms and pose a major potential source of infection for wild salmon. The disposal of waste and dead fish from fish farm operations is not consistently handled in an effective and ecologically sensitive way. The cost to the marine environment is further exacerbated by the fact that the equivalent of 2.4 lbs of wild fish are needed to produce one pound of farmed salmon, thus further depleting our failing global fishery stocks and reducing the food available for other ocean species. It is not sustainable and is not a wise use of a diminishing global fisheries resource.

Other concerns that were reflected in our 2003 resolution included the haphazard monitoring of fish farming impacts, and the grandfathering in location of several fish farms which had been only experimentally approved, without the benefit of full environmental assessments. Each area of the coast has unique environmental sensitivities which should have been considered before the issuance of fish farm licenses.

We are also concerned that with regard to the permitting of fish farms, both provincial and federal levels of government are underfunded and understaffed and cannot adequately carry out the appropriate reviews as required under the *Canadian Environmental Assessment Act*. In the three years since our resolution, little has changed to settle our concerns, in fact quite the contrary. Despite reassurances that farmed fish would not escape, would not enter rivers and would not spawn, introduced domesticated Atlantic salmon did all three. The introduction of invasive alien species is globally recognized as one of the most damaging and disruptive activities that can occur in an ecosystem. It is the height of irresponsibility to do it unwittingly, but surely it is criminal to do it on purpose?

Open-net cage farms have become sources of disease and pollution affecting areas all around them. We are especially concerned about the increasing use of medicated fish food and the impacts these chemicals have on the marine environment around fish farms. In particular, Slice® (emamectin benzoate) has been used for several years to control sea lice despite it remaining an unregistered chemical in Canada. In BC, the use of Slice® has increased approximately four-fold since 2000, although it is supposedly only available for use on an "emergency, case-by-case, basis". Emamectin benzoate is known to reduce moulting success, reduce fecundity and cause deformities in copepods which are critical components of the marine food web, especially for salmon. It is known to be toxic to nematodes (marine worms) and a variet of crustaceans (shrimp, crabs, lobsters), causing for example premature moulting of lobsters. Despite the lack of research to document all its impacts on the marine environment, such as its potential long-term, chronic toxicity, and the effect of repeated applications, it continues to be used on an "emergency case-by-case basis". Studies in Scotland showed that the small mysid shrimp is poisoned by a concentration of emamectin benzoate equivalent to only half a drop in an Olympic-sized swimming pool. Why are we allowing this chemical to pollute the marine ecosystems of coastal BC?

Other chemicals used by fish farms for parasite control or as antifoulants, or occurring as bioaccumulates through fish food, are lethal to aquatic life, and even when discontinued, they persist in the ecosystem. Examples are dichiorvos, ivermectin, TBT, and PCBs. Antibiotics use may lead to resistant bacteria, a serious problem not just for the ecosystem but for public health. Apart from all these considerations, there would appear to be little monitoring of the use of such toxic chemicals.

Fish farms attract natural predators of salmon which are then considered to be nuisance species which must be "managed". These predators include orcas, seals, sea lions, herons, etc. The use of acoustic harassment devices to discourage marine mammals has prevented them from using their normal feeding areas and interfered with migration patterns. In some instances, these animals have been killed. For example, between 1990 and 2000, more than 5000 marine mammals were reported to have been "legally discharged" by the salmon farming industry. We remain concerned that attempts to control predators around fish farms is not properly monitored or publicly reported and could be having undetermined impacts on wild populations.

The federal Department of Fisheries and Oceans' pro-aquaculture policy has repeatedly led to coastal communities' concerns about fish farms being dismissed. It has led to fish farms receiving sizeable subsidies and grants and having considerable fisheries staff and resources allocated to them instead of wild salmon. Protection of *wild* fish and habitats is a duty of the federal government under the Fisheries Act, but the Act has frequently not been enforced where fish farms are at fault.

Many people dislike the insipid taste of farmed fish as compared with wild ones. Farmed salmon must be fed a red dye so that their flesh turns an artificial pink to meet the expectations of buyers. They have higher levels of PCBs than wild pink salmon. They are routinely fed antibiotics and chemicals for anti-lice treatment and other diseases, which could cause human health hazards. It makes us wonder which fish consumers would choose if they knew about the chemicals routinely used to treat farmed salmon.

It is time for a change, and we hope that this Special Committee hearing will be the opportunity for some key improvements. It was wise of the provincial government to originally place a moratorium on fish farms and it was a very bad idea to lift this moratorium. We would like to support the David Suzuki Foundation, the Georgia Strait Alliance and other environmental non-government organizations that are calling on the BC Government to:

- Impose immediate mandatory transitioning of all existing farms into closed containment technology, and in the meantime:
  - reinstate the moratorium on any new open net cage salmon farm licenses;
  - Immediately remove all open net cage salmon farms from wild salmon migration and rearing corridors;
  - Stop the emergency use of Slice® and undertake research to determine its impacts on the marine environment, and;
  - Require public reporting of the "taking" and deaths of any predators around salmon farms.

We further recommend the Committee read "A Stain Upon the Sea". Thank you for your attention to our submission.

