FRIENDS OF ECOLOGICAL RESERVES NEWSLETTER

VICTORIA, B.C. MARCH 1992

EDITORIAL

Pathways to Protection

"The first rule of intelligent tinkering is to save all the cogs and wheels."
Aldo Leopold

The public now knows and cares about the disappearance of our forest heritage. That's good news — but from recent reports on the state of British Columbia's temperate rain forests and endangered wilderness areas, detailed later in this issue, the message is frightening.

In the last 36 years more than half the ancient rain forest of Vancouver Island has been liquidated, according to *Ancient Rainforests at Risk*, the interim report by the Vancouver Island Mapping Project of the Sierra Club of Western Canada and The Wilderness Society.

Of 103 park proposals on the Valhalla Society's 1988 map, *B.C.'s Endangered Wilderness*, 14 have since been partially logged.

One-third of the 122 areas proposed for protection on the 1992 *Endangered Wilderness* map have been invaded by logging or are scheduled for development in the next three years, while mineral exploration is active in at least five of the areas, and three are threatened by dams.

The land-use decisions of B.C.'s new N.D.P. government in the next four or five years will be critical to the establishment of protected benchmark ecosystems and the maintenance of British Columbia's natural diversity. *British Columbia's Endangered Wilderness:* "In great part, the reserves which exist hundreds of years from now will be those which we will protect in the next few years." We hope the new government will seize this opportunity to protect representative and unique ecosystems for tomorrow. >>>

IN THIS ISSUE

EDITORIAL

The consensual Draft Old Growth Strategy proposes a framework for conservation in terms I find heartening: "to ensure that the full spectrum of old growth values is sustained for the benefit of future generations." I'm hopeful that the deferral process is only the beginning of a large initiative to identify and protect old-growth forests around the province. The first round of deferrals produced few results, and some of the areas we spoke for are now being logged. Clearly, the political will that was lacking then must be summoned now to take that initiative.

We are waiting with great anticipation the results of the province's three-year study of the Khutzeymateen Valley. Friends of Ecological Reserves, the Valhalla Society and World Wildlife Fund have been particularly active in lobbying for the preservation of this fabulous ecosystem and its famous bears. We have asked for a meeting with the new government to discuss establishment of an ecological reserve and hope that protection and designation will soon be a reality. Please write to Premier Mike Harcourt, Parliament Buildings, Victoria, B.C. V8V 1X4, to ask that an ecological reserve be established to protect the entire Khutzeymateen Valley.

The Friends have been active on several fronts in conservation and ecological research. I hope you will renew your membership and show your commitment to preserving British Columbia's natural heritage. Join us for exciting field trip explorations, and please attend our annual general meeting in April.

Trudy Chatwin

FRIENDS' BUSINESS

A Seat on the Marbled Murrelet Recovery Team

In September the Friends were invited to join the Marbled Murrelet Recovery Team for the second phase of its work. The Committee on the Status of Endangered Wildlife in Canada (COSEWIC) registered the species as threatened in April 1990, and the recovery team was established by the Canadian Wildlife Service to ensure that the poorly-understood seabird's population does not decline, by improving data about their numbers, habitat use and the factors in their mortality and by establishing guidelines for the protection of murrelet habitat. The team is composed of forest company, government and environmental representatives.

In its first phase the team prepared a Draft National Recovery Plan for the Marbled Murrelet. Western Canada Wilderness Committee representative Dennis Kangasniemi underlines that the team did *not* endorse the Ministry of Forests' February 8, 1991 memorandum, *Interim Recommendations to Protect Marbled Murrelet Nesting Habitat.*

In November I attended a one-day Marbled Murrelet research workshop in Vancouver. We heard reports from many of the field workers, including Alan Burger, Irene Manley and John Kelson. I believe our support of these dedicated but funding-strapped researchers has helped them make significant contributions to knowledge of the forest-nesting sea-bird.

In its second phase, the team is supposed to shift from general to specific murrelet habitat issues, and we hope to be able to send a representative to future meetings to provide advice on conservation and research efforts.

Please contact me if you are interested in finding out more about the recovery team, in reading its report, or in assisting with our research initiatives.

Trudy

Towards a Megin River Biodiversity Study

The Megin River drains the largest (24,300 hectares) pristine watershed remaining on Vancouver Island. The Friends are committed to the protection to this biologically diverse and productive area in the heart of Clayoquot Sound. (See the article on Peggy Frank's and my explorations of the watershed in the August 1991 *F.E.R. Newsletter.*)

Last year we commissioned Jim Darling to coordinate a biodiversity study of the Megin. He is summarizing information and writing up the

material he has gathered in a report he will submit this month. Peggy and I continue to write up our vegetation plot data and wildlife observations in our spare time.

We are trying to organize a multi-conservation group workshop to plan the research and conservation strategy for the Megin watershed. Lorna Walsh of the Clayoquot Biosphere Project, Adrian Forsyth of Conservation International, Jim Darling and FER executive will plan the strategy. The Clayoquot Biosphere Project plans to set up research cabins in Clayoquot Sound for use by incoming researchers and year-round naturalist observers.

I would like to see an ecosystem mapping project completed for the entire Megin watershed. This would involve mapping and inventoring all the vegetation communities. The map could be used as a base to overlay research observations of wildlife or other features. The ecosystem map and observations would contribute to an understanding of some wildlife / forest-habitat relationships and could be used as a base for determining sample sites in many different types of research. I estimate the ecosystem mapping project would cost between $10,000 and $15,000. Should you feel inclined to contribute to an original and urgent forest research project, please forward a contribution to F.E.R. with a note directing it to Megin Research. Thanks!

Trudy

Political Notes

Since the summer I have corresponded with three politicians over various environmental concerns and initiatives. Their three replies suggest that we have as much biodiversity within the political community as in an old forest.

