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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.

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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COVER PHOTO:
Coastal Manroot (*Marah oreganus*). A red-listed species in British Columbia and therefore a "rare element" that is tracked by the Conservation Data Centre (p. 17). *Photo*: Darren Copley.

Teachers in our region appear to be appreciative of the free programs and field trips members of the Victoria Natural History Society are providing: approximately 30 field trips and presentations have occurred so far. Feedback is positive – from both volunteer leaders and the teachers.

Members who have committed to helping us offer these field trips can look forward to class sets of some "naturalist tools": binoculars, field guides, dip nets, hand lenses, etc. These class sets will be stored at the Swan Lake Nature Centre, and, when not in use by VNHSers, are available for Swan Lake to use with their programming. Funding for this component of the project came from a grant from Nature Canada (formerly the Canadian Nature Federation).

Letters from school principals and teacher librarians (p.20) are a testament to the warm welcome our school resource kits have also been given. Phase II of these kits is in the schools and the perpetual children's art calendar is printed and ready for distribution to teachers in September. The cost of printing this calendar was covered through a grant from TD Friends of the Environment, and the desktopping skills of Frances Hunter of Beacon Hill Communications Group were also donated. A copy can be seen on our webpage, www.vicnhs.bc.ca, or check it out at a fall meeting of the Society.

I would like to formally recognize the hard work of some of the key players in this effort. First the team captains for this project; James Clowater, Bill Dancer, and John Henigman. They coordinate the volunteers each time a request is made. David Newell has worked tirelessly on this project from the outset and continues by keeping track of the number of programs, students, etc. Pam Murray put together two jam-packed information and activity-filled mornings of field trip leader training that were well attended and valued.

We're off to an auspicious start. Congratulations everyone!

A couple of months to relax and learn some new things, and then back to it in the fall!

Claudia

eBird Canada

By Dick Cannings, Regional Staff Member, Bird Studies Canada

Bird Studies Canada recently announced that it will be launching eBird Canada this fall. What is eBird? It's a web-based bird sightings database, first developed by the Cornell Laboratory of Ornithology in 2002. Participants can enter their bird sightings online, then freely explore the entire database through maps and a multitude of graphing options. eBird even acts as a listing program, generating lifelists for any location, province or country, and bar-graph checklists for any location. Raw data can be downloaded through the Avian Knowledge Network. eBird has proven very popular since Version 2 was announced in fall 2005, and now more than 25,000 checklists are entered every month. That's about eight million bird records per year.

Right now eBird allows you to report sightings from Canada, the United States and Mexico, and future plans see it covering all of Central and South America as well. It is a checklist program. That is, bird sightings are entered in checklists that record the exact location, date, time and effort involved for each sighting. This ancillary data allows eBird data to be used to monitor bird populations in a much more powerful way than programs that involve single species sightings that have no effort data associated with them. And how will eBird Canada be different? It will simply be a Canadian gateway to eBird, with features such as bilingual data entry and retrieval and Canadian birding news on the main page. Behind the scenes, Bird Studies Canada will be working with Cornell to improve Canadian data entry, and output maps, and to provide eBird data to bird sightings databases across the country.

Data entered on eBird Canada will be visible from the main eBird page and vice versa. You can therefore start entering your data now, before eBird Canada is launched, to test-drive the program. Just go to www.ebird.org to enter data or explore the database. When it is launched in October, eBird Canada's URL will be www.ebird.ca.

Entering data

Entering bird sightings is easy. You first have to tell eBird where you went birding. That can be done by either zooming in on a map then clicking on the spot, or by entering coordinates obtained from a map or a GPS unit. Once you've entered the coordinates for a certain location, you don't have to do it again; you can simply select it from a list next time around. The next step is indicating what effort you put into birding at that location. It could be casual observations, stationary counts, travelling counts or intensive area surveys. These effort data allow eBird to take account of changing levels of effort when calculating species abundance patterns. Finally, you're presented with a checklist, where you can fill in numbers (or just X's if you haven't kept track of numbers) beside each species seen. The checklist is derived from your location and the time of year, so you don't have to wade through every species in North America.

If you already enter your bird sightings into a program such as AviSys or BirdBase (or a custom spreadsheet or

Chestnut-backed Chickadee. *Photo*: Marie O'Shaughnessy

Winter Wren. *Photo*: Marie O'Shaughnessy

In preparing for the possibility of launching eBird Canada, I entered a couple of years' data from my notebooks and admit that I'm thoroughly hooked on the program. It's great fun looking at the bar-graph checklist for my yard as well as the lists of birds I've seen on trips to more exotic locales.

database) you could wait until later this summer when eBird will announce their new bulk upload tool. Stay tuned! You won't have to enter all that data again.

Exploring the Database

You can look at eBird data in a multitude of ways. If you ask for data from one species, Bald Eagle for instance, you'll quickly see a map of North America showing where all Bald Eagle sightings have come from. And each dot is shaded to show how often Bald Eagles are seen there. You can then click on various tabs to look at the frequency of Bald Eagle sightings throughout the year, the maximum numbers, average numbers, etc. If you are interested only in Bald Eagle sightings from BC, you can restrict your query to BC (or any other state, province, or location). You can also restrict the mapping function to any time of year, so you can find out if Bald Eagles move around in different seasons. If you're interested in all the birds from a particular location, for instance Clover Point, you can easily generate a checklist from that "Birding Hotspot" and see what species have been seen there and how often they are seen through the year (remember – this checklist is generated from eBird data so if there isn't much data from your favourite birding spots it's up to you to enter some!). If you have a place you often record bird sightings from, e.g. your backyard, you can generate a bar-graph checklist for that site as well. Or you can get checklists from any bird hotspot, province, state or country.

And remember, eBird will keep track of your personal lists as well. On "My eBird" you can quickly see how many species you've reported on your lifelist, or from any country or province, in your life or in any year. You can print out all those lists, complete with where and when you first reported each species.

Quality Control

The same program that creates the checklists you use for data entry (in BC these are separated by coast and interior) also flags records that exceed set limits. So if you report a Northern Wheatear in any month, 12 Wilson's Warblers in February or a Snowy Owl in July, the program will ask you if you're sure you haven't made a typographical error. If you haven't, it will congratulate you on your sighting, but flag it for scrutiny by a regional editor. The editor will likely contact you to get details on the sighting to make sure it is legitimate before allowing it to be "visible" through the public website.

In preparing for the possibility of launching eBird Canada, I entered a couple of years' data from my notebooks and admit that I'm thoroughly hooked on the program. It's great fun looking at the bar-graph checklist for my yard as well as the lists of birds I've seen on trips to more exotic locales. The data entry wasn't all that onerous; it even brought back many pleasant memories of exciting birding adventures and good times in the field with friends.

If you have any questions or comments about eBird, please get in touch with me (c/o S11 C96 RR1 Naramata, BC V0H 1N0, 250-496-4049, dickcannings@shaw.ca). I think you'll enjoy this program!

Bird Studies Canada *is recognized nation-wide as a leading and respected not-for-profit conservation organization dedicated to advancing the understanding, appreciation and conservation of wild birds and their habitats, in Canada and elsewhere, through studies that engage the skills, enthusiasm and support of its members, volunteers, staff and the interested public.*

American Bullfrogs In British Columbia: Update On Range, Impacts And Management

By Purnima Govindarajulu

It was in 1997, at the start of my doctoral research, that I first published an article in the *Victoria Naturalist* soliciting the help of naturalists with mapping the range of the introduced American bullfrog (*Rana catesbeiana*) in British Columbia. I completed my doctoral research in 2004. It now seems appropriate to provide an update on the range of the bullfrog and a summary of recent research on the management of this introduced species.

Current range and mechanisms of spread

On Vancouver Island, bullfrogs are now well established in the southeast along the Island Highway from Victoria to just south of Campbell River. They have expanded westward to Port Alberni and may even have reached the boundary of Pacific Rim National Park. They are also found on some of the Gulf Islands (Salt Spring, Lasqueti, Texada and Pender) and in all the municipalities and towns of the Lower Mainland including Powell River. Only one bullfrog population has been found in the southern interior, in the town of Osoyoos.

Male bullfrog (left), and female (right). *Photo*: Stephen Price

Human transport is the main reason for the spread of bullfrog populations in the province. This results in the observed pattern of pockets of expanding bullfrog populations in widely separated suburban and rural areas. People move bullfrogs into their local ponds to establish sport hunting or for farming. Sometimes they are introduced as released pets and "live garden ornaments" and as discarded science projects. Given the high reproductive potential of bullfrogs (6,000 to 20,000 eggs/female) a single pair can establish a viable population and the population expands until stopped by unfavourable habitat and the absence of migration routes.

