

The Log

Spring 2002

FRIENDS OF ECOLOGICAL RESERVES NEWSLETTER

The Satellite Channel Ecological Reserve—do we need the GSX gas pipeline from Washington State to endanger a marine protected area?

On a cold night with the heater blasting and all the lights on, do you turn on your computer and think about the energy source that allows it and every other gizmo in your house to operate?

On Vancouver Island electricity comes from BC Hydro cables stretching from the mainland originating from the damming of a major river. Some of the cables from these huge hydroelectric dams terminate just north of Victoria on Vancouver Island and they are wearing out.

BC Hydro believes that they should build a natural gas pipeline through Georgia Strait to burn gas, which would turn a turbine and generate electricity, instead of replacing these hydroelectric cables. The most direct route (the cheapest route) of the proposed Georgia Strait Crossing (GSX) gas pipeline runs right through the marine Ecological Reserve 67 at Satellite Channel between Salt

Spring Island and the peninsula of North Saanich.

ER 67 was established in 1975 for the protection of rich subtidal marine life. Nowhere do the *Ecological Reserves Act* or the *Protected Areas Act* mention the need to protect gas pipelines. In fact, when the proposal for the GSX gas pipeline was first introduced in 2000 the provincial government realized—after consulting with the Friends and other groups—that under the current legislation the pipeline would be prohibited within an Ecological Reserve and the proposal was dropped. Under the new provincial government another conclusion has been reached.

The Ministry of Water, Air and Land Protection has decided to pursue the gas pipeline through ER 67 and has hired another consulting firm—AXYS—to conduct “information seminars” with interested parties.

Continued on page 4

Inside ...

President's Message	2
President's Report for 2001	2
GSX Gas Pipeline Workshop	4
Federal Task Force Report Released	6
Researchers Funded	6
Field Trip	6
News From Gladys Lake	7
The ERs of the Garibaldi/ Sunshine Coast	8
The Clearcuts are Coming...	8
Baynes Island ER #69	9
The ERs of the Lower Mainland	10
Satellite Channel... Maps	12
Warden Profile: John Riley	13
Global Warming Effects Noticed in Mosquito Genes	14
Gathering Pollen With a Buzz	14
Spirit Bear Discovery	15
Upcoming Events	15
Saving Burrowing Owls in South Surrey	16
Orca Live	19
Researchers Funded	19
Websites of Interest	20

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The Log is published 3 times a year by the Friends of Ecological Reserves to promote the establishment, management and maintenance of Ecological Reserves in British Columbia. *The Log* is distributed to members, volunteer wardens, affiliates, supporters, government, friends and the enquiring public.

The views expressed in this newsletter are not necessarily those of the Friends.

Articles for publication are invited. The deadline for submissions for the next issue of *The Log* is August 1, 2002

Editor

Cheryl Borris

Design and Production

Indigo Sky Graphic Design

Directors

Peggy Frank, *President*

Lynne Milnes, *Vice President*

Marilyn Lambert, *Recording Secretary*

Pen Brown, *Membership Secretary*

Nichola Walkden, *Treasurer*

Syd Cannings

Sue Carr

Don Eastman

Bristol Foster

Evelyn Hamilton

Alison Nicholson

Mary Rannie

Lynne Milnes, *Past President*

Honorary Directors

Robert Bateman

V.C. Brink

Trudy Chatwin

Vicky Husband

Josette Weir

Contributors to this issue:

Cheryl Borris, Tom Burgess, Peggy Frank,

Lynne Milnes, David Oppenheimer,

Rosamund Pojar, Jim Wisnia

Memberships are based on a calendar year.

Individual: \$20, Family/Institutions: \$25

Students/Seniors: \$15

Charitable BIN #118914597RR

FRIENDS OF ECOLOGICAL RESERVES

PO BOX 8477 STN CENTRAL

VICTORIA BC V8W 3S1

ecoreserves@hotmail.com

Canada Post Agreement No: 1060163

PRESIDENT'S MESSAGE

Someone to Watch Over Parks

British Columbia, once the proud leader in Parks outreach programs, is now the only province in Canada without information services. As of February 2002, all education services, interpretive centers, volunteer coordinators and extension service operators were dismissed. As one Parks person said to me, "We have spent the last 30 years establishing BC as the North American leader in park interpretation programs and now we have been told to dismantle the system overnight."

The impact to tourism, BC's top money generator, seems to be ignored. The impact to BC families who will have to pay increasingly high fees in those parks that do remain open is ignored. The impact to wildlife, as all regulatory bodies are dismissed, is also ignored. The impact to visitors wishing for a quality Parks experience is also ignored—think of McDonalds in Manning Park and MINES R US in the Carmanah. But we are told this is all for the good—think of the money we are saving. Well, I am thinking and I don't buy it.

The cost of downsizing, deregulation and privatization costs somebody someplace and I know it is going to cost me. From the increase in fish farms which pollute our oceans and destroy our native fish stocks to the lack of regulation of our drinking water. The entire Ministry of Water, Land and Air Protection is a misnomer because the protection part has been laid off. Someone must watch out for the water we drink, the land we live on and the air we breathe. That someone is us.

We, as citizens of Beautiful BC, must be the regulatory eyes and ears for the government that does not want to know. We must inform these blinkered bureaucrats what we see as we walk in our wild places, talk to our neighbours, and stay vigilant. Our land depends on us, our children depend on us and so does the flora and fauna that makes this province the biodiversity capital of North America and without which our survival as a species is threatened.

As Friends of Ecological Reserves we know what it means to be volunteers and watch out for pristine environments under threat but now we must add parkland to our itinerary. It is hard enough for volunteers to oversee the 152 existing Ecological Reserves throughout the province without any staff but we must now add the 655 existing provincial parks and recreation areas, too.

I urge you this summer to go visit a BC park while you still can. It could be an old favourite or one in an area you have never experienced but go and bring your friends and tell them to bring their friends so that you can all write letters to the premier about your park experience. We all need to be that someone to watch out for British Columbia's water, land and air because clearly the government does not intend to. We all need to watch a park since there is no one left in BC Parks to do the watching for us.

Lynne Milnes, Past President

PRESIDENT'S REPORT FOR 2001

The Annual General Meeting of the Friends of Ecological Reserves was held at the University of Victoria on March 8, 2002. President Lynne Milnes welcomed members and guests, saying that every year is a busy year and 2001 was no exception. Her annual report to the membership follows.

We managed to put out 3 newsletters a spring, summer and winter edition, thanks to Cheryl Borris our editor. Continuing with our focus on wardens we featured Ecological Reserves in the Prince George District, the Cariboo-Chilcotin and the East Kootenays.

Wardens throughout the province contributed articles on challenges in their regions including the case of the disappearing reserve at Sunbeam Creek where radio towers, snowmobilers and hikers are no match for the fragile alpine tundra the Reserve was established to protect. We advertised for new wardens in each district and many came forward to their district offices.

Continued on page 2

"President's Report..." continued from page 2

Research reports were essential part of each newsletter. In 2001, FER continued to support the sea otter-sea urchin population studies of Dr. Jane Watson and Dr. Tom Reimchen's fish-forestry studies. FER supported the fungi analysis of Pam Janszen on Saturna Island. Pam was able to make 22 separate surveys in the reserve in 2001. Student James Miskelly looked at rare butterflies in Garry oak meadows and Sue Salter studied invertebrates in hot springs for her masters degree. Ecological Reserves are set aside as outdoor classrooms and the baseline research conducted by these scientists is essential in order to evaluate changes to the environment over time. In some cases, these changes are happening faster than we can monitor them.

Finally, Rachelle Delaney, a fourth-year student in the faculty of Environmental Studies at the University of Victoria and having made an outstanding contribution to the volunteer environmental community, was this year's recipient of the Vicky Husband Award. In 2002, we have doubled this scholarship allowing two students who volunteer to have a chance for financial support.

There were two field trips in 2001. The annual pilgrimage to Trial Island was packed. There we saw evidence of the excellent work done by a BC Parks crew to remove broom and gorse from the fragile flower meadows. Our summer trip went to the Gladys Lake Ecological Reserve within the Spatsizi Wilderness. It was a trip of a life time and we didn't need to carry field guides because we had the authors with us. Jim and Roz Pojar were excellent leaders and although we did not see mountain sheep and caribou or bears we saw evidence of their presence and later questioned the sanity of having hunters in a Class A park set aside for wildlife. It is a bit unnerving to be hiking amid the sound of gunfire. Correspondence with BC Parks on this issue is ongoing.