The first letter was addressed to then-B.C. highways minister Rita Johnston, expressing a concern about the destruction of some of our last Garry oak parkland with the expansion of the new Island Highway. Her reply arrived in a thick white vellum envelope with embossed letterhead. It began "Dear Madam," and reassured me that the Honourable Minister would recommend to the engineers that they relocate any trees in the way. (They relocated Rita Johnston instead.)

The second correspondence followed on a meeting with Canada's Minister of State for the Environment, Pauline Browes (PC - Scarborough Centre). She had gathered a collection of "grass roots" spokespersons to suggest how to implement the Green Plan. With one hour between meetings in Calgary and Whitehorse, she allowed the fifteen or so of us to air our views. Representing the Friends, I suggested she create new national designations such as Natural Monuments, as suggested in the IUCN, to protect areas for their ecological uniqueness and significance; areas that do not fall into national park categories and are not protected by the province for one reason or another. Back came her letter, in a modest envelope, on recycled paper, with only a little bit of gold. It began, "Dear Mr. Penn." Obviously I made a great impact. She assured me that our issues, concerns and recommendations had been noted. I imagine that it will also be noted the last day a grizzly bear or Garry oak is spotted in British Columbia.

I penned a passionate plea to Dr. Bob Brown, an Independent Green in the Parliament of Tasmania ever since his campaign that saved the Franklin River, the great unlogged watershed in Tasmania. I met him briefly after a lecture in Scotland three years ago. I wrote to ask if he would come and speak in B.C. on behalf of the Friends and meet with some of our politicians to discuss his experience with resolving conflict between the extraction industries and the environmental lobby. Back came his letter, in an old envelope on the back of a redundant legislative memo. In his own handwriting he replied, "Dear Briony, I would love to join you in B.C. in March, but that is also the date of our Tasmanian election — forced over the Labor Government's determination to log more than 1 million hectares of the island's native forests. May I keep the invitation open until the political air clears?"

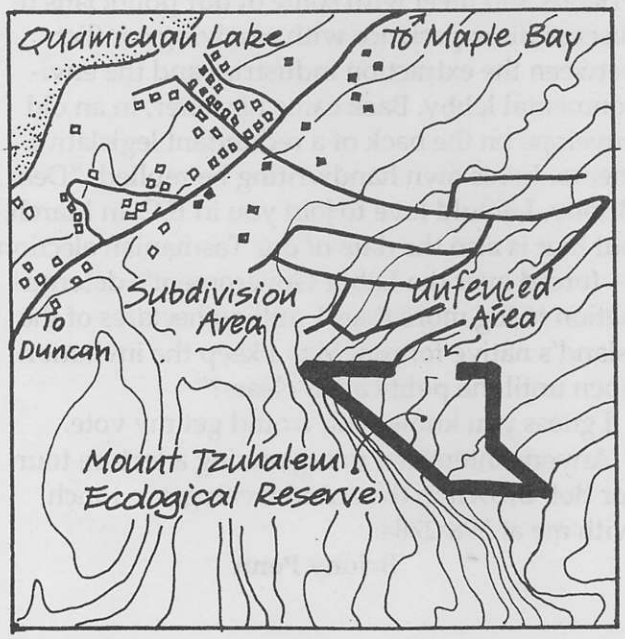
I guess you know who would get my vote.

Anyone interested in organizing a lecture tour for Bob Brown in the autumn can get in touch with me at 598-2784.

Briony Penn

Mt. Tzuhalem Fencing Stalled Again

Curses! Foiled again! Usually it's the villain who says that. But that's what we're saying after watching our ongoing fencing project for the critically vulnerable (to dirt bikes and such) Garry oak woodland Mt Tzuhalem Ecological Reserve get sidetracked for a second year, even with the support of the B.C. Conservation Foundation and of B.C. Parks' zone staff and who knows what-all other inducements to get the job done. The north side of the ecological reserve, near Duncan, requires 900 feet of 7-foot chain link fencing (most of it already purchased and sitting in BC Parks' Malahat district warehouse) and gates impassible to bikes, to close the reserve to all but foot traffic — especially if, as planned, a subdivison creeps even closer to the reserve than at present. Modifying the ecosystem even more is the Scotch broom. Broom covers whole parts of the reserve — and good-bye spring flowers. Warden Syd Watts held two work parties last fall to cut and haul broom. But the north side of the reserve is as exposed as ever.



No question it's a daunting task, with 90 to 100 post-holes to drill in granitic rock, hauling a rock drill and compressor and ensuring they don't leave traces. We'd be happy just getting a labour crew assigned by the Environment Youth Corps. But the project also needs a good supervisor. We've even considered running our own ads —

HELP WANTED

FENCING SUPERVISOR for 12-week project in Duncan area, to work with crew of young people in work-readiness and experience program with classroom and field components. Requires extensive background with rock drill use in rugged terrain, excellent work-site safety record, success at training youth in safe use of heavy equipment, environmental protection and similar topics, plus knowledge of chain link fence-building.

The Friends would be willing to pay a premium over the EYC's standard $12 an hour to get a well-qualified supervisor.

Will someone with patience and perseverence undertake the paper- and phone-work for this project? Please call 595-4813.

Peter Grant

New Name

Log, n. .... permanent record daily made of all events occurring in ship's voyage including rate of progress....

We hope you like the newsletter's new name.

Our Log charts, metaphorically, the progress of the B.C. Government in completing the ecological reserves system and fulfilling its mandate to protect representative and unusual ecosystems.

The name is also richly symbolic. To Briony Penn, whose illustration of a nurse log graces our masthead and inspired the name, the image of the nurse log suggests at once:

¶ the nurturing, self-sustaining spirit of the ancient forest, which happens to be one of the Friends' principal interests;

¶ the intact forest's genetic diversity, which ecological reserves conserve and protect;

¶ the log's fertile wood/soil, productive ground for new trees and new ideas — the research projects we support.

We invite your comments and suggestions for further improvement of our newsletter.

Peter Grant

Applications for Funding Under F.E.R.'s Research Program

The Friends welcome applications for research funding. To be endorsed by the society's Annual General Meeting, applications should be received by April 20. The Friends' research budget is, unfortunately, constrained to remain within last year's total of about $4,500. With more outside funding, we will be able to increase our budget.