In the Greater Victoria area, for example, bullfrogs were introduced in the late 1930's and early 1940's. By the 1960's bullfrog populations were well established in Elk/Beaver Lake. They remained confined to this area for almost 30 years, before expanding their range rapidly at a rate of 1 to 3 km/year in the early 1990's. Although difficult to prove conclusively, I hypothesize that this recent range expansion was caused by the establishment of a new beaver-created migration route connecting existing bullfrog populations in the Elk/Beaver areas to un-colonized suitable habitats to the west in the Prospect Lake area. The timing of the range expansion, early 1990's, coincides with the time a beaver dam converted a seasonally flooded potato field to a permanent wetland at Viaduct Flats, midway between the two areas. Once established in and around Prospect Lake, the bullfrogs were able to spread rapidly through the numerous irrigation ponds, small lakes, and wetlands to the Thetis Lake system. Bullfrogs are currently expanding their range north in the Millstream and Todd Creek systems. They may even be spreading along Goldstream from Langford Lake. The greater distance between suitable habitats and the lack of migration corridors seems to restrict the expansion of bullfrog populations to irrigation ponds in rural Central Saanich. However, there may be two isolated bullfrog populations in North Saanich, both the result of human transport.

Current research on bullfrog impacts

Bullfrogs are generalist predators; conservationists were gravely concerned for the health of native fauna in areas

Redlegged frog (*Rana aurora*). *Photo*: Purnima Govnidarajulu

invaded by bullfrogs. Not surprisingly, there have been a number of recent scientific studies, including my doctoral research project, that have documented negative impacts of bullfrogs on native frogs. My research focused on the two native frogs in our area, the Pacific treefrog (*Pseudacris regilla*) and the redlegged frog (*Rana aurora*). In the aquatic stage, bullfrogs compete for food with native tadpoles and have been shown to reduce the growth and development rate of native tadpoles and, under some circumstances, increase mortality. In the terrestrial stages, bullfrogs prey upon native frogs, although a large proportion of their diet seems to be insects and other bullfrogs (cannibalism). They also occasionally eat birds, reptiles, fish, and mammals.

The general consensus emerging from the studies in the Pacific Northwest is that although bullfrogs have negative impacts, they are not the primary cause of declines in native fauna. Bullfrogs benefit greatly from human caused habitat modification such as the conversion of temporary wetlands to permanent ornamental/irrigation ponds, removal of canopy cover around wetlands, destruction of upland foraging sites for native amphibians, and the introduction of non-native fish such as bass and sunfish. Bullfrogs thrive in such modified habitats and add to the negative impacts of these habitat modifications on native fauna. They can act as the final nail in the coffin but it is habitat modification that starts the slide down the slippery slope of population decline for most native frogs.

Management

Preventing the establishment of new bullfrog populations should be the number one priority of any bullfrog management plan. This means creating programs to ***stop*** people from introducing bullfrogs to new locations and increasing monitoring of wetlands at the periphery of the bullfrog range in order to prevent colonization of these wetlands.

It has now been clearly demonstrated that eradication of established populations is nearly impossible and, even when possible, extremely costly. In England, eradication of an isolated bullfrog population from just one small pond

On the positive side, local volunteer stewardship groups, such as the Fork Lake Stewardship Society, have been very effective in preventing the colonization of bullfrogs into their lake.

(80m x 20m), cost $72,000 over three years and it is still unclear whether the population has been eradicated. Last year a bullfrog eradication program in Langford and Florence Lakes cost approximately $50,000 but was not successful due to logistical difficulties. This year the estimate is to spend approximately $80,000 on eradication attempts in the same lakes. Eradication of bullfrogs in the Greater Victoria area with its many lakes and ponds would be prohibitive in cost.

On the positive side, local volunteer stewardship groups, such as the Fork Lake Stewardship Society, have been very effective in preventing the colonization of bullfrogs into their lake. Following the leadership of the Fork Lakers, other lake stewardship groups and individuals have taken charge of bullfrog control efforts.

Another commendable attempt is the *Bullfrog Fest* in Merville near Courtenay. Two years ago, the residents invited Ministry of Environment biologist Tanya Giesbrecht to present a workshop on frog identification, capture methods, and humane killing methods. With this training, stewards of all ages go out and capture as many bullfrogs as they can. At the annual potluck *Bullfrog Fest*, culinary experts from various parts of the world demonstrate how to clean and prepare bullfrog legs. This annual event not only provides the impetus for bullfrog control but also offers a great venue for educating people about other aspects of wetland stewardship such as introduction of non-native fish and plants, retention of a native vegetation buffer around wetlands, and prevention of nutrient runoff from upland terrestrial activities. The Merville group is now providing guidance to neighbouring Cumberland, where wetland stewards are facing an emerging bullfrog problem. A similar *Bullfrog Derby* has been going on at McCoy Lake in Port Alberni for about three years now, keeping the bullfrog populations there under control.

Like so many invasive species, it is doubtful that we will ever remove bullfrogs completely. Our best alternative to preserve native species is, therefore, to enable coexistence. The long-term management of bullfrogs includes ways of modifying habitat at the landscape level to enable native species to persist in the presence of bullfrogs. My surveys and that of biologists just south of the border in Washington and Oregon have shown that under some circumstances, native amphibians can persist in the presence of bullfrogs. We hope to identify the habitat features that permit such coexistence and use them in restoration efforts.

Warming Tied to Extinction of Frog Species

By Juliet Eilperin, Washington Post Staff Writer

Editor's Note: This was a news release from The Center for North American Herpetology, Lawrence, Kansas http://www.cnah.org, 8 February 2006

Rising temperatures are responsible for pushing dozens of frog species over the brink of extinction in the past three decades, according to findings being reported today by a team of Latin American and U.S. scientists.

The study, published in the journal *Nature*, provides compelling evidence that climate change has already helped wipe out a slew of species and could spur more extinctions and the spread of diseases worldwide. It also helps solve the international mystery of why amphibians around the globe have been vanishing from their usual habitats over the past quarter-century – as many as 112 species have disappeared since 1980. Scientists have speculated that rising temperatures and changing weather patterns could endanger the survival of many species, but the new study documents for the first time a direct correlation between global warming and the disappearance of around 65 amphibian species in Central and South America.

The fate of amphibians – whose permeable skin makes them sensitive to environmental changes – is seen by scientists as a possible harbinger of global warming's effects. Rising temperatures are threatening the survival of flora and fauna worldwide, including coral reefs in the Caribbean, which serve as critical fish nurseries, and South African rhododendrons, which cannot move to a cooler climate. J. Alan Pounds – the resident scientist at the Tropical Science Center's Monteverde Cloud Forest Preserve in Costa Rica and the study's lead author – worked with 13 other researchers to pin down the link between rising tropical temperatures and the spread of the deadly chytrid fungus that has wiped out dozens of species of harlequin frogs in recent years. "Disease is the bullet killing frogs, but climate change is pulling the trigger," Pounds said. "Global warming is wreaking havoc on amphibians and will cause staggering losses of biodiversity if we don't do something first."

Pacific treefrog (*Pseudacris regilla*): A native species of frog that may be affected by the presence of the chytrid fungus recently found in bullfrog populations. *Photo*: Darren Copley

The paper helps explain how global warming has allowed the chytrid fungus – which kills frogs by growing on their skin and attacking their epidermis and teeth, as well as by releasing a toxin – to thrive in Costa Rica and neighboring countries. The higher temperatures result in more water vapor in the air, which in turn forms a cloud cover that leads to cooler days and warmer nights. These conditions favor the fungus, which grows and reproduces best at temperatures between 63 and 77 degrees Fahrenheit.

At least 110 species of the vibrantly colored amphibians once lived near streams in the Central and South American tropics, but about two-thirds disappeared in the 1980s and 1990s, including the golden toad. While researchers had previously identified the fungus as a major reason for the frogs' demise, they have been trying to determine why the disease has taken such a major toll in recent years. Looking at more than 65 harlequin frog species that had vanished, researchers found that 80 percent of the time there was a correlation between higher temperatures and the species' disappearance. After a warm peak in 1987, for example, five species died off. "There's a coherent pattern of disappearances, all the way from Costa Rica to Peru," Pounds said in an interview. "Here's a case where we can show that global warming is affecting outbreaks of this disease."