As a result of the Gladys Lake trip, the Friends are producing our fourth placemat on the mountain flowers of BC with support from the TD Friends of

the Environment Fund. The placemat will be our chief fundraiser for the 2002 season. Ongoing support from the *Eden Conservation Trust* and the *Vancouver Foundation*, donors and members is also greatly appreciated. We are a small and lean organization but we do the most with what we have.

As part of our protection mandate the Friends participated in a Pitch-in Canada clean up crew on Mother's Day, that took styrofoam off the beaches of Alpha and Griffen Islet Ecological Reserves. Thanks to Marilyn Lambert, director extraordinaire and zodiac operator. In September, Nichola Walkden, our treasurer, and Mary Rannie were the sole volunteers for a Clover Point clean up. Nichola reported that it was very foul indeed and made her question the value we put on public spaces. This question was echoed by Rick Kool, of BC Parks, who wrote a fabulous article for the Log on the value of protected areas and estimated they contribute \$4.5 billion dollars a year in services from clean air to water filtration—none of which is given any value by the bean counters in the Parliament Buildings.

Gail Ross, acting general manager of extension services at BC Parks was very helpful throughout the year and we are very grateful to have her 25 years of expertise within the parks system.

However, as of Black Thursday, all that has changed. What has taken 25 years to establish—BC as a leader in North American Park interpretation—has been obliterated over night. No-one knows what this spells for the future of Ecological Reserves but, at present, we are fighting a gas pipeline proposed through the Satellite Channel Ecological Reserve. I believe this is just the beginning.

We must take our role as wardens seriously and remain vigilant because there is no one left in government to do the watching. Please look to our April newsletter for more information as we try and keep you informed of the changes and threats to existing Ecological Reserves both outside and within the government itself.

Lynne Milnes, Past President

EDITOR'S NOTE

In keeping with our editorial policy of providing more information about ecological reserves around the province, this issue of *the Log* features the ecological reserves of the lower mainland and Garibaldi/Sunshine Coast. A mix of high urbanization and spectacular forests, this area presents its own challenges to the continued protection of biodiversity. We've included some stories of the challenges and treasures of this part of BC.

In our last issue, we received several expressions of thanks for the information on government restructuring.

In the recent budget speech, a stated goal of the Government was *safe, healthy communities and a sustainable environment*. We are told that, in order to achieve this goal, "sustained economic competitiveness depends upon us maximizing the benefits from our natural resources, maintaining the quality of our environment, and enhancing the health of our communities... Our land base and natural resources underpin the economy and our local communities and, through resource revenues, contribute to our supportive social infrastructure. Government will maximize the value of these public assets by balancing protection of the physical environment with sustainable economic activity in our natural resource sector."

As news of cutbacks, and staff reductions assail us from all sides through the media, we are beginning to see the results of this direction, and we report to you some of the problems that concerned citizens for the environment and our protected spaces are wrestling with.

Cheryl Borris, Editor

Friends of Ecological Reserves welcomes new Board member and ecologist, **Alison Nicholson**. Welcome, Alison.

"The Satellite Channel..." continued from page 1
(The fact that these seminars occur during working hours when the volunteer participants are trying to earn a living seems to be lost on all those involved.) In January, when I tried to call the Ministry to find out what their position was on this new round of consultations, I was dismayed to discover that the very Ministry whose job it is to protect the Satellite Channel Ecological Reserve was, indeed, trying to find legal ways to destroy the marine protected area. Senior bureaucrats in the ministry were in the process of exploring ways to delete a corridor within the Ecological Reserve so that the pipeline could be laid.

Horrified at this new predicament, I called the Ombudsman's Office. I was told that this was, indeed, a serious issue and the Friends of ER did have a case for complaint. However, I was told, because of the caseload backlog it might be years before the Ombudsman's Office got to the details of protecting ER 67—by which time the gas pipeline would be built.

Not to be discouraged, I phoned a few friends who are professionals in this sort of Kafka-esque nightmare and they agreed to get involved. To my relief, some were already miles ahead of me and the Georgia Strait Alliance, CPAWS and the great communicators at www.sqWALK.com were already in the media shouting a loud "NO".

Why say "no" to a gas pipeline? You must first ask yourself, do we need a gas pipeline that would produce greenhouse gases during combustion, resulting in more climate change?

Our children are already finding it difficult to breathe. Will their young lungs be able to withstand higher levels of sulfur dioxide, nitrous oxide, carcinogenic benzene and particulate matter well above national standards of air pollutants?

Gas pipelines by their very nature are unsafe and we are in an earthquake zone. One in three of the incidents with gas pipelines occurs as a result of outside forces. Already in North America every

couple of days a gas pipeline breaks injuring and killing people. In the US alone there are 18 deaths and 83 injuries every year as a result of natural gas pipelines. The regulatory monitoring body for this proposed GSX gas pipeline will be in Salt Lake City, a long way from the marine Ecological Reserve at Satellite Channel.

So what can we do?

We can find other ways to provide non-invasive, non-polluting electricity—such as wind power, fuel cells, and solar power. We can be more careful in our use of electricity. We do not have a great need for more electricity on Vancouver Island. Our demand is relatively stable. Why all the rush to produce more? There are many answers to this question and most of them require a healthy dose of cynicism with a dollop of greed. Suffice it to say, the GSX pipeline says much about money and little about environmental protection of rich subtidal marine life in the Satellite Channel Ecological Reserve.

If you would like to help, please write to premier Gordon Campbell or Stan Hagen, the Minister of Sustainable Resource Management, PO Box 9041, STN PROV GOVT, Victoria BC V8W 9E1. ■

Lynne Milnes

For more information, go to these websites:

The Protected Areas of British Columbia Act:

www.legis.gov.bc.ca/2000/amend/gov17-2.htm#1

The Ecological Reserves Act:

www.qp.gov.bc.ca/statreg/stat/E/96103_01.htm

Background from BC Parks, on Ecological Reserves:

wlapwww.gov.bc.ca/bcparks/explore/ecoresrv/ecoresrv.htm

Everything you didn't want to know about gas pipelines:

www.sqWALK.com

GSX Gas Pipeline Workshop

Recently, FER's new president, Peggy Frank, attended a workshop that was intended to solicit stakeholder information on two proposals for routing of the GSX Gas Pipeline through Satellite Channel (where ER 67 is situated). She told us her experience at that workshop.

Peggy began by saying that the workshop objective was stated at the beginning of the session by AXYS, the consultants hired by BC Parks. Clearly, the issue of the Satellite Channel location of the proposed pipeline was not under discussion, nor was the need for a natural gas pipeline. "In fact," she said, "the workshop was most notable for what couldn't be discussed, who wasn't there and what wasn't presented".

She went on to say that, as the workshop was aimed at "stakeholders", the public was missing. Everyone in the room had a label—Georgia Strait Alliance, CPAWS, Canadian Wildlife Service, Fisheries and Oceans Canada. The lay public was not there, with their wealth of diverse backgrounds and information and, when asked, the AXYS consultants said there was no plan to consult with the public. BC Parks representative Chris Kissinger concurred. Even so, commercial and sport fishing interests were not well represented. A single crab fisherman came to the meeting late because he had had another appointment that morning.

Of the 60 "invited guests", only about 20 were able to attend the seven-hour workday session. Peggy

Continued on page 5

“GSX...” continued from page 4

said, “We were told that this was our only opportunity for input. The process is flawed because of what it is not.”

She continued: what was presented was the briefest of information about a new proposed pipeline route. Apparently, a route north of ER 67 had been previously approved by the National Energy Board (NEB). Now the pipeline proponents were seeking a new route through the Ecological Reserve. Why? The new route appeared to be: 1. shorter (by 100 m); 2. flatter (in order to avoid the Ecological Reserve the “NEB approved” route went up and down a slope close to the Cape Keppel—Saltspring Island shoreline); and 3. required less work (13 piles would need to be drilled and mounted to keep the pipeline in place on the slope). Additionally, the First Nations wanted the original route changed to accommodate spiritual and cultural values near Cape Keppel.

Peggy said, “We heard about ‘articulating concrete mattresses’ which would provide a route over the pipeline for crabs. Three options for burying the pipeline (jetting, plowing and excavating) were presented, with some details about two burial methods. We heard about the seabed data (how deep, what kind of materials, video studies, etc.) including infaunal studies from the 1960s and 70s. There was information on traditional use of the area by First Nations. We were told that there was an elaborate series of faults in the area and this had helped those planning the pipeline determine where trenching would be needed.”