Bev Ramey, President, BC Nature; Anne Murray, Conservation Chair, BC Nature; Elaine Golds, Ph.D. (Biochemistry), Conservation Committee, BC Nature

Literature Cited

Hume S., Morton A., Keller B., Leslie R. M. , Langer O. and Stanifford D. 2004. *A Stain Upon the Sea: West Coast Salmon Farming.* Harbour Publishing, Madeira Park, BC.

Editor's Note: This submission by our federation was on all of our behalf. It seemed apropos to publish it as a follow up to the last issue of the magazine. I did not include all the citations here but they are available upon request.

Native Plants Branch Out

By Michael Fox

While browsing the shrubs and perennials recently at my local GardenWorks outlet, I was pleased to see that they have branched beyond the standard fare of kinnikinnik and arbutus as representatives of our local native woody plants. The surprising newcomer was *Ceanothus velutinus*, commonly known as snowbrush, deerbrush or buckbrush. Snowbrush is our northern counterpart of the popular garden plant *Ceanothus thyrsiflorus*, or California lilac. The flower is creamy white and the smooth-edged evergreen leaves are larger than those of the California lilac.

Charles Knighton, the caretaker of the Royal BC Museum Native Plant Garden, tells me that, although snowbrush grows locally, it is such a preferred food plant with our local deer that you are not likely to see a specimen much above a few inches in height. Unmolested, it will grow to 6 m across and 3 m tall. A fine specimen of almost this size can be seen by the steps leading down into the Native Plant Garden from the main entrance at the Royal British Columbia Museum. While unmolested by deer, it is damaged from time to time by unruly humans.

Ceanothus velutinus. Photo: Darren Copley

References

Hebda, R. 1999. Plant profile: *Ceanothus velutinus.* Menziesia, Journal of the Native Plant Society of British Columbia 4(2):14.

Pojar, J. and A. MacKinnon. 2004. *Plants of Coastal British Columbia*. Lone Pine Press, Vancouver.

Vancouver Island Region: Important Bird Areas Near Victoria

By John Henigman, FBCN Representative

Out of our Vancouver Island FBCN Regional Meeting, (November 25, 2006) we learned that the FBCN has taken on the management of the Important Bird Areas (IBA) project for BC. The IBA project is international and has involved countries identifying a list of their most important bird areas. Part of the program involves that each IBA site be checked at least once a year during the relevant season to see how things are going. Some of the sites are remote and finding a person to visit the locations each year will be a challenge. Go on the FBCN website and you can read and see all about it: http://www.naturalists.bc.ca/.

The Victoria area has three sites identified:

- Active Pass
- Chain Islets and Great Chain Islet
- Sidney Channel

The FBCN is looking for birders in the Victoria area who can expect to visit these sites once a year (one or more persons to do this monitoring). The report to be filed per year is minimal. If there are birders who could also take on other remote sites on the BC coast, that would be great. Do you know of capable birders who could do this annual check? Please be in touch with me (598-6326 or henigman@ pacificcoast.net) for more information or to offer your services!

Sidney Island. *Photo: Darren Copley*

Welcome to New VNHS Members

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

Lois and Vic Badenhorst
Johnson Street
nature, birding

Betty Sherwood
Plaskett Place
wildlife and native plants

Natasha Kappell
Hillside Avenue
outdoors

Environmental Groups Release Recommendations for 2007 Federal Budget

Editor's Note: This was a media release dated November 27, 2006. To view the full report, Recommendations for Budget 2007: Opportunities for a Greener Canada, *visit http://www.greenbudget.ca/2007/main.html.*

The Green Budget Coalition, comprising 20 of Canada's leading environmental and conservation organizations, issued its five overriding recommendations for the 2007 federal budget. "Our five recommendations would reduce greenhouse gas emissions, clean our air and water, protect Canadians' health, and preserve our world-famous nature, while also stimulating economic growth and improving energy security", said Julie Gelfand, Coalition Chair. "These recommendations could thus play a prime role in achieving one of the objectives of the government's new economic plan, Advantage Canada, which is to 'create a healthier environment and more sustainable economic growth, including through responsible use of our natural resources and effective use of technology.'"

The five recommendations focus on:

- Renewable Energy and Energy Efficiency: Commencing a comprehensive strategy;
- The Mackenzie Valley: Creating protected areas and land use plans before large-scale industrial development;
- *Species At Risk Act*: Fulfilling its mandate;
- *Canadian Environmental Protection Act:* Strengthening implementation, and,
- Oil Sands: Reducing an expensive, unnecessary tax advantage.

Coalition members discussed these recommendations with Members of Parliament and government officials during a series of meetings in November 2006.

"The oil sands recommendation itself could save hundreds of millions of dollars annually," said Gelfand, "funds which could much better serve the interests of Canadians by financing advancements in energy efficiency, protecting Canadians' health from toxic substances, and preserving our cherished natural heritage."