Amphibians are experiencing a precipitous decline in Africa, Asia and North America, according to a comprehensive 2004 survey, which cited climate change as well as deforestation, pollution and habitat loss as key factors. "We have a biodiversity crisis," said Andrew Blaustein, director of Oregon State University's graduate programs in environmental science. "Amphibians seem to be harder hit than other groups."

Michael Totten, senior director for climate and water initiatives at the environmental group Conservation International, said humans have made it more difficult for animal and plant species to adapt to the shifting climate by fragmenting natural habitat. "Traditionally species have been resilient and capable of going through dramatic climate change, but with humans changing the face of the landscape, we've created lots of prisons for species, and that's the major problem they face," he said.

Stanford University climatologist Stephen Schneider said the new research represents "a creative step in the right direction, but it's still early in the game to sound the 'solved' bell." He added that the study is "just further evidence" that global warming is linked to accelerating extinctions worldwide.

While Pounds and his colleagues are still researching the harlequin frogs' disappearance, their findings are prompting even some scientists who had been skeptical about climate change's impact on amphibians to reassess their position. James Collins, who studies harlequin frogs at Arizona State University, called the paper "an intriguing contribution" to understanding what is happening to amphibians worldwide. He said the study shows that when it comes to climate change, "these forces don't all move in one direction" since some habitats are becoming drier while others are becoming wetter. Collins and a team of researchers are trying to determine if the chytrid fungus is surfacing in areas where it had never thrived before.

To learn more about British Columbia's frog species and to get involved, check out the B.C. Frogwatch Program: http://www.env.gov.bc.ca/wld/frogwatch/

NOTE: A recent publication has reported that this same chytrid fungus has been found locally. Vancouver Island bullfrogs are showing significantly high levels of the fungal infection and some of the native frogs are also testing positive. Although the fungus-carrying bullfrogs are not affected themselves, spores are shed in the water and can bind to the epidermis of other amphibians.

Reference

Garner, T.W.J., Perkins, M.W., Govindarajulu, P., Seglie, D., Walker, S., Cunningham, A.A., and Fisher, M.C. 2006. The emerging amphibian pathogen *Batrachochytrium dendrobatidis* globally infects introduced populations of the North American bullfrog, *Rana catesbeiana*. Biology Letters. Published on line: May 24, 2006.

Habitat Acquisition Trust
Creating a Conservation Legacy

HAT Tricks

Speakers Outstanding in the Field

By Todd Carnahan, HAT Stewardship Coordinator

Residents near the new Matson Conservation Area (MCA) in West Bay, Esquimalt had good reason to stroll down the WestSong Walkway on Sundays in June. That's because there were experts out standing in the field. The last Garry oak meadows in Victoria Harbour thrive here, thanks to HAT's most recent land acquisition, and we're putting them to work. We've invited outstanding speakers to field questions on natural history, native peoples, and more. Starting with the speaker series at the MCA in May, HAT's ninth Good Neighbours Landowner Contact Project ends as we launch our next project around Rithet's Bog in August. By providing residents around environmentally sensitive areas with land care information, these natural areas gain additional protection from invasive species, pollution, degradation, and related threats.

On Mother's Day, more than thirty people showed up to hear about wildflower sex from ecologist Elizabeth Elle. She showed us how vibrating flowers powder proactive bees with pollen, and how to catch stingless male bees in our hands by looking for their distinctive facial hair.

The following week featured VNHS duo Darren and Claudia Copley talking about the birds and the bees. While Claudia shared gruesome tales of wasp larvae eating live caterpillars, Darren focused on the rare Purple Martins that have returned to their nest boxes in West Bay thanks to long-term Purple Martin recovery efforts. With all those binoculars and bug nets waving around, the crowd managed to locate both birds and bees.

In June the speaker series focused on cameras, ethnobotany, and Native culture. On June 4, we held a workshop that exposed residents to the joys of outdoor photography. On June 11, Brenda Beckwith (ethnobotanist with Parks Canada) discussed fire and other management tools that can help the meadows (and our backyards) regain their ecological health. Songhees Lands Manager Cheryl Bryce completed the speaker series on June 18 with a camas dig, highlighting traditional use of the meadows by her Coast Salish people.

Each one outstanding in their field, HAT thanks our volunteer speakers.

Find the MCA by walking along the wonderfully windswept WestSong Walkway from Head St. or Barnard Ave. (off Esquimalt Road). Successful seekers will sight the shiny steel staircase that sends citizens over the main meadow to a marvellous viewpoint vista of Victoria Harbour. Designed to minimize impacts to the rare lilies and tree roots, Esquimalt's "floating" staircase permits light and rain to reach the meadow below.

Celebrating our tenth anniversary this year, HAT has been creating conservation legacies like the Matson Conservation Area since 1996. If you live near the MCA or Rithet's Bog, we'd love to hear from you! Contact Habitat Acquisition Trust at 995-2428 for more information. Office: 316-620 View St. Victoria Mail: PO Box 8552 Victoria BC V8W 3S2 www.hat.bc.ca and www.conservationconnection.bc.ca: your database of conservation organizations and events in the CRD.

Sacha Lodge and Eastern Slope of Andes — Ecuador

By Philip Critchlow

Most of the visitors to Sacha Lodge take a 25-minute flight from Quito down to Coca and then board a motorised canoe for the river section. Tropical Birding, our group, drove the first leg and we enjoyed some extraordinary birding en route. Some highlights: High above Papallacta Pass (4200 m) in the paramo, three Rufous-bellied Seedsnipe appeared to huddle from the almost freezing drizzle, fog and wind; at Guango (2700 m), a Sword-billed Hummingbird with its incredible long up-turned bill frequented the ubiquitous feeders (one wonders how it preens itself?); San Isidro's "mystery owl" obliged by feeding on a large insect in the top of a palm tree. This owl is presently unidentified. It resembles the Black-banded Owl but the latter only occurs at lower altitude (up to 900 m) and has a call different from the owl at San Isidro (2000 m); A White-capped Tanager sang from an exposed branch in a solitary tree by the roadside for several minutes, oblivious to the steady downpour; In the El Para Reserve, near Archidona, as we ambled in a semi-open field, Nick, our guide, suddenly exclaimed excitedly "It can't be, but it is!" He had heard a Chestnut-throated Spinetail! Using his recording, he coaxed the bird out of the undergrowth. This was his first sighting of the species after many years in Ecuador. Ridgely and Greenfield describe the bird as "scarce and inexplicably local".

Sword-billed Hummingbird. *Photos*: Philip Critchlow

Caimans, electric eels and piranhas inhabit the lake. The Sacha Lodge brochure asserts that the piranha's "sharp teeth are for cracking hard palm fruits and eating dead animals, not attacking live ones".

From Coca to Sacha Lodge, we took a motorised canoe on the flooded (not surprising in view of all the rain we experienced on our trip down the East slope of the Andes) chocolate-brown Napo River. The river is approximately one kilometre wide and, under normal conditions, a few shallows must be navigated, but not on our trip. The 80 km were covered in 90 minutes thanks partly to the swift current. Several Quicha Indian villages lined the riverbanks, together with more modern developments, such as military posts and oil exploration camps. Six hundred and forty kilometres downstream the Napo merges with the Amazon, which then enters the Atlantic Ocean after another 3000 km. After docking, we walked for 20 minutes, mainly on an elevated boardwalk through water-logged palm forest to Pilchicocha Lake, an oxbow lake that was formerly part of the Napo. Here we embarked in a dugout canoe for the short crossing to the Lodge.

The Lodge sits directly on the shore of Lake Pilchicocha, the water of which is coloured black from a high concentration of tannin produced by decaying vegetation. Apparently mosquitoes cannot breed in this blackwater. Caimans, electric eels and piranhas inhabit the lake. The Sacha Lodge brochure asserts that the piranha's "sharp teeth are for cracking hard palm fruits and eating dead animals, not attacking live ones". Caimans' eyes could be seen at night shining in the artificial light. Many people braved the lake for a swim. Most of the buildings are supported 1-2 m above the ground/water. Raised walkways connect the various buildings. Numerous Hoatzin inhabit the lakefront trees. Pygmy Marmoset leap from tree to tree, unafraid of visitors.