She said that no material had been distributed prior to the meeting and while reports were available for quick observation during lunch they were not for release. She said that workshop participants could put their names on a list to receive copies of certain reports—but that helped little in evaluating the two routing options presented.

In summing up, the AXYS consultants explained that the *Ecological*

Reserves Act does not permit a gas pipeline passing through it. However, if there were social and environmental benefits, a boundary change could be permitted. Peggy notes that, at this point, one had to assume that the AXYS consultant was referring to recent amendments to the *Ecological Reserves Act*. She pointed out that those amendments require that ‘boundaries of an ecological reserve referenced in Schedule A or B of the *Protected Areas of British Columbia Act* must not be affected except by an Act of the Legislature’, so presumably the consultants were advocating a change to the legislation. She said, “We were told that ‘it must be demonstrated that other options have been investigated; mitigation had taken place and there was no net loss in Ecological Reserve values.’”

There was not enough information to make the decision—there never is...

The “invited guests” were divided into three groups and asked to comment on four questions relating to the proposed route and the originally approved route: Was there sufficient information to make a decision regarding pipeline routing? Which option was best? How could a pipeline through the Ecological Reserve be mitigated? And, what compensation should be made for a boundary change?

She said, “there was not enough information to make the decision—there never is—and, further, there was not enough time to assess the information that was presented. Preserving the integrity of the Ecological Reserve was essential. It had been established to protect benthic communities and had a small sloped buffer to the north and south and, while its integrity had already been compromised due to dredging activities associated with fishing, as of 2000 the area had been closed to both trawl fishing for prawns and bottom fish.

“The pipeline would create a barrier

to certain marine organisms and a permanent addition of a man-made feature as well as a disturbance to the ecology of the Reserve. The options presented were not adequate—a third option (through a trough at the base of the north slope would have less impact on the contiguous ER), and a fourth option—no pipeline at all, had not even been explored. Mitigation of impact could not be assessed based on the data presented.”

Peggy concluded, “our group agreed that a pilot study working with burial options for the cable (plowing, excavating and jetting) on similar substrates would be needed. Further, compensation for any boundary changes would need to be generous—such as, doubling the size of the ER through extensions and providing a significant physical buffer. Pipeline owners would be required to put sufficient funds into trust so that ongoing research could be carried out in the altered Ecological Reserve. Finally, the pipeline project would be co-managed by the First Nations of the area as they determined their appropriate involvement.

In summing up, Peg again stressed her concern regarding the omission of involving lay public in stakeholder focus groups. She said that it is important to have stakeholders—those people and organizations that will directly impact the success or outcome of a project—at the table. However, this does not mean that the needs and expectations of individuals should be ignored or discounted. She said, “this omission makes it incredibly important that people write letters to the Minister, and to the National Energy Board”. ■

Letters can be directed to
Michael L. Mantha, Secretary,
National Energy Board at
444-7th Avenue SW, Calgary T2P 3H2
(e-mail: mmantha@neb.gc.ca)

Or
The Hon. Stan Hagan,
Minister of Sustainable Resource Management
PO Box 9054 Stn Prov Govt, Victoria V8W
9E2 (e-mail: Stan.Hagen@gems6.gov.bc.ca)

See page 12 for maps.



PHOTO: DARLENE CHOQUETTE

CONGRATULATIONS
from the Friends of Ecological
Reserves to honorary director
and past president,
Vicky Husband,
on her receiving the
Order of Canada for 2002!

RESEARCHERS FUNDED FOR 2002

One of the most important contributions FER can make to the membership and the larger community is to fund field work done by scholars and researchers within Ecological Reserves in BC. Each year, awards are made to support studies that contribute to our knowledge about biodiversity within the province and, ultimately, about our needs for a sustainable future.

This year, \$2000 has been awarded to **Katie Christie**, a graduate student at the University of Victoria. Katie's studies will explore the effect of spawning pacific salmon on songbird populations on the coast of BC. She will conduct this research under the supervision of Dr. Tom Reimchen. Salmon spawning effects the terrestrial and aquatic diversity of BC's forests by providing an annual input of nutrients. Katie's intention is to study songbird abundance and diversity to see if this salmon spawning effect is transferred through trophic interactions (vegetation and insects) to bird populations. This research will be carried out in watersheds near Bella Bella and Clayoquot Sound. FER sees Katie's research as an important step in understanding the link between declining songbird populations and depletion of salmon stocks. ■

Federal Task Force Report Released

Late in 2001, the *Final Report of the Task Force on the Canadian Information System for the Environment (CISE)* was released. This report is a key element of the Government of Canada's efforts to improve the science foundation upon which environmental decisions are based, to promote new public policy instruments and incentives, and to encourage Canadians to participate in shared agendas and partnerships for environmental solutions. The report recommends actions to improve the transparency and accountability of governments and to provide Canadians with timely, consistent and credible information on the state of our environment.

In releasing the report, Environment Minister David Anderson noted that environmental progress depends in large measure on the quality of information available to decision makers and that the development of this information system will allow Canadians to make better environmental decisions.

The report recommends that the Government of Canada work with its partners to:

- complete a set of national environmental indicators as well as the sustainable development indicators now being developed by the National Roundtable on the Environment and the Economy;
- provide comprehensive, continuous and credible reporting to Canadians on the state of the Canadian environment and the state of environmental management in Canada;
- increase transparency and easy access to environmental information across Canada;
- foster environmental involvement at the local level;
- set national priorities for development of additional environmental information;
- construct models to explain and predict the connections among environmental change, human actions and human health;
- develop tools to integrate environmental information from various sources as well as with other types of information (i.e., economic, health, social);
- establish an independent organization to coordinate the Canadian Information System for the Environment.

The report *Final Report of the Task Force on the Canadian Information System for the Environment (CISE)* [report, 2001-10-23] can be found at http://www.ec.gc.ca/cise/eng/final_report/default.cfm. ■

FIELD TRIP • Spring 2002

Sunday April 28, 2002
TRIAL ISLAND ECOLOGICAL RESERVE

Meet on the Beach at the foot of Transit Road, in Oak Bay at 9 a.m. for a short crossing by Zodiac to this small island with unique plantlife

Wear waterproof clothing, and bring your camera, sketchbook, a lunch

FEE: FER Members: \$10 • non-members: \$30 • seniors/students: \$25
(includes a 1-year membership to FER)

TO REGISTER or FOR MORE INFORMATION: 595-4371



News From Gladys Lake

Roz Pojar recently wrote to FER stating:

The *Draft Management Direction for Stikine Country Protected Areas* lists public/private partnership for Coldfish Lake camp as a potential commercial recreation opportunity. In addition, it is stated that an objective is to *consider private sector proposals for the Coldfish camp which will retain traditional and historic values and provide for an acceptable level of continued public use. Any proposal would be considered in conjunction with Nature Trust and Tahltan First Nations.*

Roz says, "I personally have strong objection to this—this is public property, it belongs to us all. People who visit Coldfish become very attached to it and develop a sense of ownership and stewardship for its well-being. If this camp is to be run by the private sector, people will feel like they no longer have a right to care about it. It will "belong" to someone else—somewhat like going to a motel—so the personal attachment and passion for the place will be lost."

BC Parks has been told that there will be no money to support recreation—so maintenance of the camp is a problem that they have to resolve somehow. Roz has suggested that the formation of a group called Friends of Coldfish Lake or Friends of Spatsizi, which would raise funds for maintenance of Coldfish camp to keep it in the public domain is a possible solution.

Roz further informs, "It has been brought to my attention that there is a move afoot to pressure the Minister to have the boundaries of the Gladys Lake Ecological Reserve (ER 68) changed in such a way that guides and outfitters be enabled to take commercial trips via horseback through the centre of the ecological reserve—possibly in a circle via Bates Camp and on through to Gladys Lake."

She goes on to say that this would essentially gut the reserve and destroy the very reason it was set aside—as a sanctuary for large ungulates and

carnivores. She points out that horse traffic will destroy the vegetation, large parts of which are wet seepage meadows. She says, "these will become a quagmire. I know this because I walked through the area in 1976 when a guide-outfitter was still operating in the area and I was up to my knees in mud. The horses had spread out over a huge area of wet subalpine meadow to try and avoid their own mess".

Parks needs to hear from people who support their desire to keep the Gladys Lake Ecological Reserve intact. In the *Draft Management Direction* (Newsletter # 3) for the Stikine Country Protected Areas a stated objective is *discontinue maintenance of the Gladys lake trail and remove mention of that trail from all protected area brochures to discourage recreational use* even though the report clearly states that ecological reserves are not intended for *promotion of outdoor recreation use*.