The Green Budget Coalition brings together the collective knowledge of 20 of Canada's leading environmental and conservation groups, to submit priority recommendations for each annual federal budget, and to advance the integration of environmental values into the economy. The Green Budget Coalition's members are Bird Studies Canada, Canadian Environmental Law Association, Canadian Parks and Wilderness Society, Centre for Integral Economics, David Suzuki Foundation, Ducks Unlimited Canada, Environmental Defence, Équiterre, Friends of the Earth Canada, Greenpeace Canada, International Institute for Sustainable Development, MiningWatch Canada, Nature Canada, Nature Conservancy of Canada, Pembina Institute, Pollution Probe, Sierra Club of Canada, Sierra Legal Defence Fund, Social Investment Organization, and World Wildlife Fund Canada.

Contacts

General

Julie Gelfand, Chair, Green Budget Coalition; President, Nature Canada; 613-562-3447 ext. 231 or 613-858-5029 (cell)

Andrew Van Iterson, Program Manager, Green Budget Coalition, 613-562-3447 ext. 243, avaniterson@naturecanada.ca

For specific recommendations

Renewable Energy & Energy Efficiency – Roger Peters, Pembina Institute, 819-483-6288 ext. 22, rogerp@pembina.org

Mackenzie Valley – Alison Woodley, Canadian Parks and Wilderness Society, 613-569-7226 ext. 227, awoodley@cpaws.org

Species At Risk Act – Julie Gelfand (as above)

Canadian Environmental Protection Act – Aaron Freeman, Environmental Defence, 613-564-0007, freeman@medialine.ca

Oil Sands – Amy Taylor, Pembina Institute, 403-705-4954, amyt@pembina.org

HAT Tricks

Urban Water Quality

By Geoff Huber, HAT Outreach and Restoration Specialist

Who worries about water quality during a West Coast winter? Everyone is just trying to stay dry and keep buildings from leaking. However, this is exactly the time of year when water quality, not quantity, should be on everyone's mind.

Victoria rarely gets significant snowfalls, but the recent snowstorm raises some water quality issues that are connected to products in our everyday lives. De-icer salts and windshield antifreeze can tackle compacted snow and ice, but they are hazardous to freshwater fish and other aquatic organisms. These products are just two of many listed stream contaminants that spawning salmon in Colquitz and other rivers and creeks must face every rainfall.

Non-point source pollution is any pollution that comes from dispersed or poorly defined sources rather than a single point (e.g. an effluent pipe). Impervious surfaces are waterproof surfaces that do not allow for water absorption into the ground like driveways, parking lots, roofs, and roads. These impervious surfaces are increasing run-off stress on natural watercourses.

Non-point source pollution, including oil and antifreeze droplets, power-washing run off, paint chips, cleaning detergents, synthetic fertilizers, pesticides and herbicides, are collected by impervious surfaces during dry periods. Often, we aren't even aware of the small amounts of pollution that we create. When you add up all the little drops or spills in an entire watershed, the result can kill aquatic life. Impervious surfaces act as collecting bodies for non-point source pollutants. Rains carry pollutants into storm drain systems and out to the closest water bodies (fresh or marine). When watersheds approach 10 percent impervious surfaces, significant harm to natural ecosystems will begin to occur.

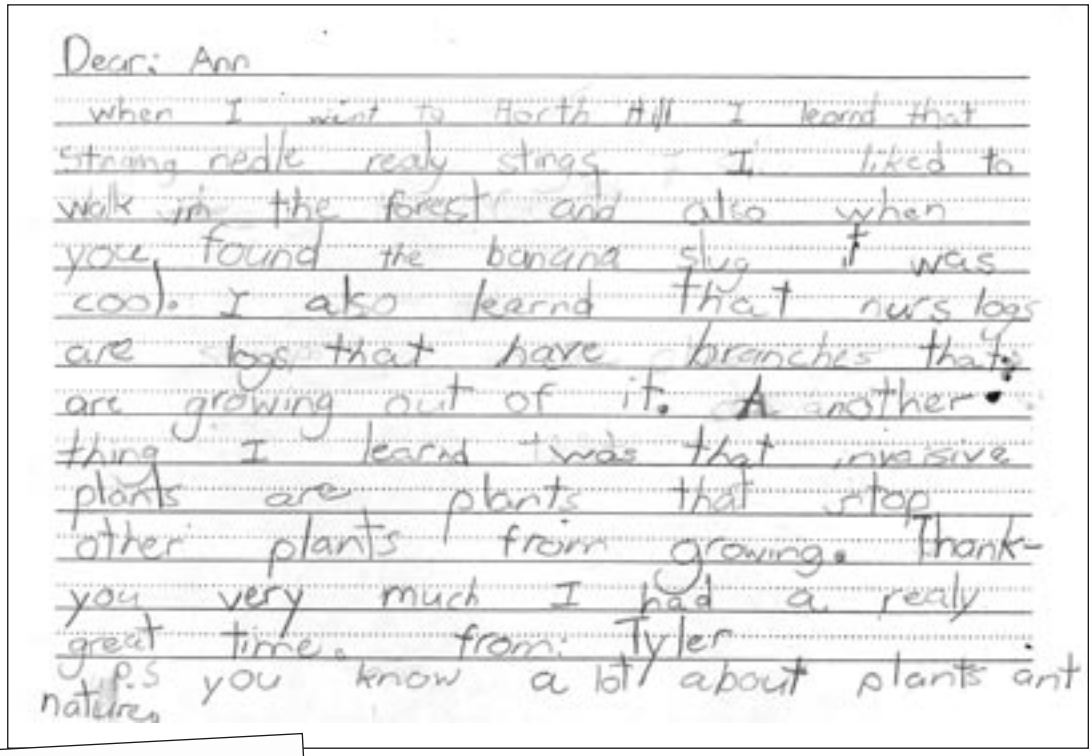
The good news is that we can make easy and significant improvements to the quality of our most precious resource. These easy solutions come in the form of Best Management Practices (BMP's). These BMP's are available through your municipality or the Capital Regional District. The BMP's are not legal requirements but guidelines for minimizing non-point source pollution that each of us creates in our daily lives. A good example would be to always have a bag of cat litter that can be spread on chemical spills. The litter will act quickly to absorb the spill and can be easily swept up afterwards and disposed of in the trash. This is a simple way to avoid chemical spills entering the storm drains when it rains.