Successful applications will be well-grounded in several of these areas:

1. Relevance to ecological reserves, their establishment, protection and management;
2. Research focus on species or ecosystems in existing and proposed ecological reserves;
3. Scientific merit;
4. Need;
5. Previous involvement in ecological reserves — in research or in the cause;
6. Good working relations, timely reporting.

Membership Renewal Time

To ensure you continue to receive news of the Friends' activities, please complete the membership renewal form on the inside back cover and send us your dues. We'd like to know if you're able to undertake volunteer work, too.

The Friends' Annual General Meeting

Saturday, April 25 at 5:30 p.m.
2238 Arbutus Road, Victoria
(at bottom of shared driveway, entrance opposite Ebony Terrace sign)

The Friends' 1992 Annual General Meeting will be at Henry and Valerie Bauld's home, after the field trip to the Oak Bay Islets. We will review the past year's accomplishments, assess upcoming projects and conservation directions, set our budget for 1992 and elect the society's officers.

Any member is welcome to stand for director and have a voice on the Friends' decision-making body, the board of directors.

The meeting will be followed by a potluck dinner, to which you are invited to contribute.

If you need to billet please contact Henry Bauld at 721-5962 or Trudy at 592-3559, and we will find you a place to stay.

"Thanks!"

To The Friends' Helpers and Supporters

First, those volunteers who have served our members so well by sending out receipts and membership cards, updating the membership rolls, handling incoming mail and the other necessities of running a society:
Marg Jeal, pioneer computer mail-list manager, and **Josette Wier**, who has managed our computer mail-list of late; **Wilf Medd,** the Friends' membership secretary for nigh on five years, and **Audrey Woodward**, our current membership secretary.

Other Friends who have recently pitched in: **Will Smith, Brian Saunders and families**, who telephoned most non-renewing members last summer, rescuing a few from limbo; **Pen Brown**, with dazzling skill at newsletter mailing.

Next, to our donors:

For contributions of $50 or more:
Bryan Bass, Maple Bay, **Beryl Borris**, Victoria, **Melda Buchanan**, Comox, **Jeffery Croft**, Surrey, **Helmut Heft**, Wells, **Jean King**, Fulford Harbour, **Jim Morris Environmental T-Shirts**, Boulder, Co

For contributions of $100 or more:
Blake Frisby, Grand Forks ($100)
Margaret Wainwright, Victoria ($100)
J. Sachs, Montreal ($180)
H. Stevens, Vancouver ($185)
Assured Recycling, Victoria ($200)
Wendy Wedge, Vancouver ($200)
Life Underwriters, Victoria ($300)
Valley Outdoor Association, Langley, for donations of $350 the last two years.

For contributions of $500:
Nancy Braithwaite, Salt Spring Island
The estate of **Douglas Fraser,** Osoyoos, a long-time director of the Okanagan-Similkameen Parks Society, instrumental in the creation of the Hayne's Lease Ecological Reserve (#100), who made a generous bequest to the Friends. Mr. Fraser passed away in September 1991.
Virginia Grant, Victoria, who defrayed travel expenses for the Megin River exploration trip.

For a grant of $5000:
Eden Conservation Trust, Toronto, whose unflagging support for the Friends' work has kept us afloat in recent years.

To all our supporters — and to our loyal members — a big thank you from the Friends.

Programs at the Newcombe Theatre

The Sea Otters Return to Vancouver Island with Jane Watson

Wednesday, March 25

Jane Watson has for five years studied the sea otter population on Vancouver Island's northwest coast, especially Checleset Bay Ecological Reserve, supported in part by the Friends' research fund. Jane will present the results of her study of feeding ecology, population dynamics and the structure of the nearshore marine community, introducing new information about the life of the fascinating sea otter.

Hiking the West Coast Trail

Friday, March 27

David Pitt-Brooke, a naturalist at Pacific Rim National Park, presents a slide show for hikers planning trips to Vancouver Island's West Coast Trail and outlines the new limited booking system for the trail.

Excursion to Kyuquot Sound with Rupert Wong

Sunday, April 12

The co-operator of West Coast Expeditions will present an introductory slide show of this remarkable area, featuring its abundant wildlife, majestic rain forests and dynamic coastline. Like the Friends, the Newcombe Program is sponsoring a field trip to Kyuquot this summer — see below for details of ours.

Grizzlies of the Khutzeymateen Valley with Grant MacHutcheon

Wednesday, April 22

Wildlife biologist Grant MacHutcheon spent six months in the Khutzeymateen Valley each of the last three years, studying the grizzly bears with a joint B.C. Forests - Environment ministry research team. The team followed the grizzlies through their seasonal home ranges while foraging, feeding, resting and breeding. They captured and radio-collared grizzlies, and now they've put all the information together about how some 50 grizzlies use this highly-productive valley. Grant's fascinating slide presentation on the natural history of grizzlies will be interspersed with observations on the land-use issue surrounding the valley. The Friends support protection of the Khutzeymateen (Ecological Reserve Proposal # 97) as Canada's first grizzly sanctuary.

Kitlope: Portrait of a Temperate Rain Forest with Dr. Adrian Forsyth and People of the Haisla Nation

Thursday, April 30

British Columbia has some of the world's most extensive remaining temperate rain forests. The most extensive of these is in the Kitlope Valley, a biologically and geographically diverse area more than 300,000 hectares in size in the remote north Coast Mountains. The valley is a refuge for species endangered in other parts of their ranges, like grizzly bear, caribou and moose in coastal estuaries. Ecologist Adrian Forsyth visited the Kitlope in 1991, gathering information about its biological diversity for a scientific reconnaissance trip. Engaged for much of the past decade in studying the fauna of Costa Rica's Monteverde cloud forest, Adrian is now Conservation International's program director in Indonesia, and he spent last winter in Irian Jaya, working to protect its ancient rain forests. Adrian has written many articles and the Natural Liaisons column for *Equinox* magazine and ten books, notably ***Portraits of the Rainforest*** (Camden House, Ontario, 1990). He will illustrate Conservation International's support for community development as a means of promoting conservation of local environments. He will be joined by Cecil Paul and James Robertson, Henaaksiala people, of the Haisla nation, originally from the Kitlope Valley, who will speak about the biology and cultural history of the Kitlope watershed and introduce the audience to oolichan grease, a staple of their diet and basis of their culture.