Roz (and FER) believes that if the Minister receives a petition to change the boundary to allow commercial tours through the area, Parks staff will need to have evidence that this is not what the general public wants. Therefore, it is very important that as many people as possible write letters that do not support change to ecological reserve boundaries.



And, David and Claire David Oppenheim, wardens in Strathcona District, have shared a copy of their recent letter to Peter Levy of BC Parks Skeena District with us:

Re: *Draft Management Direction for the Stikine Protected Areas*

We have spent two months as the volunteer hosts at Coldfish Lake. Through that association we have made several comments to BC Parks about management direction, for Spatsizi, but more specifically for Gladys Lake Ecological Reserve (ER 68).

We have only just become aware of the Management Plan process, and

were pleased to see that some of our concerns have been addressed. As volunteer Ecological Reserve Wardens in the Strathcona District, we are quite familiar with some of the issues surrounding ecological reserve management.

In the past we have felt that Gladys Lake was treated more or less as an extension of Spatsizi Park, with much recreational use (relative to the general level of use in that area) and some abuse. With the apparently increasing number of visitors to this area, we have felt that it was time for tighter control to be exerted by BC Parks. As it says in the *Draft Management Direction: Ecological Reserves are closed to all consumptive uses, with scientific research and education being their main uses. They are not intended for promotion of outdoor recreation use.*

In light of the above quote, we were a bit surprised to read, as a management objective: *Allow camping within the ecological reserve only within 100m of the Danihue Pass and Eaglenest Creek trail.*

In the past as hosts, we were lead to understand that camping was discouraged in Danihue Pass altogether. There is a clear conflict between this use and the above statement about recreation in ecological reserves. While we understand that BC Parks does not intend to close the trail through Danihue Pass, it seems to us that anyone who can hike the Eaglenest Trail, can make it over the pass in one day.

There are several likely consequences from allowing camping in this area. The most obvious consequence is the damage that camps often create through trampling and fire making. This is contrary to the prohibition on consumptive use. Since horses are often part of traveling in this area, there is even more likelihood of damage.

While we were hosts we witnessed such a camp in Danihue, where trees had been cut for a lean-to and firewood, and a large fire-ring was left

Continued on page 14

The Ecological Reserves of Garibaldi/Sunshine Coast

ER 2—East Redonda Island

- Located 40 km NW of Powell River, between Homfray Channel and Pendrell Sound, at the entrance to Toba Inlet
- Conserves representative coastal ecosystems of three biogeoclimatic zones, principally for forestry research in first and second growth forest stands.
- The reserve comprises the massif of Mt. Addenbroke and occupies the entire eastern lobe of East Redonda Island. Most of the terrain is steep and rocky. Coast Salish rock paintings are found on cliffs near the ocean, as well as petroglyphs. Most of the lower slopes, especially at the island's south end, have been logged. While the island is accessible by boat, little disturbance has resulted

from boaters. Arbutus and bristly manzanita (*Arcostaphylos columbiana*) occur here near the northern limit of their range.

- 6,212 ha
 - Warden: Syd Riley
-

ER 28—Ambrose Lake

- Located on the Sechelt Peninsula, 5 km SW of Earl's Cove
- Preserves a small coastal bog lake, adjacent bogland and its surrounding upland forest. These are interesting boglands, of limited extent in this part of BC.
- The lake is 30 ha in area, 33 m deep and irregular in shape. There is no record of it ever having been stocked with sport fish. Interesting rare plants recorded here are the Vancouver groundcone (*Boschniakia*

hookeri) and "common" reed (*Phragmites australis*).

- 228 ha
 - Warden: Syd Riley
-

ER 69—Baynes Island

- Located in the Squamish River, 10 km N of Squamish
 - Protects an undisturbed alluvial black cottonwood forest for the purposes of hybridization and stock improvement.
 - This is the only remaining floodplain site in the lower Squamish River valley having pristine vegetation. Except for narrow gravel bars at its perimeter, the island is completely forested.
 - 71 ha
 - Warden: Jim Wisnia ■
-

The Clearcuts are Coming, the Clearcuts are Coming...

Sid Riley, an award-winning volunteer with the Friends of Ecological Reserves and Archeological sites phoned me in November to say the local rumour in Lund was that clearcut logging was to start adjacent and up slope from the Ambrose Lake Ecological Reserve (ER28) north of Powell River.

I took notes and called a few officials who were unaware of the logging operation but a letter to the Ministry of Water, Air and Land Protection from FER brought a response in record time. In January, I received a note from Minister Joyce Murray saying that logging plans for the adjacent property had been altered to take into account the drainage patterns into the Reserve.

Clearcut logging was being changed to selective logging with specific protection along the Reserve boundaries. While this will not protect the wildlife values of the habitat being destroyed it would act as a short-term buffer.

FER is still concerned about the future integrity of the Reserve and wonder why this logging would be going ahead in such a sensitive area when logging markets are at an all time low. The Friends are also concerned that the Ministry of Forests had no idea they were developing logging plans next to an Ecological Reserve when it is clearly marked on all land maps. However, the Friends would like

to congratulate Syd Riley whose quick call allowed FER time to take action and ask for changes to the logging plans. Who says one person cannot make a difference? Thank you, thank you, Syd.

The case of the Ambrose Lake Ecological Reserve illustrates the importance of wardens. Volunteers in the field can often do more than bureaucrats in an office in trying to see what is happening on the ground within and around Ecological Reserves. We are all responsible for provincial lands. We must all be vigilant in order to conserve protected areas for future generations. ■

Lynne Milnes

Baynes Island ER #69

Baynes Island is located along the un-roaded west shore of the Squamish River, just across from the confluence of the Cheakamus River. It was established early in BC's ER history to preserve an undisturbed stand of alluvial cottonwoods. The cottonwoods are magnificent and have provided riverside habitat to many species.

In the early 1990s, Victor Elderton and Jim Wisnia of North Vancouver Outdoor School became co-wardens, about the time that private land adjacent to the ER was heli-logged. Vic and Jim encouraged the Nature Conservancy of Canada to examine the threats to bald eagle habitat in the watershed, and their researchers recognised the importance of Baynes Island as the centre-point of the world's largest mid-winter bald eagle congregation.

As a result of NCC research and funding, an eagle viewing shelter was built on the dyke at Eagle Run, three kilometres downstream from the ER and across the river from another island that resembles Baynes Island (later to become part of Brackendale Eagles Provincial Park). Also, the Squamish Estuary Conservation Society started the Eagle Watch Volunteer Interpreters Program to welcome eagle viewers and encourage them to stay away from sensitive feeding areas like the Cheakamus confluence.

Jim, as a Society director, got a grant so two Capilano College Environmental Science grads could do summer work on Baynes Island, establishing baseline vegetation plots and surveying erosion patterns. As a result of their report and analysis of air photos from 1964 to 1994, Jim was convinced that Baynes Island was rapidly disappearing. The cause seems to be that the Cheakamus River keeps dumping gravel into the Squamish River, deflecting its flow toward the ER. While dyking, logging, and dam operations upstream may be contributing factors, the rapid extension of the Cheakamus fan is mostly due to slope and natural run-off from Mt. Garibaldi.

What does one do about a vanishing ER? For the past two years, Jim represented ER interests on the Brackendale Eagles/Baynes Island/Tantalus Advisory Group, assembled by planners from BC Parks to help develop management plans for the recently proclaimed parks adjacent to the ER. As a result of his input, the island downstream will be managed in such a way that its cottonwood stands can become replacement habitat for the ER should that become necessary in the future, and the Eagle Watchers will be closely monitoring that site.

Having helped secure possible replacement habitat, Jim is still concerned about the private lands adjacent to Baynes Island. Advertisements for sale of these parcels last year touted them as ideal for eco-adventure development. The necessity of heli-transport for construction scared away any prospective buyers this time, but who can say what the future holds? ■

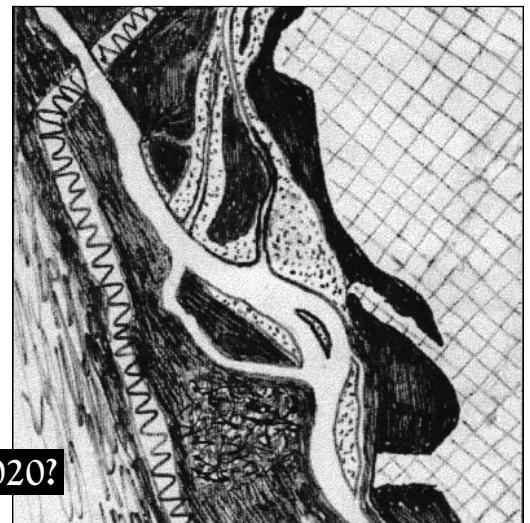
Jim Wisnia, Warden



1964



1994



2020?