Habitat Acquisition Trust will introduce BMP information to homeowners and businesses in the Gabo Creek watershed as part of our Rithet's Bog *Good Neighbours* project. We hope to find people and businesses willing to make positive changes for water quality and wildlife in their neighbourhood. To find out more about our *Good Neighbours* program or where to find BMP's, please contact us at 995-2428 or by email at hatmail@hat.bc.ca.

Skunk cabbage. *Photo:* Darren Copley

Letters

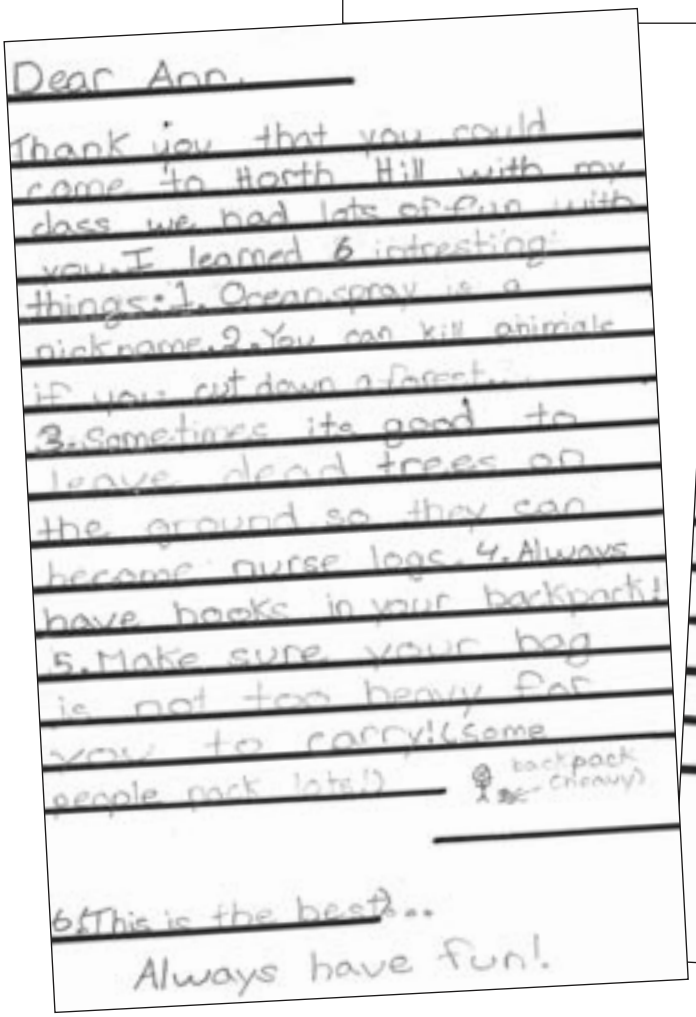
Letters of appreciation for the VNHS "Volunteers in the Schools Project".



Dear: Ann

when I went to Horth Hill I learnd that strong nedle ready stings. I liked to walk in the forest and also when you found the banana slug it was cool. I also learnd that nurs logs are logs that have branches that are growing out of it. Another thing I learnd was that invasive plants are plants that stop other plants from growing. Thank-you very much I had a really great time. from: Tyler

P.S you know a lot about plants ant nature.