All programs except the West Coast Trail and Kyuquot talks are co-sponsored by the Friends and the Friends of the Royal B.C. Museum.

All programs begin at 7:30 p.m. at the Newcombe Theatre, south end of the Royal B.C. Museum, 675 Belleville St, Victoria.

Spring Field Trips

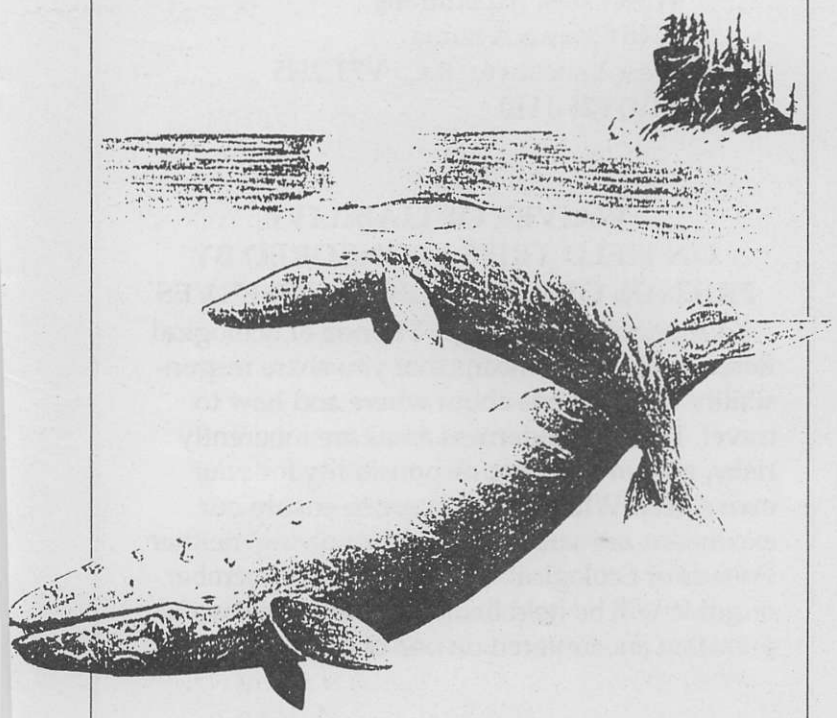
Please note the disclaimer following the listings.

Grey Whale Watching in Kyuquot Sound

March 19 to 21, March 26 to 29

Grey whales migrate north along the B.C. coast in spring, feeding in shallow water along the outer coast, often in family groups. They forage for substrate-dwelling crustaceans, using their baleen to scoop and sift the gravels. Greys are graceful giants of the sea — up to 14 metres long — and beautiful to observe. During these four-day excursions in Kyuquot Sound, **Rupert Wong** of West Coast Expeditions will lead groups on day trips through the rugged and remote west coast to beautiful offshore islands, grey whale feeding grounds and secluded beaches. The package includes comfortable hotel accommodation in the native village of Kyuquot, all meals, power boat travel, return transportation from Campbell River, outdoor and safety equipment. Cost: $460. Terms: a $150 non-refundable deposit reserves a space. Call collect or write:

West Coast Expeditions
1348 Ottawa Avenue
West Vancouver, B.C. V7T 2H5
(604) 926-1110



Pencil drawing by Marke Wong

Woodley Range

Easter Monday, April 20

Biologist **Dr. Hans Roemer** will lead this exploration of a possible ecological reserve near Ladysmith, with site characteristics very similar to Mt. Tzuhalem — a handsome oak woodland with a diverse floral community. The spring flowers should be at their height for this post-Easter jaunt. Bring lunch and rain gear and meet Hans at the Helmcken Road parking lot, at the corner of the Island Highway, at 8:30 a.m. For information, call Henry Bauld at 721-5962.

Oak Bay Islets Ecological Reserve

Saturday, April 25

All aboard for the islands and islets off the Oak Bay waterfront, where rare and endangered plants proliferate. Volunteer warden **Michael Sheperd** will guide this spring-time tour of the diverse Ecological Reserve #94. Michael, proprietor of Swiftsure Tours, will boat us about for five hours — bring your own lunch and rain gear — for just $15 a head for Friends, $20 for non-members. To register, call Henry Bauld at 721-5962. Meet at the Cattle Point parking lot and ramp, off Beach Drive, for a 9 a.m. launch.

San Juan Ridge Ecological Reserve

Sunday, May 24

Ecological Reserve #83, above the San Juan River, west of Victoria, protects a sub-alpine habitat of *Erithronium montanum,* the rare avalanche lily. These distinctive snowbed flowers bloom on the north-facing reserve, whose elevation ranges from 860 to 1040 m. Naturalist **Bart Vogelsang** will meet us at 9:30 a.m. at Duncan's Somenos pull-off (past the Canadian Tire store on the north side of the highway). Vehicles should have good clearance for logging road travel. For more information call Bart at 748-0503.

Haley Lake Ecological Reserve

June 6 OR June 13

Vancouver Island marmot researcher Andrew Bryant and volunteer warden Warrick Whitehead will guide us through the enlarged ecological reserve near Nanaimo, habitat of the endangered species, and review its population and habitat dynamics. Henry Bauld (721-5962) has details.