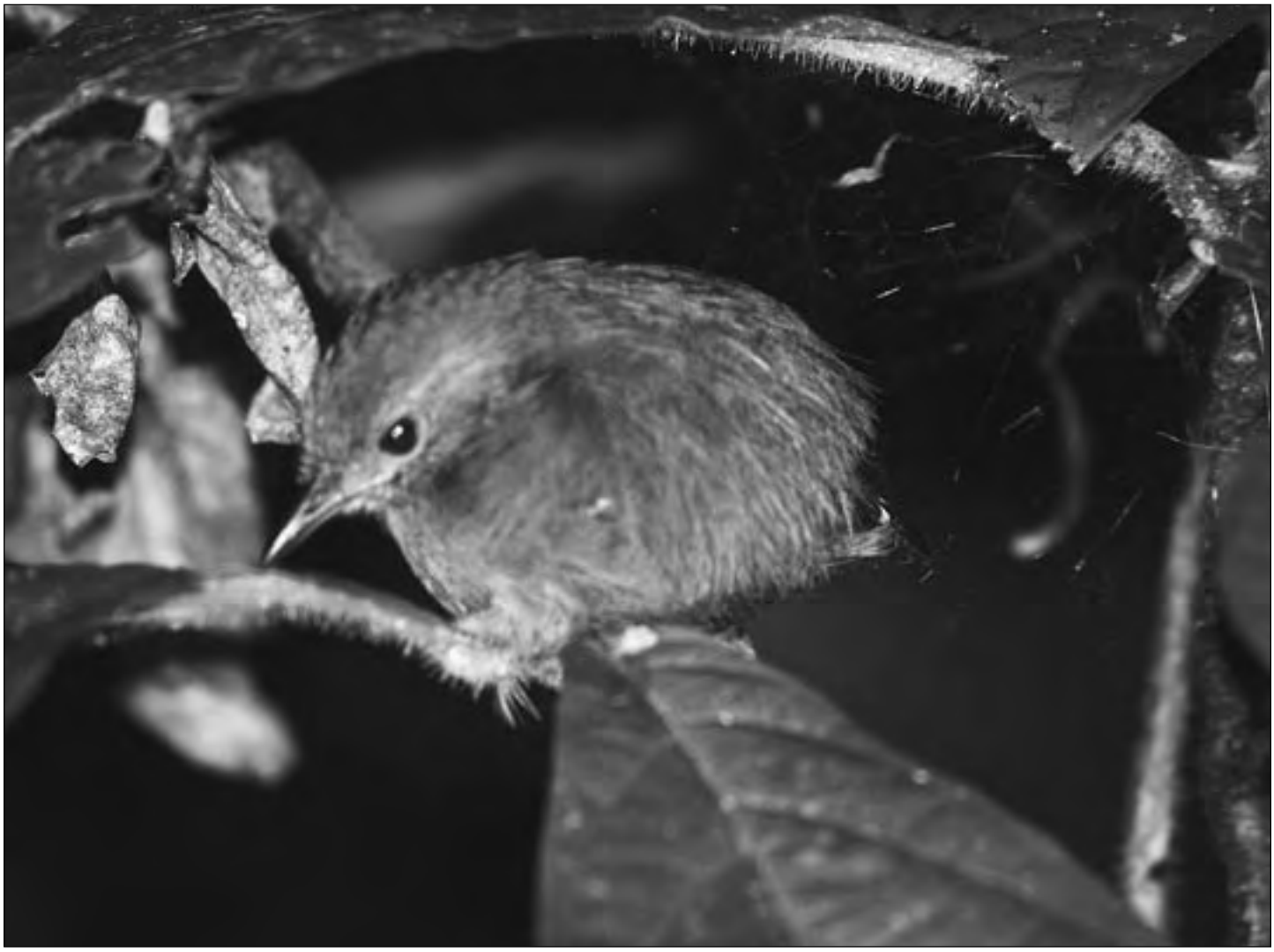
In *The Birds of Ecuador: Field Guide*, it is frequently mentioned that certain birds, particularly those inhabiting underbrush, prefer either "terra firme" or "varzea" in the Eastern lowlands. Both types of forest are found in Sacha Lodge's 2000 ha. "Terra firme" is forest that does not become inundated during seasonal flooding. It supports a wide variety of trees: Kapoks, very tall with massive buttresses and an extensive root system; Strangler Figs, which begin life on a branch of a host tree, sending roots down to the ground; they eventually strangle the host tree. Some trees, species unknown, are armoured with vicious-looking spikes. Because many of the trees are tall, with thick canopies, little light penetrates to ground level and the underbrush is sparse. "Varzea" is forest that is flooded regularly with white-water (water that is heavily laden with sediment from the mountains). Here, *Heliconia* (bird of paradise plants) and *Scheelea* palms are plentiful (their fronds are used to thatch roofs). Around Sacha Lodge a third type of forest, "Igapo," is the result of flooding by black tannin-rich water. In it, *Mauritia* (its fruit is a staple in the diet of several parrots and monkeys), the smaller *Mauritiella* palms and false mangrove thrive. A myriad of other tree species flourish in Amazonia. Vines, lianas, bromeliads, ferns and mosses are everywhere.

After a welcoming introduction to the Lodge, we filled out a questionnaire to indicate our objectives at the Lodge, e.g. birds, butterflies, animals, nature, etc. These questionnaires are collected and guides are allocated to groups or individuals so as to satisfy particular interests. Later, at dinner, we met our guide, Oscar, a local Indian. (It is not permitted to explore away from the Lodge on your own.) We now had two guides and an assistant, just for the two of us! As many of the trails were wet and/or muddy, rubber boots were provided.

Tropical Birding is based in Quito, with a second office in Africa. They operate custom and public birding trips to many countries. This was our second trip with them, having just visited northwestern Ecuador. Their guides are fantastic.

They recognised instantly, both audibly and visually, every bird on the two trips; no reference to the field guide was necessary. Their vision is amazing and they spotted everything before we did, and soon had the bird in the telescope if it sat for a few seconds. When hearing a birdcall, it was identified immediately and it was soon enticed into view with a pre-recorded call. A small laser-light helped us to locate the bird in the undergrowth. They showed immense patience when we had difficulty in spotting a bird. To top it all, they provide, to each client, a list of the birds that are likely to be seen on a given trip. Each evening they then name all the species seen during the day by the group. It is up to you to remember which you didn't see! It is not feasible in Ecuador on a Tropical Birding trip to pause and list what you see as you see them, without missing many others, especially in a mixed flock. Altogether amazing!

We stayed three days in Sacha Lodge. The days began with a wake-up call at 4:45 am, breakfast at 5:00 am and departure at 5:30 am. We birded until late afternoon, with a short break for lunch, then tallied the birds sighted and, on three evenings, went looking for owls. On the first day, we went to the new canopy walkway, 300 m long suspended 30 m above the ground. The birding from the walkway was spectacular: White-throated and Channel-billed Toucans, Many-banded and Ivory-billed Araçaris, Gilded Barbet and many others, nearly all very colourful. Brightly plumaged birds tend to live in the canopy, but remain well camouflaged in the multicoloured foliage. Perhaps the most intriguing bird was the Paradise Tanager, looking as if it had been designed by a committee: apple-green head, turquoise throat, bluish undersides, red rump, blue wing coverts and black back, nape and eye-ring. From the walkway, Oscar led the way to two spots where Nick separately enticed Golden-headed and Wire-tailed Manakins. After lunch, we took a dugout canoe trip along a quiet backwater creek flowing from Pilchicocha Lake. Here a Sungrebe flapped noisily away from us and a Green-and-rufous Kingfisher zipped past our heads so quickly we couldn't be sure that we had actually seen it. At the end of the creek, a short walk led to a 40 m wooden tower encircling a giant Kapok tree. From the top, we spotted Plum-throated and Spangled Cotingas in the distance. On the way back along the creek an Agami Heron



Juvenile Scale-backed Antbird

quickly vanished into the adjacent swamp, but a Boat-billed Heron perched unconcerned on an overhanging bough.

Early next morning found us looking for birds that inhabit the thick shrubbery of the islands in the Napo River. Oriole Blackbirds were conspicuous and even a Gray-breasted Crake walked nonchalantly through a clearing. Later, we crossed the Napo to the Yasuni National Park. Just as we were entering a small stream, Oscar pointed out a Great Potoo sitting statuesquely on a dead branch 15 m above us. As we alit from the boat, a troop of Golden-mantled Tamarin was observed basking in the distance on a fallen tree in the infrequent sun. A beautiful Rufous-headed Woodpecker called and responded by approaching when its call was played. We searched for the small non-descript birds that skulk in the undergrowth, discovering several ant-birds and antshrikes. These birds do not eat ants but follow ant swarms to catch fleeing insects, much like Cattle Egret follow cattle.