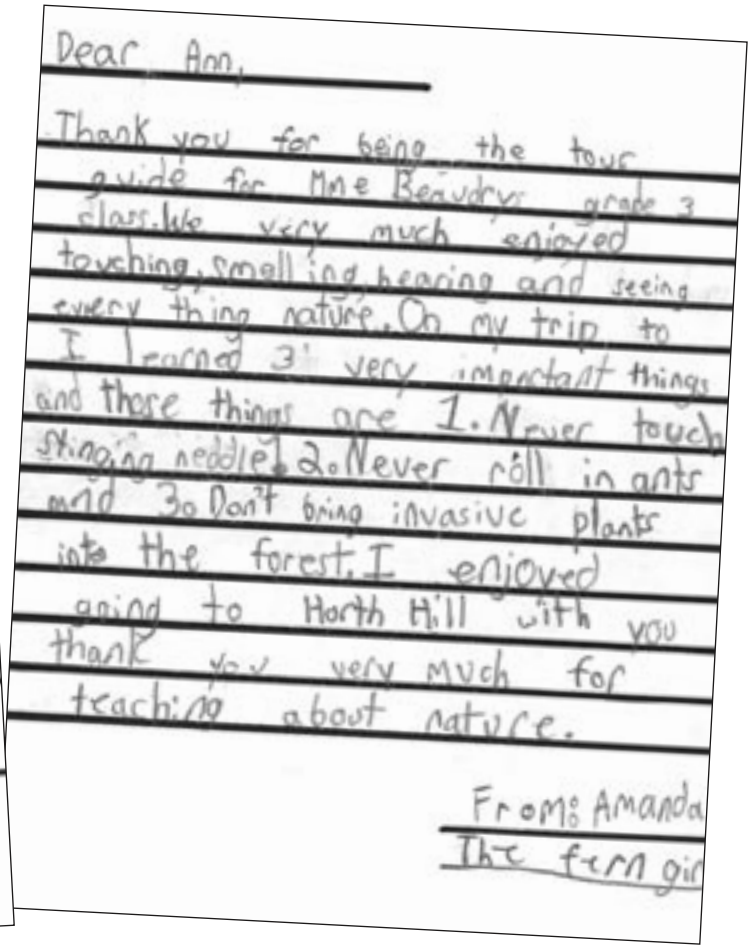


Dear Ann,

Thank you that you could come to Horth Hill with my class we had lots of fun with you. I learned 6 intresting things: 1. Ocean spray is a nickname. 2. You can kill animals if you cut down a forest. 3. Sometimes its good to leave dead trees on the ground so they can become nurse logs. 4. Always have books in your backpack! 5. Make sure your bag is not too heavy for you to carry! (some people pack lots!) backpack (heavy)

6. This is the best...

Always have fun!

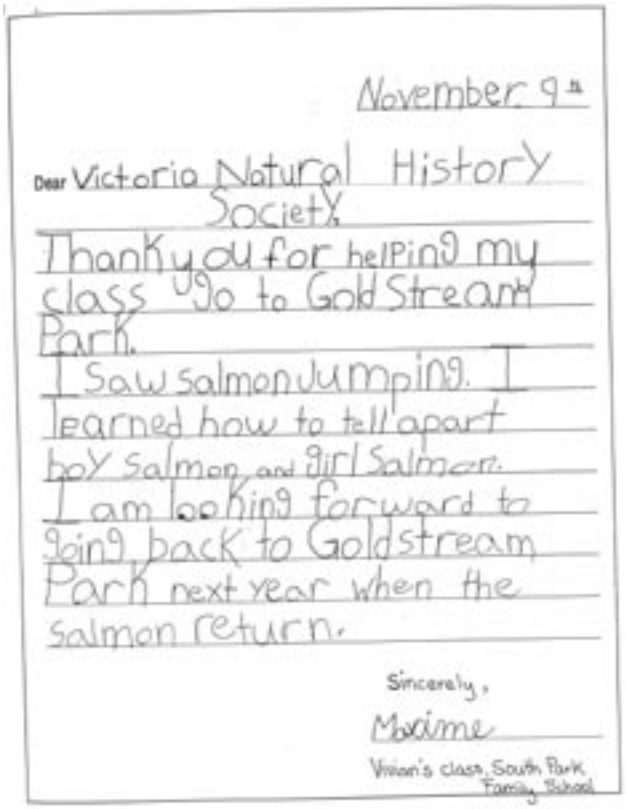


Dear Ann,

Thank you for being the tour guide for Mme Beaudry's grade 3 class. We very much enjoyed touching, smelling, hearing and seeing every thing nature. On my trip to I learned 3 very important things and these things are 1. Never touch stinging neddle 2. Never roll in ants and 3. Don't bring invasive plants into the forest. I enjoyed going to Horth Hill with you thank you very much for teaching about nature.

From: Amanda
The fern girl

Letters of thanks from school children who have visited Goldstream Provincial Park during the annual salmon run. The VNHS contributes financially to these programs.