Spring Field Trips

Walbran Valley

June 27 and 28

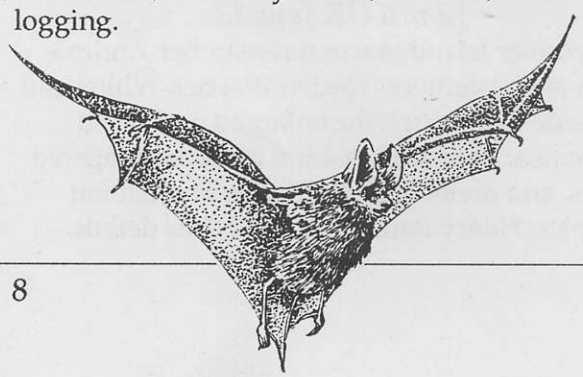
A week-end of birding and hiking in the heart of the besieged Walbran Valley. We'll camp at Anderson Lake, ecologically significant in its own right and in an area used by nesting murrelets. **Irene Manley**, our guide around the spruce flats where she and John Kelson have found two Marbled Murrelet nests, will illustrate how murrelets use old-growth forests for nesting and other purposes. Enthusiasts may want to join Irene's dusk and dawn surveys of murrelets, whose breeding season will be near its peak. On Sunday we'll hike up to Botley and Auger lakes, about three hours away, and leave the valley from there.

There are moderately rugged sections of trail, making the excursion suitable for the long and strong of leg.

Register with Peter Grant at 595-4813, or attend the orientation meeting on Friday, June 26, from 7 to 8:30 p.m. at 1151 St David St in Victoria. **Steve Sherlock** will present a slide show.

If you can't attend the orientation meeting and you're not familiar with the logging roads south of Lake Cowichan, you'll need a copy of the Western Canada Wilderness Committee's map of the Walbran and its approaches and to pay close attention to the directions. Bring tent, sleeping bag, rain gear, cooking and eating utensils, food, drinking water (*Giardia lamblia* is suspected in the Walbran), first aid, etc.

Park at the bridge on the Glad Lake Main line, 43.3 km. S of the Nixon Main line branch off the Lake Cowichan south shore road. We'll likely arrange to park some cars at the Botley / Auger trail head before hiking in. Beginning around 11 a.m. on the bridge, we will proceed to our campsite at Anderson Lake, about a two-hour hike from the bridge, for a week-end in beautiful near-wilderness, narrowly saved, for now, from logging.



Summer Special

A Week on the Wild West Coast: Kyuquot, Tahshish, Brooks Peninsula with West Coast Expeditions

July 26 to 31

West Coast Expeditions' one-week educational nature tours in and around Kyuquot Sound, based at the wilderness camp on Spring Island, earn rave reviews (see the article following). Rupert Wong and Jerry Lang are offering their friends the Friends the same deal as in past summers — up to one-third off the regular fare, depending on the size of the group. With a minimum of 17 Friends, the fare will be $535 plus 7 per cent GST each, and the discount gets bigger with the crowd (up to a maximum of 27). The fee includes five nights' tent accommodation (double occupancy), all meals, transportation from Fair Harbour (or, if needed, from Campbell River, on Saturday), all guiding and power boat transport for four full days and two half days. Terms: mail a $150 non-refundable deposit to book. West Coast Expeditions will issue a receipt and confirmation promptly and bill you for the balance a month from departure.

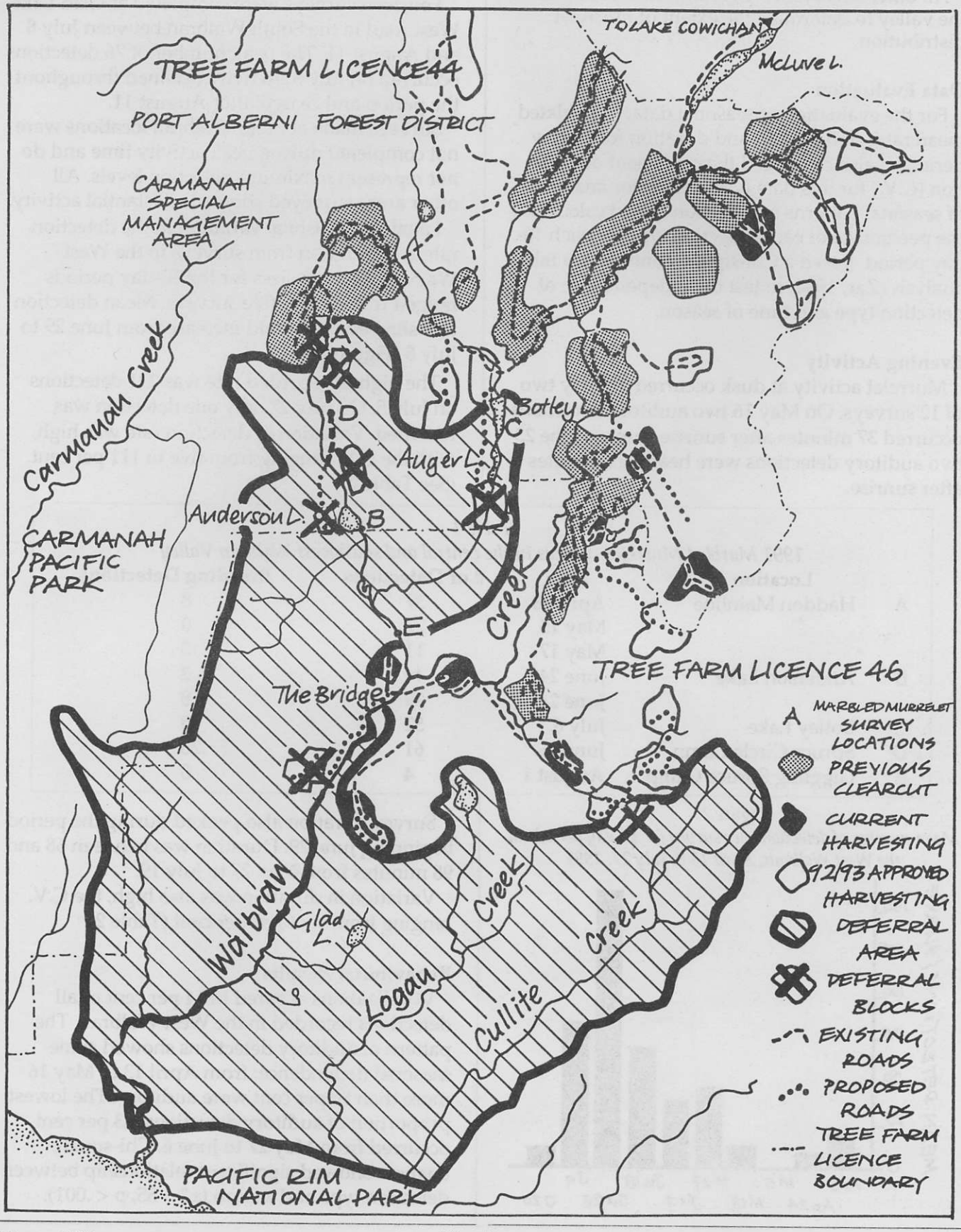
To book or for more information, please write, fax or call — collect, if calling long distance — Rupert Wong or Jerry Lang at:

West Coast Expeditions
1348 Ottawa Avenue
West Vancouver, B.C. V7T 2H5
(604) 926-1110

WAIVER OF LIABILITY ON FIELD TRIPS SPONSORED BY FRIENDS OF ECOLOGICAL RESERVES

Your participation in any Friends of Ecological Reserves field trip means that you share responsibility for decisions about where and how to travel. Trips to wilderness areas are inherently risky, and you assume responsibility for your own safety. While we take care to ensure our excursions are safe and highly involving, neither Friends of Ecological Reserves nor any member or guide will be held liable for injury, mishap or privation encountered on one of our field trips.

Figure 1
The Walbran Valley, showing the location of 1991 Marbled Murrelet intensive survey locations (key in Table 1)



Murrelets in the Walbran

All other surveys were conducted throughout the valley to determine the extent of murrelet distribution.

Data Evaluation

For the evaluation of seasonal data, I calculated mean rates of detection and duration for 10-day periods. I also calculated the coefficient of variation (C.V.) for this data (Zar, 1984). For analyses of seasonal patterns in detection type, I calculated the percentage of each detection type for each 10-day period. I used a Chi-square contingency table analysis (Zar, 1984) to test the independence of detection type and time of season.

Evening Activity

Murrelet activity at dusk occurred on only two of 12 surveys. On May 16 two auditory detections occurred 37 minutes after sunrise, and on June 23 two auditory detections were heard six minutes after sunrise.

Activity Rates

Fourteen surveys were completed at Glad Lake West road in the South Walbran between July 8 and August 11. The peak number of 76 detections occurred on July 8. Activity declined throughout the period and ceased after August 11.

Surveys made at other Walbran locations were not completed during peak activity time and do not represent maximum detection levels. All other areas surveyed showed substantial activity.

I analysed seasonal variation in the detection rate and duration from surveys in the West Walbran. Sample sizes for the 10-day periods ranged from one to five surveys. Mean detection rate showed a two-fold increase from June 29 to July 8 (Figure 2).

The highest recorded rate was 221 detections on July 5. On July 27 only one detection was recorded. Variation in detection rate was high, with the C.V. ranging from five to 111 per cent. (See Table 2)

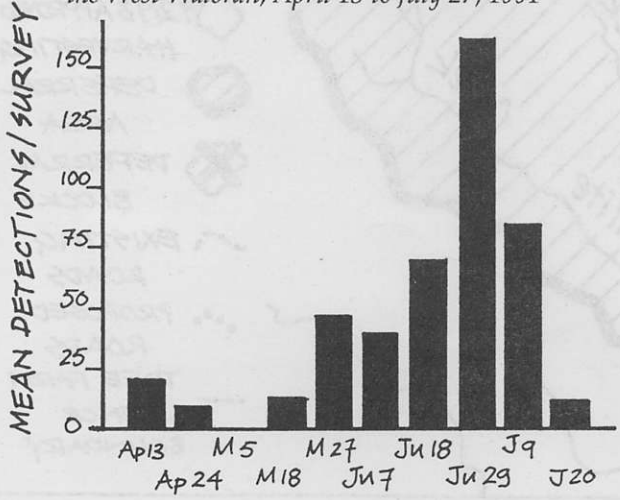
Table 1

1991 Marbled Murrelet surveys in the central and southwest Walbran Valley

	Location	Date	# of Detections	Breeding Detections
A	Haddon Mainline	April 28	37	8
		May 15	22	0
		May 17	11	0
B	Anderson Lake	June 24	44	2
		June 24	39	8
C	Botley Lake	July 6	52	8
D	Spruce Circle Camp	June 25	61	26
E	Giggling Spruce Camp	August 1	4	0

Figure 2

Mean number of detections per survey for 10-day periods in the West Walbran, April 13 to July 27, 1991



Survey duration also peaked during the period beginning June 29. Duration was between 68 and 98 minutes from May 27 to July 19.

Variation in duration was also high, the C.V. ranging from six to 82 per cent (Table 2).

Behavioural Results

Vocalizations occured in 64 per cent of all detections recorded in the West Walbran. The pattern of auditory detections showed some seasonal dependence: from April 13 to May 16 more than 80 per cent were auditory. The lowest proportion of auditory detections, 43 per cent, occurred from May 27 to June 6. Chi-square analysis showed significant relationship between detection type and season ($x2 = 55$, $p < .001$).