On our third daytime excursion, Christmas Day, we again crossed the Napo River to visit two parrot clay licks, stopping on the way to see a pair of Great Tinamou just waking and a Ladder-tailed Nightjar just going to sleep. The first lick is a steep mineral rich clay bank, with an open-pit-like appearance, on the Napo River. Here Yellow-crowned and Mealy Amazon and Blue-headed Parrots wheeled around in noisy flocks, descending to eat in an apparently haphazard fashion. A little farther up river, and about a kilometre inland, is a second lick. In appearance, this lick was unlike that on the Napo. Again, a cliff, but this time covered in vegetation, mosses, shrubs and trees, with no scars where clay might have been removed. Instead, a rivulet flowed from the base of the cliff forming several small, shallow pools. There was a cacophony of noise, raucous shrieks, harsh squawks, shrill squeals and constant chattering as hundreds of Scarlet-shouldered Parrotlet, Orange-cheeked Parrot and Cobalt-winged Parakeet perched in the trees or circled overhead, sometimes flying low towards the lick but not alighting. Among this noisy congregation was a solitary Scarlet Macaw. After much hesitation, and moving from branch to branch, the macaw descended to the lick where it appeared to drink from a clay-rich rivulet and pools. After it had departed, the other birds descended en masse, fighting and squabbling. Periodically, perhaps because of a perceived danger, they would take flight in a blaze of colour only to resettle a short time later. Many macaws and "parrots" dine primarily on seeds and fruit, some of which contain high levels of poisonous alkaloids. Clay helps the birds to tolerate their diet partly by binding to the poisonous compounds and partly by helping to eliminate them from the body.

On three evenings at dusk we went in search of owls. With the help of the pre-recorded calls, Tawny-bellied Screech, Crested and Black-banded Owls were seen. Minutes after playing a call, dark silhouettes, seen briefly out of the corner of my eye, would pass overhead to alight in the top of nearby trees. The guides, however, tracked the birds' flight and soon had them in the scope, providing excellent views. On the return journey from one of these trips, Oscar stopped and pointed to a juvenile Scale-backed Antbird asleep in its accustomed place on a low branch. On another return, he spotted a Blue-crowned Motmot, also settling for the night.

On the way out to catch the boat back to Coca, we saw three new species bringing the total for our month long trip to 664, including 60 species of hummingbird, 90 species of tanager and 22 species of woodpecker (my favourites). I have frequently asserted that to see an owl makes a successful birding trip. On this trip, we saw eight species of owl, making it a truly great trip!

Yellow Underwings (*Noctua pronuba* and *N. comes*)

By Claudia Copley, Entomology Collection Manager at the Royal BC Museum

The summer of 2003 was the first time I noticed one of these spectacular moths flying around in my garden. A few days later Bob Chappell sent a photograph of one to me at work and asked me to identify it. So I did what I always do when asked to identify something I don't recognize: I showed it to Rob Cannings! As the Curator of Entomology at the Royal BC Museum, he has been involved in entomological collections for many years, so there are few things he has never seen before. Something so distinctive-looking was ***sure*** to be familiar to him. But it wasn't.

Recognizing it as a Noctuid moth, the large lepidopteran family commonly known as the cutworms, I began to look through the Royal BC Museum's entomology collection, drawer by drawer.. While this may not seem like much, we have eight full cabinets of this family of moths, with 25 drawers in each. I was approaching the end of the drawers and was about to give up hope when I spotted three specimens – collected in the Czech Republic in the 1960s! They were identified, so I "googled" the name and came up with the moth (whose Latin name had been changed in the interim).

Curiosity about this apparent "new arrival" led to the discovery that there is another Noctuid, the Lesser Yellow Underwing (*Noctua comes*), that looks similar and has also been accidentally introduced to North America from Europe. They are the only species of the genus *Noctua* known in North America.

The Large Yellow Underwing was first reported in North America in Halifax in 1979 and is now known from every Canadian province and Nunavut, as well as throughout much of the United States. It was first recorded in British Columbia in Burns Bog 2002 and is now abundant on southeastern Vancouver Island, at least as far north as Hardwicke Island near Sayward. It is much more common on Vancouver Island than is the Lesser Yellow Underwing, despite having arrived more recently. The Lesser Yellow Underwing was

Left: The Lesser Yellow Underwing (*Noctua comes*). Note the curve of black that extends into the orange of the hindwing. *Photo*: Darren Copley

Below: The Large Yellow Underwing (*Noctua pronuba*) lacks the black and is a larger animal. *Photo*: Royal BC Museum

Pupae of the Lesser Yellow Underwing (top) and the Large Yellow Underwing (bottom). *Photo*: Darren Copley

first found in Canada in Vancouver in 1982 and in Victoria by 1990. Its range extends into the Okanagan Valley, up the Fraser River to Lillooet and south to Oregon.

The Large Yellow Underwing has a wingspan of 50-60 mm and both sexes and all colour morphs have a diagnostic orange-yellow hindwing with a broad black border. The forewings of females tend to be red-brown with very little mottling; males' forewings are generally grey-brown and more mottled. The Lesser Yellow Underwing normally has a black mark near the centre of the orange of the hindwing and tends to have a smaller wingspan.

The Large Yellow Underwing has a wide range of host plants, many of which are part of the horticultural trade, food-crop industry, or are widespread weeds. Host plant genera include: *Holcus*, *Poa* and other grasses*, Atriplex, Chrysanthemum, Dianthus, Fragaria, Freesia, Gladiolus, Myosotis, Polygonum, Primula, Ribes, Rumex, Stellaria, Taraxacum* and *Viola.* Larvae also eat various Brassicaceae and crops such as beans, beets, carrots, grapes, potatoes and tomatoes. It has also been reported from *Asperula* and swiss chard. In the Victoria area, Lesser Yellow Underwing caterpillars have been recorded on *Conium maculatum, Cornus stolonifera,* and *Potentilla anserina,* and species of *Calendula*, *Cardamine*, *Cirsium*, *Digitalis*, *Fragaria*, *Myosotis*, *Plantago* and *Primula* but most often on *Rumex crispus*. Tobacco and grapes and species of *Crataegus* also are recorded as host plants of Lesser Yellow Underwings. The larvae of both species feed on foliage or at the crown and roots of the host plant, overwinter, and pupate in the soil in the spring. Adults can be seen as early as April and into late fall, so keep an eye out for these dramatic "new" additions to our region.

References:

Copley, C. R. and Cannings, R. A. 2005. Notes on the status of the Eurasian moths *Noctua pronuba* and *Noctua comes* (Lepidoptera: Noctuidae) on Vancouver Island, British Columbia. Journal of the Entomological Society of British Columbia 102:83-84.

Jeremy Tatum's excellent website: Butterflies and Moths of Southern Vancouver Island **http://facweb.furman.edu/~snyderjohn/tatum/index1.htm**

Note: The Royal BC Museum is in the process of creating a new exhibit about invasive species in British Columbia. It is scheduled to open in 2007.

Protecting Green Spaces on Lower Vancouver Island

By VNHS Green Spaces Project Committee

The Green Spaces Project (GSP) is a special project of the Victoria Natural History Society. In 1997, with the aid of volunteers and financial assistance from various funding sources, the GSP began the task of identifying and mapping the undeveloped land remnants and inventorying natural values within the Capital Regional District.

Our vanishing Green Spaces

The population in the Capital Regional District is expected to increase by 33% over the next 25 years. Traditionally, land prices have increased accordingly. The longer we put off protecting and reclaiming ecologically significant areas, the more costly it will become.

Our Vision

By the year 2020, an ecologically sustainable system of green/blue spaces for the Capital Regional District will be in place, protecting and maintaining the full range and diversity of natural ecosystems and the flora and fauna that exist today.

The Green Spaces Project goals:

- To identify and inventory the ecological values of all existing or potential natural areas in the Capital Regional District; and
- To create a high level of awareness on the part of the public, politicians and landowners of the importance of natural green spaces to our environment; and
- To have the importance of the natural values contained in the reports be understood and the protective zoning of these areas to be incorporated into all land use planning in each municipality and the Capital Regional District.