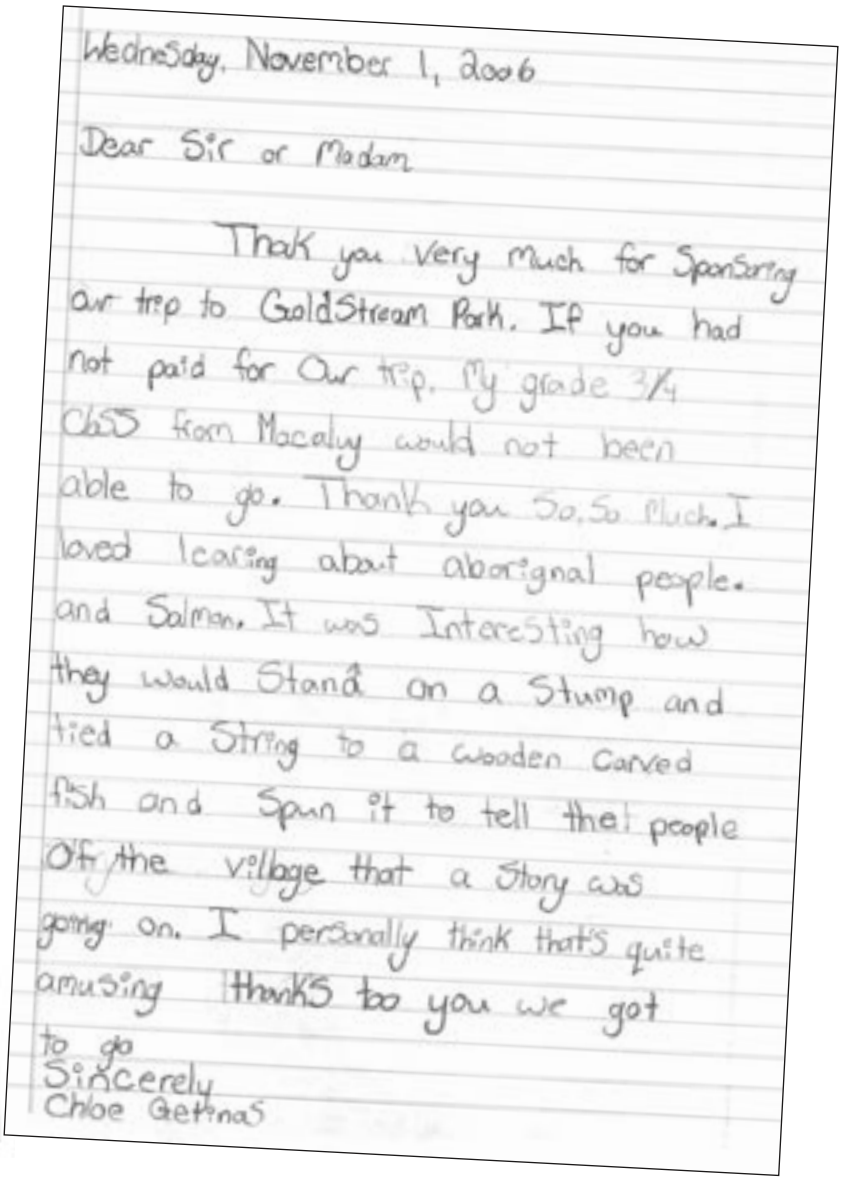


November 9th

Dear Victoria Natural History Society

Thank you for helping my class go to Gold Stream Park.
I saw salmon jumping. I learned how to tell apart boy salmon and girl salmon.
I am looking forward to going back to Goldstream Park next year when the salmon return.

Sincerely,
Maxime
Vivian's class, South Park Family School



Wednesday, November 1, 2006

Dear Sir or Madam

Thank you very much for sponsoring our trip to GoldStream Park. If you had not paid for our trip. My grade 3/4 class from Macaly would not been able to go. Thank you So, So Much. I loved learing about aboriginal people. and Salmon. It was Interesting how they would Stand on a Stump and tied a String to a wooden Carved fish and Spun it to tell the people Of the village that a Story was going on. I personally think that's quite amusing thanks too you we got to go
Sincerely
Chloe Gettinas

BULLETIN BOARD

Are you going to one of the VNHS meetings?

Willing to pick up a VNHS member in the Fairfield area? If yes, then please telephone 382-7202. Thank you for your consideration.

Saturday Birding Group

Meet opposite the entrance to Beaver Lake Park on Elk Lake Drive (between Haliburton and Royal Oak) at 8:00 a.m. Birding location will be decided at the meeting point. For more information, call **Rick Schortinghuis** at 652-3326.

Advice about traveling to the Galapagos

If you've been and can recommend a tour company (or not– also useful!), please call or email **Claudia** at 479-6622 / dccopley@telus.net.

Year-round Tuesday morning birding group

Meet at the foot of Bowker Ave. at 9:00 a.m. Birding activities take place at various locations around Greater Victoria. For information, contact **Bill Dancer** (721-5273) or dcdancer@shaw.ca.

Traveling companion wanted

I am seeking a traveling companion from the Victoria area to join me on a group birding trip to Hawaii in March, 2007. The trip is being led by Doug Pratt, author of *Birds of Hawaii* and Curator of Birds at the North Carolina Musuem of Natural History. Please contact **Marcia**: marcias56@hotmail.com or 474-6890.

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., in Murray and Anne Fraser Building, Room 159, University of Victoria; **Botany Night**: the third Tuesday, 7:30 p.m., Swan Lake Nature House; **Birders' Night**: the fourth Wednesday, 7:30 p.m., Murray and Anne Fraser Building, Room 159, University of Victoria. **Marine Night**: the last Monday, 7:30 p.m., in Murray and Anne Fraser Building, Room 159, University of Victoria. Locations are given in the calendar listings. Telephone the VNHS Events Tape at 479-2054 for further information and updates. The VNHS Calendar also appears on the Internet at: http://www.vicnhs.bc.ca, and is updated regularly.

JANUARY

Monday, January 1

FIELD TRIP
Viaduct Flats and Quick's Bottom Birding
Join **Bill Dancer** for a New Year's Day Birding walk around Viaduct Flats and Quick's Bottom. Meet at Layritz Park at 9:00 a.m. Layritz Park is off Glyn Road which is off Wilkinson Road. Call Bill at 721-5273 if you need more information

Tuesday, January 9

NATURAL HISTORY PRESENTATION
The Baffin Islands
George Sirk, will be giving a presentation of the natural history of Churchill and the Baffin Islands. George has been a guide and naturalist for more than 30 years and has been to the Baffin Islands and Churchill as a guide many times. Everyone is welcome. We meet at 7:30 p.m. in room 159 of the Fraser building at UVic.