Table 2

Ten-day means and Coefficients of Variation for Marbled Murrelet activity rates and durations

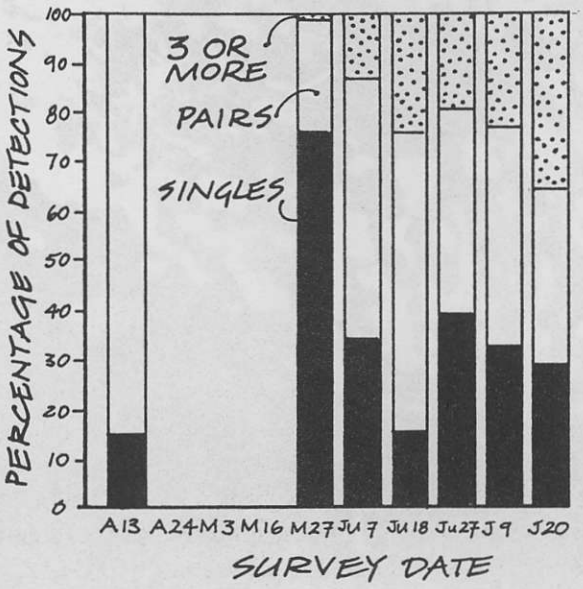
Date	# of Detections		Duration		# of Surveys
	mean	C.V.	mean	C.V	
April 13	20	45	44	50	2
April 24	8	0	-	-	1
May 5	-	-	-	-	-
May 16	12	0	22	-	1
May 27	47	27	67	24	3
June 7	39	62	83	30	3
June 18	70	4	82	5	2
June 29	162	27	98	27	3
July 9	85.6	74	71	39	5
July 20	11.3	111	33	82	3

The flight behaviour of breeding murrelets at a nest site includes singles or pairs of birds flying silently at or below canopy level, birds flying below canopy producing a buzzing sound with their wings, and birds hovering over or landing briefly in a tree branch (Singer et al., 1991). The percentage of these "active nesting" detections were calculated for each 10-day survey period.

The percentage of breeding detections was highest at 50 per cent from May 27 to June 6. The highest number of breeding detections, however, occurred between June 29 and July 8. Breeding detections also showed significant dependence on time of breeding season ($x2 = 84$, $p < .001$).

Figure 3

Proportion of Marbled Murrelet detections of singles, pairs and groups of three or more birds, for each 10 day survey period in the West Walbran



Visual detections of birds included flocks of up to eight birds. For analysis, proportions of singles, pairs and groups of three or more birds were calculated for each 10-day period. Groups of three or more birds were first observed on May 27 and increased through the rest of the season, up to 35 per cent of detections.

Proportions of pairs and singles were more variable, with pairs highest April 13 at 85 per cent and singles highest on May 27 at 75 per cent.

Group size of birds was dependent on time of season ($x2 = 123.26$, $p < .001$).

Discussion

The presence of a peak period in murrelet activity is consistent with all other studies of this type. The timing of the period varies geographically and has been reported as July 15 in California and Oregon (Paton and Ralph, 1988; Nelson, 1989) and the last week of July in the Queen Charlotte Islands, 1990 (Rodway et al., 1991). The peak detection time reported here, June 29, 1991 is consistent with the Carmanah Valley in 1990 and 1991 (Manley et al., in press). Peak activity represented a two-fold increase in numbers of detections. Activity duration did not show such a pronounced peak but was on average 15 minutes longer. This suggests that at peak season more detections occur per minute and activity, for slightly longer periods.

Changes in the behaviour of murrelets in relation to peak activity are important for the application and interpretation of intensive surveys. The proportion of auditory detections all season, 64 per cent, was higher than the 25 >>>

Murrelets in the Walbran

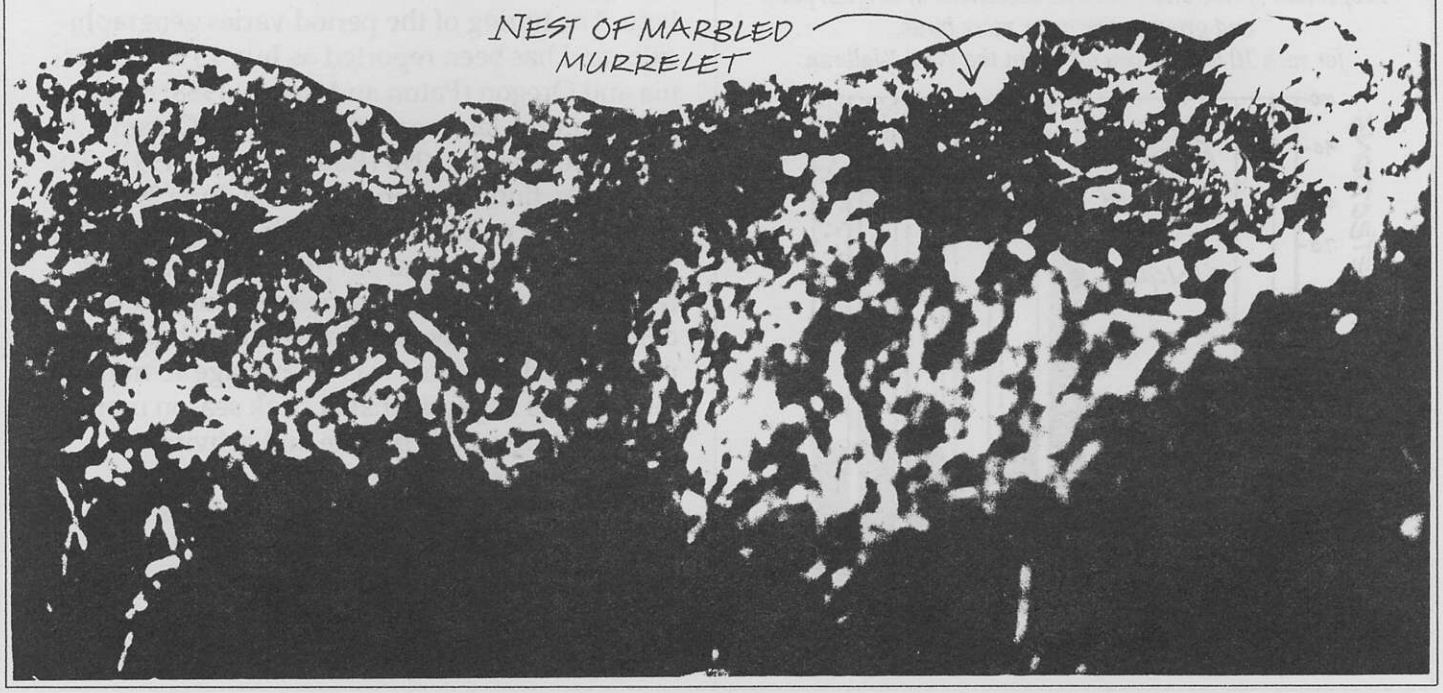
per cent figure obtained from Carmanah in 1990 (Manley et al., in press). Proportions of auditory detections did not increase later in the season as they were shown to in Carmanah last season. Such weather conditions as cloud cover may increase the proportion of vocal detections. Peak activity on June 29 was not associated with an increase in proportions of auditory detections (Figure 2).