How does Green Spaces Project create awareness of the importance of natural green spaces?

- Education and collaboration of government agencies, private organizations, and stakeholders;
- Collaborate with local groups to assist them in presenting this information to government agencies, private organizations, and other stakeholders; and
- Through ecological inventories, identify features of a green space and inform stakeholders of their significance.
- Government agencies, private land owners and other stakeholders are asked to protect those land parcels that have been identified as of ecological significance.

How are lands selected for inventory?

Any undeveloped land parcels, large or small, that appear to be of ecological significance may be inventoried. Those containing older forests, Garry oak woodlands and wetlands are of particular interest. Land parcels that appear to have the highest ecological value or are threatened with development receive priority.

Volunteering for the Green Spaces Project

Learn about the natural world, and gain new skills by:

- Serving on, and working for the Project Steering Committee;
- Advocating for Green Spaces;
- Studying and protecting flora and fauna;
- Working with other organizations to protect our natural treasures; and
- Learning about interesting ecological concepts and methods.

Work still to be done: "Ecologically Sensitive Areas"

The Victoria Natural History Society's Green Spaces Project has identified the following list of locations, from Albert Head Lagoon to Wolf Island, as "Ecologically Sensitive Areas" (ESA). Have a look at the locations on the list and see how many you know or have visited. A map of Greater Victoria on our website identifies, by site number, the ESA areas.

You will see that the summary information available for most of the Ecologically Sensitive Areas is scant, with the information being collected in the early and mid 1990's. We would like your help to update the information provided for each of the ESA locations. It would be valuable if you know some of listed ESA sites, to offer updated information for the summary tables. We will review and check the new information with you and will post the new text in the table.

To ensure the privacy of the people who originally collected the information, we have removed their names and contact information. This information is still held by the Victoria Natural History Society. If you submit new information we will discuss with you if you wish to have your name included with the published information.

Possibly there are other sites that should be added to this list. Please let us know of new sites that you would propose as ecologically sensitive and offer a brief summary of the location.

If you have a question about the ESA sites or new information to contribute, please send it to John Henigman at henigman@highspeedplus.com or Tony Embleton 595-6812; aembleton@shaw.ca

Thanks for your help.

Ecologically Sensitive Areas "ESA's" Within the Capital Regional District (excluding the Gulf Islands) as of 1995

Report
complete = "C"
Incomplete "INC"
no report = no entry

CDC
Number of rare elements in the database of the BC Conservation Data Centre (as of Nov. 1993)
http://www.env.gov.bc.ca/cdc/

Type
SA: Shoreline Areas
CA: Critical Areas
OWA: Other Wetland Areas
ASH: Additional Significant Habitats

Report	Site Name	Type	CDC
	Albert Head	SA	2
INC	Albert Head Lagoon	SA	
	Alpha Island Ecological Reserve	SA	
	Anderson Hill Park	ASH	
C	Arbutus Cove	SA	
C	Bazan Bay	SA	
C	Beacon Hill Park	ASH	1
C	Benvenuto Hill	ASH	
INC	Blenkinsop Lake	CA	
C	Blinkhorn Lake	OWA	
	Bowker Creek	OWA	
	Brackman Island Ecological Reserve	SA	
C	Cattle Point-Uplands Park	SA	28
	- vernal pools	OWA	
	- winter flooding in Uplands	OWA	
	CDC # 1038	ASH	
C	Cedar Hill Golf Course/Kings Pond	ASH	
C	Chain Island Ecological Reserve	SA	2
C	Clover Point & Holland Point	SA	
	Cordova Channel	SA	
C	Cordova Spit	SA	2
C	Courtland Flats	OWA	
C	Devonian Regional Park -- Sherwood Pond	OWA	
C	Discovery Island/Chatham Island	SA	2
	Durrance Lake	OWA	
INC	East Saanich Indian Reserve		
C	East Sooke Regional Park	SA	
C	Elk/Beaver Lake Regional Park	OWA	6
C	Esquimalt Harbour	SA	
C	Esquimalt Lagoon	CA	
	Estuaries within the CRD	OWA	
C	Finlayson Arm & Squally Reach	SA	

Report	Site Name	Type	CDC
	Florence Lake	OWA	
C	Fort Rodd Hill	SA & ASH	
C	Freeman/Francis King Park	ASH	7
	Garry Oak Meadows as Identified by the Garry Oak Meadows Preservation Society	ASH	
C	Glen Lake	OWA	
C	Glencoe Cove	SA & ASH	
C	Goldstream Provincial Park & Estuary	ASH & SA	
	Gonzales Beach	SA	
C	Gonzales Observatory Park	ASH	
C	Gonzales Point (Victoria Golf Course)	SA	1
INC	Gorge Waterway	SA	
C	Gowland Range	ASH	
	Greater Victoria Water Board Lands	ASH	
C	Griffin Island Ecological Reserve	SA	
INC	Hagen Creek	ASH	1
C	Harling Point	SA	
C	Haro Woods	ASH	
C	Hastings Flats and Granville Flats	OWA	
	Heal's Range	OWA	
C	Highlands (Munn's/Highlands roads	ASH	
C	Horth Hill Regional Park	ASH	
	Horticultural Centre of the Pacific -" Viaduct Flats"	CA	
C	Island View Beach Regional Park/Adjacent Pasture	SA	4
C	John Dean Park	ASH	7
C	Kingsbury Crescent Pond	OWA	
INC	Knockan Hill		
	Langford Lake & Marshlands	OWA	
C	Little Ross Bay	SA	
C	Lone Tree Hill Regional Park	ASH	
C	Maber Flats	OWA	
C	Mandarte Island	SA	
	Marshlands adjacent to all lakes within the CRD	OWA	
C	Martindale Flats & McIntyre and & Lochside Trail Hedgerows	CA	1
	Matheson Lake	OWA	
	McDonald Provincial Park & adjacent mudflats	SA	
C	McMicking Point	SA	
C	Mill Hill	ASH	
	Moss Rocks	ASH	
C	Mount Douglas Park	ASH	22
	Mount Finlayson	ASH	
	Mount Matheson	ASH	
C	Mount Newton	ASH	
	Mount Stephenson Park	ASH	
C	Mount Tolmie	ASH	
	Mount Wells	ASH	
	Mount Work Regional Park	ASH	
C	Mystic Vale	ASH	
	Niagara Creek	ASH	

Report	Site Name	Type	CDC
C	Observatory Hill and Grounds	ASH	5
C	Ogden Point Breakwater / Dallas Rd Shoreline	SA	1
C	Panama Flats & Hill	OWA	
C	Patricia Bay	SA	
	Pearson College Grounds	ASH	
C	Pedder Bay	SA	
	Pike Lake	OWA & ASH	
C	Portage Inlet-The Gorge	SA	2
	Portage Regional Park & Thetis Cove	SA & ASH	
	Porter Park	ASH	
C	Prospect Lake & Maltby Lake	OWA	
C	Quick's Bottom	CA	
C	Race Rocks	SA	
C	Radio or Broadcast Hill	ASH	
	Rapers Pond	OWA	
C	Reay Creek and Environs	ASH	
C	Rithet's Bog & winter flooded areas	OWA	2
	Robert's Bay	SA	
C	Roche Cove	SA	
C	Rocky Point	ASH	
C	Ross Bay Cemetery	ASH	
	Royal Roads University Grounds	ASH	
C	San Juan River Estuary	CA	
C	Sand Hill & Rockbottom Creeks	ASH	
	Sattelite Channel Eco Reserve	ASH	
	Shoal Harbour Mig. Bird Sanct.uary	SA	
C	Sidney Channel	SA	
C	Sidney Spit Provincial Marine. Park	SA	1
C	Silver Spray Ranch	ASH	
C	Sooke Basin	SA	
C	Sooke River Flats	ASH	
C	Summit Park & Smith Hill	ASH	
C	Swan Lake /Christmas Hill	ASH OWA	2
C	Taylor Beach and Camas meadow adjacent to Taylor Rd.	SA	
C	Ten Mile Point Ecological Reserve	SA	3
C	Thetis Lakes & Park & Prior Lake	OWA	15
C	Tod Creek Flats	CA	10
C	Tod Inlet/Butchart's Cove	SA	4
C	Trevlac Pond	OWA	
C	Trial Island Ecological Reserve	SA	16
	Triangle Mountain	ASH	
	Tsechum (Shoal) Harbour Bird Sanctuary	SA	
C	University of Victoria Grounds	ASH	
C	Victoria Airport Grounds	ASH	1
INC	View Royal	ASH	
C	Whiffen Spit & Sooke Harbour	SA	1
	Willows Beach south end and the rocks	SA	
C	Witty's Lagoon Regional Park	SA	

Letters

Letters of appreciation for the books donated to school libraries through the VNHS School Project.