Sunday, January 14

FIELD TRIP
Exploring Victoria's Heritage Trees – Part III – Victoria & Oak Bay
This will be the third of a series of monthly trips exploring the Greater Victoria area's Heritage Trees. You may be familiar with the book put out on this subject and the regulations that municipalities have put in place to protect significant trees. This will be a bit of both. We will include what few significant natives we have in the area but regrettably the tour will probably include more exotics than the tours in the outlying areas. You must pre-register for this event by contacting Agnes, preferably by email. There is a limit of 10 people for each trip as we will be using a van. There will be a cost of $10.00 per person payable when you register to cover expenses for gas and the van. We will meet in Beacon Hill Park in the parking lot near the petting zoo at 10:00 a.m. Bring lunch, snacks and drinks for the all-day outing. No pets please. Call **Agnes Lynn** at 721-0634 or email her (thelynns at shaw.ca) if you need more information and to pre-register.

Tuesday, January 16

BOTANY NIGHT
Alpine Flowers of Mongolia
Jules Thomson will talk on the heart of north central Asia, a mountainous country on a plateau of 1580 m, offering beautiful wildflowers in the Altai mountains, a vast landscape. Swan Lake Nature House, 7:30 p.m. Everyone welcome, bring your friends.

Saturday, January 20

FIELD TRIP
Birding Jocelyn Hill
Join **Mike McGrenere** in birding Jocelyn Hill in the Highlands. This trip could produce some rarities such as Pine Grosbeak, Townsend's Solitaire or Golden Eagle. This trip is weather dependent so we will be meeting opposite the entrance to Beaver Lake Park on Elk Lake Drive at 8:00 a.m. Bring a lunch. Call Mike at 658-8624 if you need more information.

Wednesday January 24

BIRDERS' NIGHT
Coastal Bird Survey
Pete Davidson of Bird Studies Canada is coming to talk about the Coastal Bird Survey being conducted in B.C. The surveys have been ongoing for about five years now and conducted by volunteers. Learn about some of the results and trends of coastal water birds. We meet at 7:30 p.m. in room 159 of the Fraser building at UVic.

Saturday, January 27

FIELD TRIP
Birding with Ed Pellizzon
Ed will be leading a birding trip to a surprise location. Meet opposite the entrance to Beaver Lake Park on Elk Lake Drive at 8:00 a.m.

Sunday, January 28

FIELD TRIP
Royal Roads Native Tree Walk
Hans Roemer will share his knowledge of the Big Trees on the Royal Roads University and neighbouring Department of National Defense (DND) properties. Hans has been researching these trees for several years and it is delightful to enjoy a walk through the woods with him, admiring these giants that include Douglas Fir (*Pseudotsuga menziesii*), Grand Fir (*Abies grandis*) and other natives. Several of these trees are considered exceptional due to their size. Hans will explain how they have reached these huge proportions as well as talk about other interesting natural features in the area. Although the federal government has recently doubled back and, at the present moment, do not consider these DND properties as "potentially surplus" to the governments needs, we still have to be vigilant and make sure these ecologically sensitive areas are preserved for their true value. Although we will be walking at a slow pace, this will be an outing for those who are comfortable clambering up and down hills on uneven ground. A walking stick and good hiking boots are recommended. Dress for the weather. Bring a snack and a drink. Starts from Park & Ride across from the entrance to Royal Roads at 9:30 a.m. Outing approximately three hours long. No pets please. Call **Agnes** at 721-0634 or email her (thelynns at shaw.ca) for more information.

Monday, January 29

MARINE NIGHT
Carnivorous Sponges
Dr. Henry Reiswig, Research Associate at the Royal BC Museum and world expert on glass sponges will describe the biology of this group and focus on the unusual behaviour of carnivorous sponges, including a newly discovered species from deep water off California. Everyone is welcome.7:30 pm Rm 159 – Murray and Anne Fraser Building, UVic

FEBRUARY

Sunday, February 4

FIELD TRIP
Exploring Victoria's Heritage Trees – Part IV – Saanich
This will be the last of a series of monthly trips exploring the Greater Victoria area's Heritage Trees. You may be familiar with the book put out on this subject and the regulations that municipalities have put in place to protect significant trees. This will be a bit of both. We will include both native and exotic trees on this tour but regrettably not as many natives as in the tours in the outlying areas. You must pre-register for this event by contacting Agnes, preferably by email. There is a limit of 10 people for each trip as we will be using a van. There will be a cost of $10.00 per person payable when you register to cover expenses for gas and the van. We will meet at the University of Victoria in Parking Lot 10 off Gordon Head Rd, just north of Cedar Hill Cross Rd at 10:00 a.m. Bring lunch, snacks and drinks for the all day outing. No pets please. Call **Agnes Lynn** at 721-0634 or email her (thelynns at shaw.ca) if you need more information and to pre-register.