An analysis of air photos over the years shows marked erosion. What will Baynes Island look like in 20 years (photo #3).

The Ecological Reserves of the Lower Mainland

ER 21—Skagit River Forest

- Located in the Skagit River Valley Recreational Area, 38 km SE of Hope and 10 km NNW of Ross Lake
- Preserves a representative valley-bottom Douglas-fir forest in an area transitional between coastal and interior climatic conditions. Several coastal plants, such as vine maple and devil's club, are at their eastern limits of distribution in this valley.
- 73 ha
- Warden: John Riley

ER 22—Ross Lake

- Within the Skagit Valley Recreation Area, on the lower slopes of Mount Hozomeen, Cascade Mountains, and on the east side of the Skagit River Valley. The reserve is on the E side of the head of Ross Lake, 50 km SE of Hope
- Protects an isolated population of ponderosa pine and other vegetation in transition between interior and coastal climates. Specifically, ponderosa pines occupy a small central part of the reserve, which is largely dominated by Douglas-fir.
- This is the most westerly occurrence of ponderosa pine-bunchgrass vegetation at this latitude in BC. A very rare plant that occurs here is the steer's head (*Dicentra uniflora*).
- 61 ha
- Warden: John Riley

ER 48—Bowen Island

- Straddles a southwest-northeast trending ridge, 2 km SW of Snug Cove, Bowen Island in Howe Sound. Most of its area is on the rolling summit of the ridge about 300 m in elevation. Steep slopes characterize the northwest and southeast edges.

- Preserves dry subzone forest ecosystems in the Coastal Western Hemlock Zone at a location that is convenient for research on tree species and forest ecology. Except for one swamp and some rock outcrops, the reserve is entirely forested with great diversity of species (although Douglas-fir is dominant). At least seven Douglas-fir associations have been noted in an area that climatically should favour western hemlock.
- 397 ha
- Warden: Alan Whitehead

ER 76—Fraser River

- Located 6 km W of Chilliwack, in a low-gradient stretch of the Fraser River that has many islands and bars where much sand and gravel is deposited.
- The reserve consists primarily of two vegetated islands in close proximity. They are low-lying, flat-surfaced and have good moisture availability. It protects the only remaining unaltered and uncommitted lower Fraser River floodplain islands.
- Vegetation is primarily seral alluvial black cottonwood and willow forest with abundant understorey shrubs.
- 76 ha
- Warden: Anthea Farr

ER 89—Skagit River Cottonwoods

- Located on the floodplain of the Upper Skagit River Valley, 5 km SW of Highway 3 at Sumallo-Skagit confluence, 20 km N of Ross Lake
- Provides an undisturbed area for maintaining excellent stands of alluvial black cottonwoods for silviculture research, and a genetic bank for this species.

- The Skagit River is a relatively small, fast-flowing river with a gradient of about six m/km. This reach of the Skagit is not suitable for canoeing. Access to the reserve is by foot only.
- 69 ha
- Warden: John Riley

ER 98—Chilliwack River

- Located at the head of Chilliwack Lake, 43 km SE of Chilliwack
- Created to set aside productive floodplain forest stands for purposes of research and stock improvement.
- This reserve is in the heart of the Skagit Range of the Cascade Mountains, mostly on the floodplain of the gently flowing, slightly meandering Chilliwack River, where the valley bottom is flat and about 500 m wide.
- The reserve is primarily forested with a mature alluvial forest of large old-growth western red cedar, hybrid spruces. It is a site of exceptional tree diversity and of hybridization between coastal and interior conifers—particularly between grand and amabilis fir and between Sitka and Engelmann spruce.
- 86 ha
- Warden: Gladys Brown

ER 99—Pitt Polder

- Located in near the northern edge of the Fraser Lowland on a large deltaic plain; near S end of Pitt Lake, 15 km NNE of Pitt Meadows
- This reserve is comprised of two forested bedrock hills, surrounded by swamp, fen and bog communities and preserves a fragment of the rapidly disappearing Fraser Valley boglands. A variety of birds and mammals typical of boglands and seral forest types is present. A few rare greater sandhill cranes nest in surrounding bogs.

- Although the reserve is located within a large expanse of bogland, much of the area has been altered by cultivation, dyking and drainage. Drainage ditches, which occur along the north and south boundaries of the reserve, have lowered the water table in the reserve.
- 88 ha
- Warden: Ken Thomson

ER 106—Skagit River Rhododendron

- Located in the Skagit River Valley Recreational Area, 40 km SE of Hope and 8 km NNW of Ross Lake
- The reserve consists of two blocks, the lowermost on the gently sloping fan of St. Alice Creek on the floor of the Skagit Vally, the upper block on northeast oriented mountain slopes between St. Alice and McNaught creeks. It protects a large population of the showy pink-flowered Pacific rhododendron (*R. macrophyllum*), a rare plant which, in BC, is restricted to the Skagit River watershed, possibly the Chilliwack River valley and two small sites on Vancouver Island. The rhododendrons, including seedlings, in this reserve grow in two quite different habitats.
- Although the reserve is located in the Skagit Valley Recreational Area, it is in a site unlikely to be disturbed by recreational use, as access is only by foot and involves crossing the Skagit River. Rhododendrons in this area appear to be associated with fire-induced seral forest.
- 70 ha
- Warden: John Riley

ER 116—Katherine Tye (Vedder Crossing)

- Located at Thornton Road, 3 km SE of Vedder-Crossing, on a ridge formed by remnants of a major body of inter- and post-glacial outwash.



JPG/PHOTO CREDIT: DR. DONALD R. GUNN

The Phantom Orchid, which flowers from June to August, is a relatively primitive genus, and the only truly saprophytic orchid, requiring on a symbiotic relationship with a subterranean mycorrhizal fungus for nutrients.

Reaching a height to 65 cm, it has a white, glabrous, leafless stem, clothed in white sheaths up to 10 cm. long, passing into bracts above. It has a loose raceme of up to 20 white flowers.

To the touch, the plant feels clammy and wax-like. The plant reminds one of the white Indian pipe (*Monotropa uniflora*).

Fourteen other species inhabit Europe, North Africa, and the northern parts of Asia.

- This reserve protects a population of the very rare Austin's Phantom Orchid (*Cephalanthera austinae*) and its habitat. This orchid is most likely the rarest in BC and among the rarest of plants in Canada. It is known to occur only at a few sites in BC. Phantom orchids at this site were discovered by the late Katherine Tye in 1964 and watched over carefully by her until her death in 1987. Within the reserve, records kept by Mrs. Tye show that between 1964 and 1978 the orchid population varied from none (in one year) to over 100, with an average of about 35 plants per year.
- The reserve consists of lands donated by Mrs. Tye and additional land

purchased by the Nature Trust of BC.