Dear Society Members,

Thank you very much for the generous gift to our school library. The field guides are particularly helpful to us at this time as we have been attempting to establish a native plant garden in the front of our school. How truly thoughtful of Ms Adamson to have included the children of Vancouver Island in her bequest – and how significant. We will place a bookplate in the front of each volume in her honour.

I am also thrilled to learn that VNHS offers free classroom lectures and that volunteers could assist us with nature walks and field trips to green spaces. I would be very interested in accessing these services. Thank you once again for the contributions to our school.

Yours truly.

Susan Underwood
Vice Principal
Frank Hobbs Elementary School

Dear Board of Directors:

On behalf of the students and staff of École John Stubbs, I would like to thank you for your generous donation of print material on Natural History which we put into our school's library. The resource material, in particular, on Plants of Coastal BC, Mammals of BC, and the Stewardship Series will activate an interest in natural history for many students new to this area of study and also promote a stewardship towards the environment. The resources will also be very useful for our Intermediate students use for research and report writing. The books will serve our teachers well as they use them to supplement the curriculum.

With Sincere Appreciation.

Ajmare Sundher
Principal

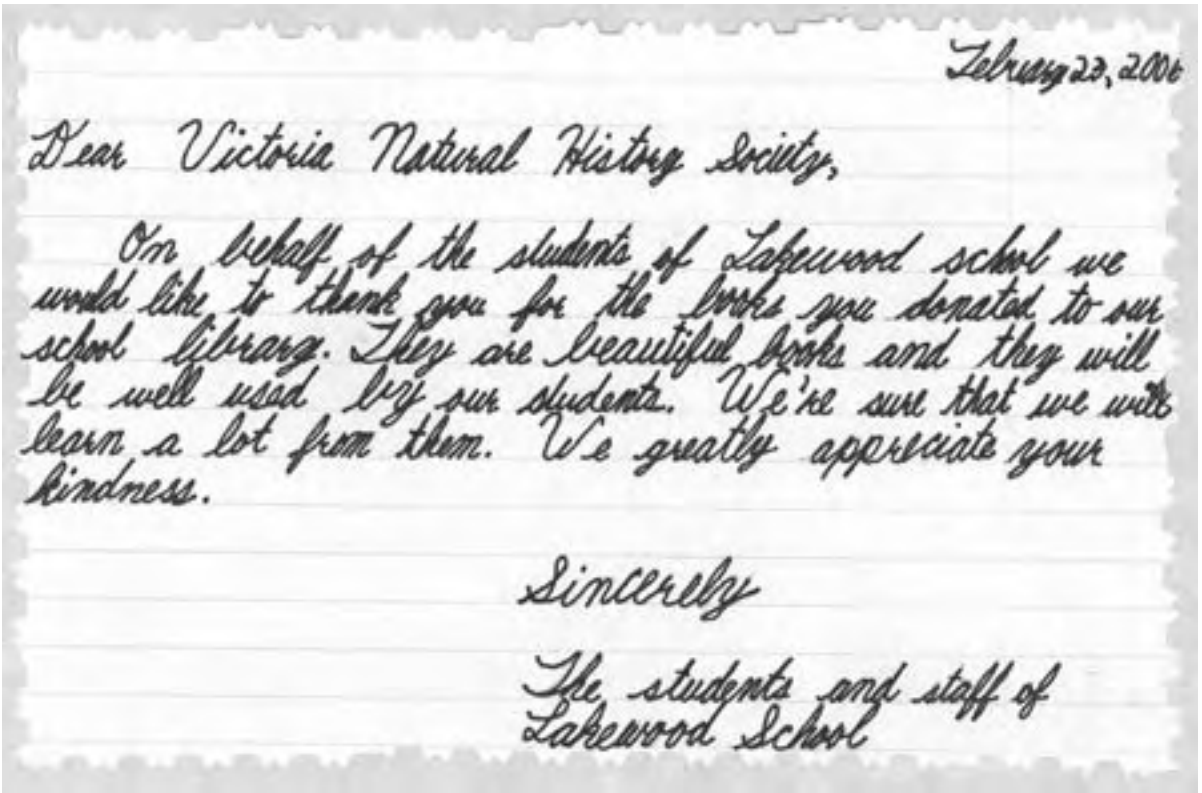
Dear Sir/Madam:

Thank you for providing the series of natural history books to Rockheights Middle School Library.

The students and staff from Rockheights will be able to use these materials for support with our curriculum. They were much needed and will be greatly appreciated.

Sincerely yours,

Darinka Popovic
Teacher-Librarian



February 23, 2006

Dear Victoria Natural History Society,

On behalf of the students of Lakewood school we would like to thank you for the books you donated to our school library. They are beautiful books and they will be well used by our students. We're sure that we will learn a lot from them. We greatly appreciate your kindness.

Sincerely

The students and staff of Lakewood School

The Samuel Simco Bursary

Dear Treasurer

My name is Tammv Kovaluk-Boos, and I am in my 4th year for the B.Sc. Biology program at University of Victoria. I would like to send you a thank-you note regarding the Samuel Simco Bursary I received on your behalf. After a few diverse career changes, from anticipating in studying law to working as a personal trainer, I decided to go back to school for a Biology degree. The reason I chose this is simple: my passion is animals and I feel that by getting my degree, I will be one-step closer in doing what I love (which is helping animals). I expect to have a variety of jobs related to Wildlife Conservation and welfare, which I look forward to. My long-term aspiration, however, is to have a sanctuary/education centre. To have a refuge for abused/mistreated animals while educating people is truly a dream.

When I went back to school, I was a bit naïve in not realizing how difficult it would be financially. Add on top of it my love for the sport of triathlon, and it became even more difficult. I did not want to give up the sport, as I am training towards competing professionally by next year and am not getting any younger…but honestly, the financial burdens would have been very similar with or without triathlons (as much of my equipment is sponsored). As student loans do not increase in relation to the increases in cost of living and tuition fees, it is increasingly more difficult to attend university. I fear that the day is soon approaching where only people with the financial support of their parents will be able to earn a degree. I work part-time, but that does not even come close to making up the difference between financial requirements estimated from student loans and the maximum amount I receive. By receiving this award, I was able to pay for some tuition fees, which in turn allowed me to breathe a bit easier. I sincerely appreciate this award and I hope that you realize what a world of difference it means to receive it! Hopefully I will one day be able to do the same for a student struggling to make it through university.

Regards,
Tammy Kovaluk-Boos

Thanks to VNHS Committees

I would like to congratulate the Committees that run VNHS for the excellent programs that have been presented at the meetings over the last few years. We have been privileged to listen to such interesting speakers. The magazine has very interesting articles in it. Unfortunately I can no longer participate in the field trips, but I always read them through and marvel at the variety that members can enjoy and learn from. Thank you everyone, keep up the good work.

Sincerely
Lyndis Davis

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:

Hugh French and
Jill Hawkins-French

Marti Lane
birds

Mary Goulding
Admirals Road
hiking, cycling, kayaking

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.

JULY

Sunday, July 9

FIELD TRIP

Jordan River Bogs

There should be lots in bloom in the bogs. We hope that the delicate common butterwort (*Pinguicula vulgaris*) will be showing its contrasting yellow foliage and petite blue flowers. The pink shooting stars (*Dodecatheon jeffreyi*) should be out and the little hummocks will be covered in the tiny blooms of cranberries (*Oxycoccus oxycoccos*) and blueberries (*Vaccinium* spp.). Although it may be sunny, be prepared for cooler temperatures due to higher elevation and it may be rainy. Bring high gum boots (hiking boots are not good enough). We will car-pool and leave Helmcken Park & Ride at 9:00 a.m. Four-wheel-drive not required but good clearance is necessary. Bring lunch, snacks and lots to drink for this all-day outing. No pets please. Contact **Agnes** at thelynns@shaw.ca or 721-0634 for more information.

Saturday, July 15 and Sunday, July 16

Victoria Butterfly Count

We are always looking for keen eyed volunteers, so get out your field guides. Call **James Miskelly** (count coordinator) at 477-0490 if you would like to help out.