Sunday, February 11

EVENT
Tenth Annual Valentine Couples' Bird Count
It's the tenth anniversary of the VNHS Annual Valentine Couples' Bird Count and the organizers are keen to ensure this year's event is more fun than ever. This event gives couples an opportunity to share a morning of birding and partake in friendly competition with other birding couples. The object of the exercise – whether on foot, by car, or on a bicycle built for two – is to find as many species as possible between the hours of 6 a.m. and 12 noon. Prizes are awarded in several categories from an array donated by local restaurants, booksellers and others. Best of all, the couple having the highest species count will have their names engraved on the Anderson Trophy, featuring Jerry Anderson's beautiful carving of a pair of Mourning Doves. Immediately after the count couples will meet at the Swan Lake Nature Centre to compare notes over coffee and treats. The entry fee for this event is still $10 per couple. For more information or to register for this event contact **Jan Brown** or **Alan MacLe**od at leotaj@telus.net or 382-3854.

Sunday, February 11

FIELD TRIP
Boundary Bay and Raptors
Join **Rick Schortinghuis** for a trip to Boundary Bay in Vancouver. We can expect to see large flocks of wintering waterfowl and shorebirds, as well as visit some of the best wintering habitat for raptors in western Canada. Car-pooling will reduce costs to approximately $35-$40 per person. Meet opposite the entrance to Beaver Lake Park on Elk Lake Drive at 5:45 a.m. We will return on the 5:00 p.m. ferry. Dress warmly and bring a lunch. To register call Rick at 652-3326.

Tuesday, February 13

NATURAL HISTORY PRESENTATION
TBA
At press time a speaker had not been finalized. Please consult the VNHS web site at www.vicnhs.bc.ca and click the calendar link for details of this talk. We meet at 7:30 p.m. in room 159 of the Fraser Building at UVic

Saturday, February 17

FIELD TRIP
Birding Elk Lake and Beaver Lake
Join us (leader tba) for a leisurely 10 km stroll around the loop trail at Elk Lake/Beaver Lake Regional Park. This is a good location to find wintering passerines and waterfowl. Meet at 8:00 a.m. opposite the entrance to Beaver Lake Park on Elk Lake Drive. For more information call **Rick Schortinghuis** at 652-3326.

Tuesday, February 20

BOTANY NIGHT
Oaks, Mosses and Ferns; a Close Look at Some of the Lower Plants of our Garry Oak Ecosystem
Wynne Miles will talk about some rare and unusual non-flowering plants in our Garry oak stands. This would include lots of macroscopic and microscopic views of bryophytes; common and not so common. Swan Lake Nature House, 7:30 p.m. Everyone welcome, bring your friends.

Saturday, February 24

FIELD TRIP
Birding the Duncan Area
Join **Derrick Marvin** in birding the Duncan area. Meet at 8:00 a.m. at the Helmcken Park and Ride to car pool or at 9:00 a.m. at the end of York Road, which runs beside the golf driving range near the intersection with Beverly Street at the south end of Somenos Marsh. Bring a lunch. Call Derrick at 250-748-8504 if you need more information

Monday, February 26

MARINE NIGHT
Marine Molluscan Studies: Thailand to Tonga
This talk was rescheduled because of November's big snow. **Dr. Lisa Kirkendale** and **Dr. Peter Middelfart** will combine travel and science in a talk about their exploits in the Indo-Pacific while studying the taxonomy and biogeography of several species of tropical molluscs. Everyone is welcome.7:30 p.m. Rm 159 - Murray and Anne Fraser Building, UVic

Wednesday, February 28

BIRDERS' NIGHT
Members' Night
Have you have been taking lots of pictures of birds? Or maybe videoing them? Well, we would love to see them! VNHS Members' Night is the place for you to show us your pictures. We can accommodate digital pictures, CD or DVC with our laptop computer and digital projector, and 35mm slides with our slide projector. If you are interested in doing a presentation call **Ed Pellizzon** at 881-1476. Everyone is welcome; we meet at 7:30 p.m., room 159 in the Fraser building at UVic.

The Victoria NATURALIST

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2007 Natural History Courses

Here's a chance to support the society while learning a bit more about natural history. These programs will be taught by experienced VNHS trip leaders who have volunteered their time. The proceeds will support VNHS conservation and education activities. Please note the lower prices for members (yet another reason to join!). We are interested in offering other courses but require more leaders to come forward. Please call Darren Copley at 479-6622 if you have any suggestions.

Beginning Birding

An easy introduction to the pursuit of birding for those with little or no previous experience. The emphasis will be on bird identification in the field. We will start with an illustrated lecture on March 8, 2007 and 6 Saturday morning field trips from March 10th to April 21st. The cost will be $75 for non-members and $45 for members.

Beyond Beginning Birding

Take the next step beyond the basics of identification. Our group of local VNHS experts places an emphasis on birding by ear and the identifying field marks of those difficult groups and species. This course includes 8 very diverse field sessions around Victoria led by 8 different leaders. Sessions run on Sunday mornings beginning on April 22, 2007. The cost is $95.00 for non-members and $65.00 for members. The course is limited to fifteen participants.

If you have any questions, or would like to register, please call the Goldstream Nature House: 478-9414. More detailed brochures will be available in the new year.

Victoria Natural History Society