- 3.1 ha
- Warden: Douglas May

ER 131—Stoyoma Creek

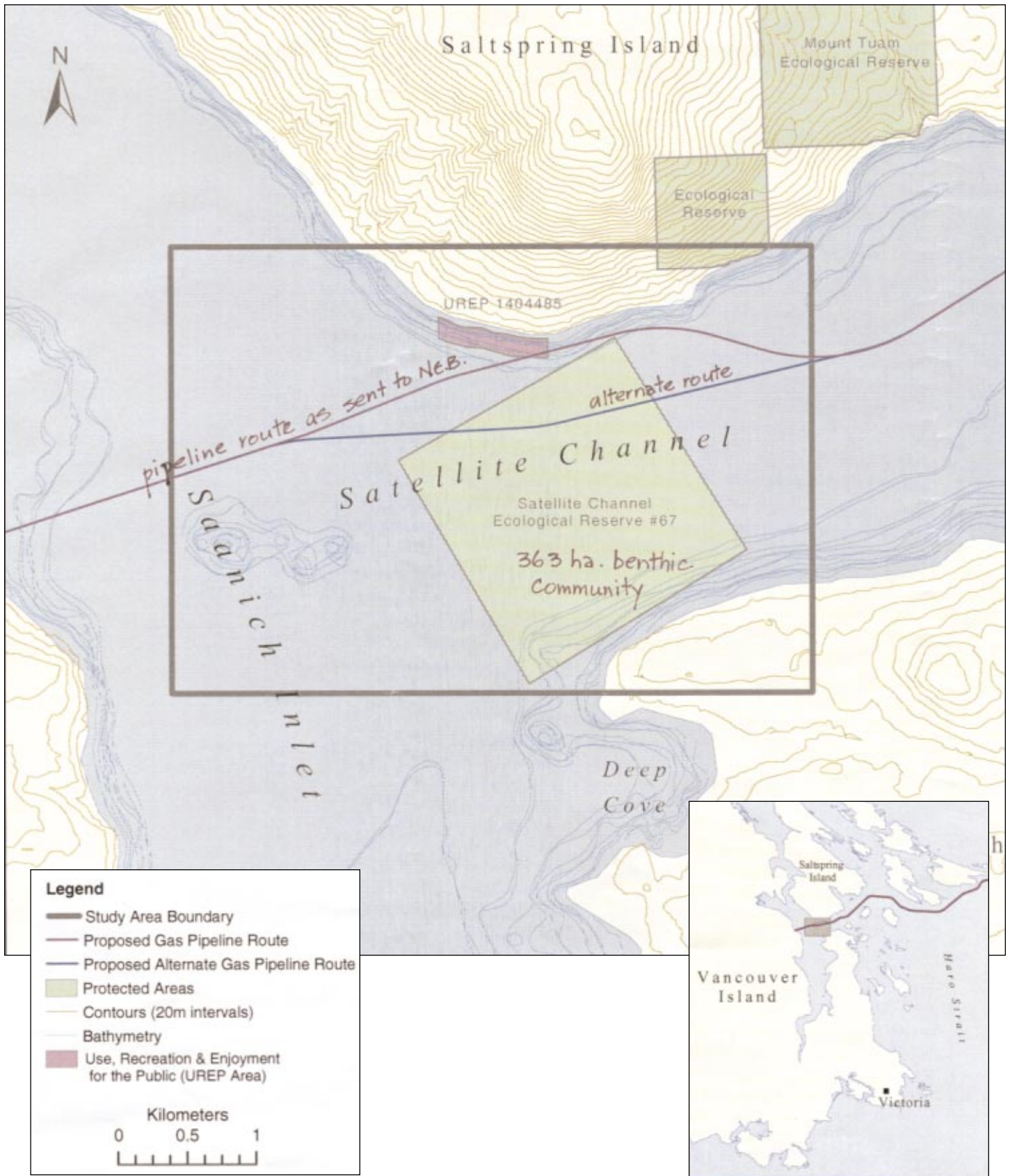
- Located at the headwaters of Stoyoma Creek, 4 km ENE of Boston Bar, on the west slope of the Cascade Mountains.
- Protects a floristically diverse forest site, transitional between coastal and interior conditions, for forestry research. Three biogeoclimatic zones converge here, providing special provenances for several coniferous tree species and understory plants. It is a valuable site for cone collection and for conserving special seed provenances. There is a logging road through the reserve.
- 76 ha
- No warden

ER 74—UBC Endowment Lands

- Located on the southern slope of Point Grey in the Endowment Lands of the University of British Columbia, Vancouver
- Rich in flora and fauna, this reserve protects advanced second-growth Puget Sound lowland forest stands—in 3 notable forest communities: Douglas-fir–grand fir–western red-cedar– sword fern, red alder–Douglas-fir–western red cedar–western hemlock–Oregon grape–thimbleberry–moss, and the skunk cabbage community.
- This reserve is of great importance as a teaching and research site for UBC scientists and students, particularly in the disciplines of forestry, botany, soil science and ecology.
- ER 74 is now part of Pacific Spirit Regional Park.
- 90 ha
- Warden: Terry Taylor ■

Satellite Channel—Ecological Reserve #67 Study Area

(see "GSX Gas pipeline Workshop" on page 4)



John Riley

Outdoorsman John Riley has taken the responsibility of being a warden very seriously. "Riley", as he called himself, is warden to four Ecological Reserves in the Lower Mainland District: Ross Lake (ER22), Skagit River Cottonwoods (ER 89), Skagit River Forest (ER 21), and Skagit River Rhododendron (ER106).

Ross Lake ER sits on the US border. The only people Riley knows who use this Reserve are drug smugglers and American rangers looking for them. The Reserve lies in the rain shadow of the Pickett Range and is home to interesting dry-land plants, such as steershead (*Dicentra uniflora*), Arrow-leaved balsam root (*Balsamorhiza saggitata*) and Ponderosa Pine.

Riley works closely with the provincial park ranger (hired for 6 months) who looks after Skagit and Nahatlach Park use areas. The 15 km Skagit River trail passes through ER89, the Skagit River Cottonwoods. Here beautiful huge cottonwoods mix with Douglas fir and cedar trees in the upper canopy.

The forest floor has an abundance of ferns and wildflowers. This is an easy hike used by repeat hikers with young families and older people. It is also a good initiation hike for scouts and pathfinders. Riley loves to teach them about the wildflowers, the cottonwoods and the etiquette of moving through the woods, leaving not a trace.

With a John Lang, another teacher, Riley runs the Hope Mountain School, with the assistance of major funding from Skagit Environmental Endowment Commission grants. Thirty carefully-selected grade 7 students hike the trail with Riley on snowshoes in April to see the area in winter and learn to dig a snow cave. They hike again in September or early October for fall appreciation; and in late June when the forest is in full bloom. The field sessions are followed

up with art in the classroom featuring botanical illustration.

Because the Skagit River Cottonwood Reserve contains a well-used trail (about 250 people a week use the trail during peak season), the area supervisor for Parks asked Riley to monitor use and abuse within the Reserve and around its' periphery. This has meant cleaning up garbage, discouraging cycling through the Reserve and removing fire pits, cans and beer bottles from nearby Delacy Camp. Safety issues arise when cyclists ignore the ban and travel at high speed along the trails. In the past three years, incidents of park visitors not respecting posted regulations have greatly diminished due, in fact, to the increased presence of Riley and parks staff. The new ranger, Chris Armstrong, is a keen hiker who has traveled the trail with Riley supervising the ongoing trail repair work at Marmott creek.

Hikers using the Skagit River trail are often elderly or uncertain and offer poor competition for bikes. There are also conservation issues associated with plant growth and rapid cycling through the trails and Reserve.

Another trail, Centennial Trail, cuts through the Skagit River Forest Reserve, but only about 20 people use this trail each year. Backcountry horsemen use this Trail every other year as the trail is not regularly cleared of fallens, which restrict mobility. There are few management issues in this Reserve, but if there were Riley would know about them as he hikes the area regularly.

The Skagit River Rhododendron Reserve is across the river from the Centennial Trail and can be reached only by rubber boat. But once there Riley says the 4-5 metre tall rhododendrons reaching up through the understorey are more spectacular than those on the Hope Princeton highway. The last week in June is a perfect time

to visit and, if you are really lucky like Riley's daughter, you may find a rubber boa in this ER. The snake is small and uses its constricting power to overcome its small prey.

Riley is an avid photographer and has promised to send us photos for our web page. More about that in a future newsletter. I'll leave you with a favourite quote of Riley's—"A bad day in the bush beats a good day in town." ■

Peggy Frank

The Skagit Environmental Endowment Commission (SEEC) was established in 1984 by an agreement between the province of British Columbia and the City of Seattle, and was subsequently sanctioned by a treaty between Canada and the United States. The purpose of the Commission is to preserve the area, pristine wilderness, and fish and wildlife habitat values of the Upper Skagit River Watershed. In addition, the Commission seeks to maintain and enhance recreational uses of the area consistent with the above stated values.

Eight members, four from British Columbia and four from Washington, comprise the Commission. SEEC provides funding for projects related to recreation, the environment, and education focusing on the watershed drainage above Ross Dam. Under terms of the 1984 agreement, Seattle provided one million dollars per year for four years and British Columbia supplied \$250,000 per year for four years to create the endowment. SEEC will continue to provide grants to the year 2066.

The 1984 agreement and treaty settled the issue of the proposed raising of Ross Dam, which would have flooded extensive acreage of the Skagit River Valley in British Columbia. The settlement stipulated that the dam would not be raised, thus avoiding the enlarging of Ross Lake; that British Columbia would supply power to Seattle equivalent to the planned increase capacity that would have resulted from raising the dam; and that Seattle would pay British Columbia an amount equivalent to the construction financing costs for the dam in payment for the electricity.

“...Gladys Lake” continued from page 7

filled with garbage. While this may not be typical for the people who would camp there, it does indicate to us what could be an ongoing problem. There is also the likelihood of disturbance to wildlife if humans are spending more time in the pass, rather than just going through. While the Pass is a human corridor, it is also a wildlife corridor, and a wildlife crossing point. Because the Pass is very attractive, allowing camping here will lead to much increased use, with parties flying into Coldfish and then camping in the pass. While we were hosts, the desire to do so was expressed to us several times, though we were able to discourage it.