Sunday, July 15

FIELD TRIP

Discovery Island & Chain Islands Ecological Reserve Birdwatchers Kayak Tour

Once home to First Nations people and lighthouse keepers, Discovery Island is now a Provincial Marine Park. A Mecca for sea kayakers and nature enthusiasts, there are many opportunities for viewing wildlife and many birds. You may sight Bald Eagles, Oystercatchers, Harlequin Ducks, sandpipers, and cormorants. By kayak we can see numerous sea birds that nest and feed in and around these shores such as the Pigeon Guillemot, Rhinoceros Auklet, and the Common Murre. We will explore the nearby Chain Islands which are protected bird sanctuaries and seal rookeries. You will also learn about the area's natural history. Cost: $85.95 – five-hour guided tour. Max: 12 people/tour. We will be out on the water for five hours so please pack a lunch and some snacks. Be prepared for the day's weather: you are able to layer up or down while on the water. Suggested gear: Sunglasses, sun hat, sun screen, footwear you can get wet, windbreaker, toque, binoculars, lunch, snacks and lots of liquid to drink. For more information or to register: Phone: 361-9365 or email: lindsay@pacificapaddle.com.

Sunday, July 23

FIELD TRIP

Birding Mandarte and Sidney Island

We will travel by chartered boat to the large seabird-nesting colony on Mandarte Island to observe the nesting birds from the boat. Glaucous-winged Gulls, Pigeon Guillemots, Pelagic and Double-crested Cormorants can be found nesting there. The boat drops us off at Sidney Island for some birding; the first southbound shorebirds. You can return on any scheduled Sidney Island Ferry sailing. Bring a lunch and something to drink. Cost is $24.00 per person (includes the return ferry fare from Sidney Island). Meet at the ferry dock at the foot of Beacon Avenue in Sidney at 7:30 a.m. sharp. Reserve your spot early (by July 14, we need 20 people) by calling **Rick Schortinghuis** at 652-3326. Leader TBA.

Sunday, July 30

FIELD TRIP

Olympics with a Difference

For several years, VNHS has arranged for a bus in Port Angeles to take us up the hill to the Hurricane Ridge Visitor Centre in Washington's Olympic National Park to enjoy the high elevation species at their peak. Then we would walk up the Hurricane Hill trail from there and back down to the Visitor Centre. This year we will try a different route. We'll still get dropped off at the Visitor's Centre but we'll head along a high ridge trail towards Mount Angeles on the Klahhane Ridge trail. This trail has fabulous views as well as fascinating subalpine plants. Then we'll start downhill from there on the Switchback Trail. This is a rather step decent and goes through a slightly damp area with an amazing variety of different plants. This trail eventually meets the road that goes up the Hill and we have arranged for the bus driver to meet us there to take us back to the ferry. Although the weather is generally sunny and clear, due to the high elevation, it could possibly be quite cool or it might rain so be prepared. Also wear sturdy hiking boots and hiking poles would be an asset. The issue will be going down steeply rather than much climbing. Bring a lunch and lots to drink as we will not be near facilities at lunch time. Meet at the Black Ball Ferry terminal in the Inner Harbour at 5:45 am (Allow time to park.) for the 6:10 sailing of the M.V. *Coho*. Ferry cost is $25.40 (Cdn) return. You will require two pieces of identification (one with a picture) for going through customs. Driver's license and/or passport are good choices. Cost of the charter bus and entry to the park is $28.00 (Cdn). We will return on the 5:15 pm sailing from Port Angeles (90 minute crossing). Also there is usually good birding on the ferry. The bus this year is smaller than previous years so we are limited to 21 participants plus the 3 leaders. VNHS

members will be given priority. Reserve your spot by calling the Goldstream Park Nature House at 478-9414 before Sunday July 15. You must prepay the bus and park entry fee when you reserve by credit card and pay the ferry when you arrive on the morning. Call **Rick Schortinghuis** at 652-3326 or email **Agnes Lynn** at thelynns@shaw.ca if you need more information.

AUGUST

Saturday, August 5 to Monday, August 7

FIELD TRIP
Long Weekend at Manning Park
There may possibly be a trip to this area to see the sub-alpine wildflowers at their peak. If you are interested in this trip, contact **Agnes Lynn** at thelynns@shaw.ca or call 721-0634 as soon as you read this as there may be space available.

Sunday, August 13

FIELD TRIP
Discovery Island & Chain Islands Ecological Reserve Bird-watchers Kayak Tour
Once home to First Nations people and lighthouse keepers, Discovery Island is now a Provincial Marine Park. A Mecca for sea kayakers and nature enthusiasts, the area presents many opportunities for viewing wildlife and many birds. You may sight Bald Eagles, Oystercatchers, Harlequin Ducks, sandpipers, and cormorants. By kayak we are able to see the numerous sea birds that nest and feed in and around these shores such as the Pigeon Guillemot, Rhinoceros Auklet, and the Common Murre. The tour will also explore the nearby Chain Islands which are protected bird sanctuaries and seal rookeries. You will also learn about the area's natural history. Cost: $85.95 – 5 hr guided tour. Maximum 12 people/tour. We will be out on the water for five hours so please back a lunch and some snacks. Be prepared for the day's weather, you are able to layer up or down while on the water. Suggested gear: Sunglasses, sun hat, sun screen, footwear you can get wet, windbreaker, toque, binoculars, lunch, snacks and lots of liquid to drink. For more information or to register: Phone: 361-9365 or email: lindsay@pacificapaddle.com

Saturday, August 19 and Sunday, August 20

Victoria Butterfly Count
We are always looking for keen-eyed volunteers, so get out your field guide. Call **James Miskelly** (count coordinator) at 477-0490 if you would like to help out.

Sunday, August 20

FIELD TRIP
Shorebirding from Victoria to Sooke
Meet at Helmcken Park and Ride at 7:30 a.m. to car pool. We will be going to Esquimalt Lagoon, Albert Head Lagoon, Witty's Lagoon, Ayum Creek and Whiffin Spit. Bring a lunch. Call **Rick Schortinghuis** at 652-3326 if you need more information.

Sunday, August 20

FIELD TRIP
Carmanah Big Trees
It's been a few years since the club has adventured up to this area. The giant Sitka spruce are the main draw but we'll spend some time seeing what else this complex ecosystem offers in the way of plants, insects, birds and maybe a few animals. Although it may be warm, be prepared for cooler temperatures due to misty weather from the wet coast and rain. Bring hiking boots as we will cover a fair amount of ground. The terrain is reasonably level but uneven due to tree roots. We will car-pool and leave Helmcken Park & Ride at 7:00 a.m. Bring lunch, snacks and lots to drink for the all day outing. We may have supper along the way home in a restaurant. Return time will probably be determined by the weather. Four-wheel-drive not required but good clearance vehicles are necessary. No pets please. Contact **Agnes** at thelynns@shaw.ca or 721-0634 for more information.

Sunday, August 27

FIELD TRIP
Blueberries in the Bogs
When we went up to the Jordan River bogs last year at the end of September, the cranberries were just ripe but the blueberries/huckleberries were almost finished. We calculated that this date would be the perfect time to sample what the bog has to offer. There are about 6 or 8 different *Vaccinium*s up there. There may be late flowers such as the gentians still around to enjoy. We can check out some of the other oddities such as the sundew (*Drosera* spp.) and enjoy the multi-coloured sphagnum mosses. We might have time to check out a tiny cave covered in ferns along the ocean front on our way home. Although it may be sunny at the bogs, be prepared for cooler temperatures due to higher elevation and it may be rainy. Bring high gum boots (hiking boots are not good enough). We will car-pool and leave Helmcken Park & Ride at 9:00 a.m. Four-wheel-drive not required but good clearance is necessary. Bring lunch, snacks and lots to drink for the all day outing. No pets please. Contact **Agnes** at thelynns@shaw.ca or 721-0634 for more information.

BULLETIN BOARD

Are you going on one of the VNHS field trips?

Willing to pick up a VNHS member in James Bay? If yes, then please telephone 384-7553. Thank you for your consideration.

CRD Parks

To check out what field trips are going on at CRD parks, go to their web site: **http://www.crd.bc.ca/parks**

Bird Walks at Swan Lake

There are regular guided bird walks at Swan Lake Nature Sanctuary on Wednesdays and Sundays. Meet at the main parking lot at 9:00 a.m.

The Victoria NATURALIST

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