A more subtle reason for disallowing camping in the Pass is the message that allowing it implies to Park visitors: that recreation is indeed one of the uses for ecological reserves. We cannot emphasize this point too highly. Ecological Reserves should be exactly those places where humans have no impact, either to protect some ecological feature that cannot withstand human impact, or to provide a typical habitat with no human impact, against which other habitats can be measured. Ecological Reserves represent a very small part of BC and of the protected areas in the Stikine—surely we can “restrict” ourselves to recreating in the vast majority of the area that is not ecological reserve.

Sincerely, Peter and Claire
Volunteer Wardens



People can respond to these issues by either filling in the Public comment booklet that accompanies the *Draft Management Direction* (newsletter # 3) which can be downloaded from the Parks website (Parks personnel’s preferred option) OR can be obtained from Parks OR by writing a letter to the Smithers office. Although the deadline for responses is April 15, 2002, you are encouraged to make your thoughts known to the Ministry. ■

Global Warming Effects Noticed in Mosquito Genes

The effects of global warming is showing in the genes of the pitcher plant mosquito. Evidence shows that the genetically controlled winter hibernation of the insect has shortened as the Earth has warmed.

The mosquito *Wyeomyia smithii* completes its early development in the water-filled leaves of the pitcher plant. Larvae become dormant before dangerous cold weather hits and awake in the spring after the threat of frost has passed. In order to anticipate future temperature, the mosquitoes monitor day length. In the early 1970s, biologist William Bradshaw at the University of Oregon (Eugene) demonstrated that the day length at which the larvae hibernate and wake up is programmed in their genes.

Now Bradshaw and his colleagues have shown that the amount of daylight needed to awaken the mosquitoes has shortened by an average of 14 minutes between 1972 and 1996. Bradshaw says extended growing seasons linked to global warming trends have favoured the mosquito’s longer-lived southern subspecies and these genetic adaptations are taking hold in their northern counterparts. The research, published in the *Proceedings of the National Academy of Sciences*, is the first to tie a clear genetic trait to global warming.

The study could have important implications for other species. Bradshaw reports that that global warming could disrupt many of the relationships between species, such as the predator-prey relationship, by sparking changes in life cycles. This could be disastrous for some species, many of which have interdependent life cycles. For example, many species of birds and fish hatch at the same time as certain insect species, thus providing their young with a ready supply of food.

“The future of biological communities may depend critically on the ability of species to evolve seasonal interactions,” Bradshaw said. “The implication of our work is that a major effect of global warming is going to be to disrupt seasonal interactions.” Some species of songbirds are showing signs of decline attributed to a shift in the reproduction cycles of the insects they depend on for food when their chicks hatch.

Other changes that have been observed, such as changes in the timing of bird migrations or in the range of certain animals, could have links to global warming, as well. Bradshaw said that although those specific connections have not yet been made, the research he and his colleagues have done suggests that global warming may also be prompting genetic changes in other species. ■

Gathering Pollen With A Buzz

Mated female bumblebees (known as queens), emerge from underground in the spring, the sole survivors of last year’s colonies to search for pollen to nourish their developing broods.

One wildflower that they seek is the shooting star an early bloomer that yields large amounts of pollen. When a Bumblebee approaches a downward-hanging shooting star, she grasps the flower tightly with her feet and jaws. She then curls her abdomen around the opening and begins to “buzz” her large flight muscles.

The vibrations she sends through the flower (about 300 cycles per second) dislodge the pollen from within the anthers, and it pours out through tiny holes. The technique is known as buzz pollination. Listen carefully, when you see a bumblebee working her way through a group of flowers—you will clearly hear the pronounced buzz as she pauses at each one. ■

Spirit Bear Discovery

The unmistakable white coat of BC's rare kermode or spirit bear is the only thing that differentiates it from the ordinary black bear. Researchers have now discovered that a change in a single gene is responsible for the difference.

To study the genetics of these bears, Kermit Ritland and colleagues at the University of British Columbia collected bits of hair left behind by the animals and analysed pigmentation DNA from the samples. They discovered a change in a single base pair of a recessive gene responsible for telling certain cells to make black and yellow pigment. The change stops the production of both pigments, leaving the bears snow white. Black bears with only one "white" gene are uncommon, indicating that white bears may prefer to mate with each other, Ritland said. Only 100 to 200 of the spirit, or kermode, bears remain in the rain forests of the British Colombian coast.

The analysis, reported in the journal *Current Biology* (<http://www.current-biology.com>), should help the Canadian government develop better conservation plans for the animal. ■



UPCOMING EVENTS

MAY 9–12, 2002 (Victoria BC)

Federation of BC Naturalists AGM 2002 "Discover Island Diversity"

The Victoria Natural History Society will host the 2002 FBCN Annual General Meeting on the University of Victoria campus. FER Board member Syd Cannings will lead one of the discussions on special features of island environment. Visit the Victoria Natural History Society website <http://www.vicnhs.bc.ca/events.html> for a description of presentations and fieldtrips, and for registration materials.



OCTOBER 14–15, 2002 (Revelstoke BC)

Third Annual Bryoria Workshop

The Columbia Mountains Institute of Applied Ecology (CMI) is hosting Trevor Goward's "Third Annual Bryoria Workshop" to be held in Revelstoke on October 13–14, 2002.

This field course (maximum number of participants: 15) is open to caribou biologists, ecosystem specialists, forest industry representatives, resource managers, and other interested parties. Participants will be introduced to the identification and field ecology of Bryoria and other arboreal forage lichens used by mountain caribou. Alternative strategies for the management of caribou habitat in ESSF eco-systems will be discussed. Participants should be prepared for field work in rain or snow, and should bring a 10x (or better) high quality hand lens. Some car-pooling will be needed to reach field locations.

For more information about workshop content, contact the instructor Trevor Goward (Enlichened Consulting Ltd.) directly at 250 674 2553 (Clearwater BC) or email him at: tgoward@interchange.ubc.ca. To register, go to www.cmiae.org *

NOTE: This course will fill quickly. Register early. Also, it will be held immediately prior to the Mountain Caribou in 21st Century Ecosystems conference. Registration and payment for the two events are handled independently.



OCTOBER 15–17, 2002 (Revelstoke BC)

Mountain Caribou in 21st Century Ecosystems Conference

The Columbia Mountains Institute of Applied Ecology (CMI) is holding a three-day conference focussing on the ecology and management of Mountain Caribou in British Columbia. This workshop will be of interest to forest managers, biologists, backcountry operators, park managers, and snowmobilers.

The event will include two days of presentations and one day of field trips. Topics to be covered include:

- General biology of British Columbia's Mountain Caribou
- Status of populations, captive breeding programs
- Stressors on populations such as disturbance from recreation, predation, and fragmentation of habitat
- Managing forests for Mountain Caribou, including a review of Caribou Habitat Recruitment Guidelines
- Are Mountain Caribou useful as an umbrella species for conservation of old-growth biodiversity?
- Habitat analysis, mapping, habitat supply management

Registration information and a list of speakers are available at the CMI web site www.cmiae.org or from:

* Columbia Mountains Institute of Applied Ecology
Box 2568 Revelstoke BC V0E 2S0 • tel: 250 837 9311 or fax: 250 837 4223

Saving Burrowing Owls In South Surrey

In a leased barnyard on the Nicomekl River in South Surrey the Burrowing Owl Conservation Society of BC operates San Rafael Aviaries—who are attempting, in partnership with the Kamloops Wildlife Park and the Stanley Park Ecology Society, to reintroduce one of BC's endangered species to dwindling grasslands of Kamloops and Merritt. The Burrowing Owl (*Athene cunicularia*) is a migratory grasslands raptor that lives in underground burrows. It has been classified as endangered since 1978 in BC and since 1997 in all of Canada.

The San Rafael Aviaries in Surrey have become a temporary home for the burrowing owl, which is native to the bunchgrass, ponderosa pine, rabbit brush, and sage ecosystem of the south interior grasslands. Burrowing owls in this area have suffered from population encroachment, intensive agriculture, pesticide-use and population reductions in the species of animals on which they traditionally rely on to assist with burrow-making, such as badgers.

In trying to restore the balance, over the past decade San Rafael Aviaries have bred close to 200 captive-bred burrowing owls for release to the wild. To help the breeding program, volunteers dig burrows using plastic pipe upside down buckets.

While breeding efforts have been successful and each year more owls are introduced to their natural habitat, only 20% return after release to the wild. There is no real evidence of migration so it is not know what happens to the population.

While the society acknowledges that they have learned to breed burrowing owls in captivity, keep them wild and return them to their habitat, they continue to face the challenge of returning them to the wild in viable numbers.

For more information, go to: www.kamloopswildlife.org or www.vcn.bc.ca/spes/stewardship/burr_owl.htm ■



PHOTO CREDIT: KAMLOOPS WILDLIFE PARK

CALL FOR PHOTOS

As one of its projects this year, FER is developing a website. We are asking our membership to scour their personal archives for photographs of ecological reserves and activities in reserves and to send them to us—or, alternatively, if you have the technology, scan them and forward them to us as a .jpg file via e-mail.

Please take the time to identify any people in the photograph(s), as well as who took the photograph (if you can remember). And, give us your name and phone number so that we may contact you if we have questions. If you want the photograph(s) returned, remember to include your own address.

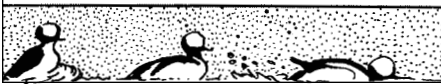
And, if you have already sent us photos, thank you! ■

The Committee on the Status of Endangered Wildlife in Canada (COSEWIC), a body of government and independent scientists, currently lists 387 species at risk, of which 112 occur in BC. Another 10 species at risk are found off the BC coast.

A species includes any indigenous species, subspecies, variety, or geographically-defined population of wild fauna and flora. COSEWIC uses the following distinctions for at risk species:

- Endangered: facing imminent extinction or extirpation, a term that describes a species found elsewhere but no longer in Canada.
- Threatened: likely to become endangered if limiting factors are not reversed.
- Vulnerable: of “special concern” because of characteristics that make it particularly sensitive to human activities or natural events.

The BC Conservation Data Centre has its own ranking system: a red list for endangered and threatened species and ecosystems, a blue list for species considered vulnerable that are particularly sensitive to human activities or natural events, and a yellow list for species not under imminent threat. Currently, in BC there are 1,494 species at risk—596 red-listed and 898 blue-listed. ■





Orca Live

From Hanson Island, Johnstone Strait is the less than 3 km (1.8 mi) wide waterway that runs between Vancouver Island and mainland Canada. Its jagged coastline and countless tiny islands indicate that the area was once glacier. Hanson Island is the home of **OrcaLab**, and where Dr. Paul Spong lives together with his family. OrcaLab was established in 1970, as a summer field research base for researching orca society and their living environment.

OrcaLab monitors the orcas' voices 24 hrs a day via six underwater passive microphones that cover approximately 20 km (12.5 mi) of area surrounding Hanson Island. These hydrophones enable the researcher facility to hear the beautiful voices of the orcas that come to Johnstone Strait and Robson Bight (ER 111) every summer.

Hanson Island is remote. It is approximately 20km square and is in western Johnstone Strait, bounded on its northern side by Blackfish Sound. Hanson Island is at the centre of the "core area" for visiting resident orcas. Because the whales must pass Hanson Island on their travels to and from Johnstone Strait, it provides excellent opportunities to observe and listen to the orcas as they move about the area.

Over the course of 30 years, OrcaLab has developed into a permanent research and living facility. Today, Dr. Spong lives at OrcaLab, year round, with his wife Helena and daughter Anna. Dr. Spong's research is premised on the belief that wild animals can be studied without interfering with their lives or habitat. Rather than pursuing the orcas by boat, OrcaLab monitors and documents the orcas' activities via the hydrophone network, video cameras (at Cracroft Point), observers placed at land observation sites, and radio reports.

One night some 20 years ago—when the ocean was still and a full moon lit the sky—Dr. Spong tells us that he heard the breath of the passing orcas and, at that moment, felt that if only the whole world could share this moment, it would surely change people's sense of the world.

The moment inspired the concept of the *Nature Network*: stations set up in Nature that transmit live images and sound to people around the world. Implementing the concept, which at the time was technically difficult, became feasible with the widespread use of the Internet. The Nature Network website has been conducting a variety of experiments since 2000. **OrcaLive** is a website that allows viewers to visit Hanson Island and the OrcaLab, as well as participate in live webcasts (which will resume soon, as summer approaches), sharing Dr Spong's orca world.

A beautiful calendar can be downloaded from the site, as well. Bookmark <http://www.orca-live.net/> and visit Hanson Island virtually in July. ■

In order to experience OrcaLive you must have sound and video related software installed in your computer. OrcaLive is currently provided via the Real Player (by Real Networks) system.

RESEARCHERS FUNDED FOR 2002

This year, with the help of gracious anonymous donors, we continue to support **Dr. Tom Reimchen**, who continues to study the interaction of salmon and bear on coastal forests. Tom has found that the presence of salmon in stream results in an increase in insect abundance adjacent to the stream. He has been continuing to use "heavy Nitrogen" (an isotope of Nitrogen) to track the cycling of salmon-derived nutrients through BC's coastal food webs. His studies have been celebrated in documentaries and in the media and have much to teach us about nutrient cycling in BC's forests.

As well, funding continues for **Dr. Jane Watson**, thanks to a generous anonymous donor. Jane continues her longitudinal study of sea otter-sea urchin populations in Checleset Bay (ER #109).

Pam Janszen's mycological studies within the Saturna Island Ecological Reserve (#15) continue to receive funding, this year.

Research such as this is invaluable as baseline data for Ecological Reserves against which we monitor the earth's changes over time. We thank every one who applied for funding. As a condition of funding, grant recipients are required to submit a report on their findings for publication in *The Log* and to participate in our public lecture series. We look forward to reading about the successful applicants' 2002 field results in future issues of *The Log*.

Applications are considered once a year for a spring deadline or April 1. Look for criteria in the fall issue of *The Log* or write to us for more information. ■

Websites of Interest

eNature, although American, is one of the most extensive and dynamic sources of information about nature on the web. Established as a for-profit website in February 2000, it was acquired a year later by the National Wildlife Federation (NWF), the USA's largest conservation group. The for-profit eNature site continues to operate independently, but now shares unparalleled content and nature discovery tools with the non-profit NWF.org.

eNature's extraordinary nature content comes from the best-selling National Audubon Society Field Guide series, now published for the first time online. The Audubon guides are the largest and most authoritative collection of materials focusing on North American wildlife and natural habitats, with more than 100 Audubon Field Guides and related books and over 24 million copies sold.



Featuring the first and only Online Field Guide, a high-powered search engine, and a wide variety of interactive capabilities, eNature is an accessible, state-of-the-art, one-stop shop for nature lovers, outdoor enthusiasts, environmentalists, bird-watchers, gardeners, educators, and students. Complementing the encyclopedic wildlife content is the Habitat Guide, which features photographs and descriptions of the many and extremely varied ecosystems in North America, with information on wildlife, geology, and natural history. As well, the website features ParkFinder, a complete travel planner and wildlife viewing destination guide. <http://www.enature.com>

Sustainability Web Ring: established in 1998, this Internet tool allows users to navigate easily between Web sites that deal with the principles, policies, and best practices for sustainable development. By following the links through the Web ring, you will find information from around the world on how to deal with such crucial issues as climate change, cleaner production, waste, poverty, consumerism, natural resource management, and governance. As well, the site provides a job bank and a 6-month world-wide calendar of major conferences, symposia and events. <http://sdgateway.net/>

Amazing Environmental Organization WebDirectory! A huge search engine, this the result of a group dedicated to helping others keep in touch and informed on the World Wide Web. With thousands of sites, it is the largest exclusively environmental organization directory on the Web and includes sites from over 100 countries. <http://www.webdirectory.com>


The Trumpeter, an environmental journal dedicated to the pursuit of understanding and wisdom as it attempts to aid in the development of an ecosophy, or, wisdom born of ecological understanding and insight. It serves the Deep Ecology movement's commitment to explore and analyse environmental concerns at their deepest levels, in light of ecological developments at every relevant level: metaphysics, science, history, politics, providing a diversity of perspectives

on human-Nature contexts and interrelationships. For 14 years, *The Trumpeter* has been published as a print quarterly critiquing destructive and unwise practices as well as exploring and celebrating deep values and wise practices. This publishing effort has now reached a turning point, and is continuing as an online journal. <http://trumpeter.athabasca.ca/>



Friends of Ecological Reserves
PO Box 8477 Stn Central
Victoria BC V8W 3S1
Email: ecoreserves@hotmail.com
Charitable tax# 118914597RR

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