The highest proportion of "active nesting" detections occurred approximately one month before peak activity (Figure 3). In relation to nesting chronology, peak activity is thought to occur at the end of incubation when both parents are free of the nest. Because behaviour has been observed at few nest sites, it is not known whether "active nesting" behaviours show consistent seasonal patterns related to nesting chronology. "Non-nesting" behaviours (all above-canopy flights; birds calling) could represent breeding birds in transit to or from a nest. Some may also represent juvenile or prospecting birds flying in larger groups and vocalizing above the canopy. Increased proportions of larger murrelet flocks later in the season may also represent different behaviours of younger birds. The life-history strategy of Alcid seabirds suggests Marbled Murrelets are long-lived and may not reproduce until three or four years of age.

Because murrelet nests are so difficult to find, detection rates are currently the only method land managers can use to evaluate murrelet nesting habitat. Clearly, if this method is to be used for comparing the quality of different areas, the seasonality and variablity of detection rates must be taken into account. Since activity may include non-breeding birds and birds in transit to other sites, indices that separate nesting behaviours may be a preferable method. Further study is needed to help interpret the significance of the different murrelet behaviours.

Surveys from the West Walbran show some of the highest detection rates ever recorded in North America and indicate a large population of nesting murrelets. The two nests documented in this area probably represent a small portion of a murrelet nesting population. Recent evidence from Washington, Oregon and Alaska has shown murrelet nests located within 50 to 100 metres of each other, possibly indicating a semi-colonial nesting habit. Marbled Murrelets are also known to nest in an area in successive years (Hamer and Cummins, 1991; S.K Nelson, pers. comm.).

Because murrelet research in this area has only just begun we don't know to what extent murrelet populations have already been impacted by logging. Considerable habitat loss has occurred: over half of the area of the West Walbran has been clear-cut logged in the last ten



years. On a larger scale, it is known that the Walbran and Carmanah valleys, comprising less than three per cent of the total land area on southern Vancouver Island, are the only intact area of old-growth forest remaining. These facts combine to make a strong case for the protection of this forest nesting habitat for the long-term survival of Marbled Murrelets and as a site for continuing research on this threatened species.

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Irene Manley

A student at the University of Victoria, Irene Manley will be graduating in the Honours Biology program, with a Co-op (work experience) component, in April. She started working on murrelets in the summer of 1990 as a directed studies project, and has been "working with them continuously since then." The Friends have supported her work for two years. See a previous article in the F.E.R. Newsletter, *November 1990.*

See the Calendar listings for information about an upcoming field trip to the Walbran, which Irene will guide.

Marbled Murrelet Research at the University of Victoria in 1991

Excerpted from Marbled Murrelet Research at Carmanah Valley and Adjacent Areas in 1991: An Interim Progress Report *by Alan E. Burger, Robyn Shortt and Irene A. Manley, Biology Department, University of Victoria, January 1992.*

Our research effort increased in 1991 and focused on these topics:

1) Activities of murrelets in Carmanah Valley (this report)
2) Preliminary surveys in the Walbran Valley (Manley's report, above)
3) Census surveys at sea in areas adjacent to the forest study sites (this report)
4) Finding nests and descriptions of nest sites (see Manley and Kelson in prep.)
5) Vegetation analysis of observation sites (Manley to prepare)
6) Detailed analysis of behaviour and vocalizations (data to be analysed by graduate student)

The Carmanah-Walbran-Nitinat areas are proving to be excellent sites for many aspects of research into Marbled Murrelets. With continuous unlogged forest from the sea to 22 km. inland, and an excellent network of hiking trails for access, these watersheds provide an ideal situation to investigate the spatial distribution of the species with increasing distance from the sea.

Our study in the forests of the Carmanah-Walbran-Nitinat watersheds is designed to complement the broad scale surveys of coastal watersheds undertaken by the Canadian Wildlife Service and the forestry companies (e.g. Rodway et al. 1991). The survey techniques for forest inventories have been standardized and are providing lots of data from Alaska through northern California. The relationship between rates of detections and the implied densities of nesting murrelets, habitat requirements and nesting behaviour, however, are difficult to interpret. Our study is providing data over several seasons, from adjacent forest and coastal areas which will contribute to interpreting the standardized surveys and provide information needed for conservation of the species in B.C.

Our analysis of data is still very preliminary, because all of the researchers involved are directly employed in this program only through the summer months. We hope to improve this with increased funding in 1992. We can already see several areas in which our research is providing unique insights into Marbled Murrelet biology in B.C. — in particular:

a) Comparisons of seasonal variations in detections between adjacent forest habitats;
b) Comparisons of seasonal patterns over years;
c) Interpretation of seasonal patterns from analysis of behaviour, group size, and vocalizations;
d) Variation in activities with increasing distance from the ocean, showing the range of coastal forest used by the birds;
e) Variations of detections with weather, allowing broad-scale surveys to be interpreted more accurately;
f) Correlations between the forested areas and adjacent seas in seasonal patterns of abundance, social grouping and spatial distribution.

These data will not only contribute to the overall understanding of the murrelet, but will also help to define the specific habitats required in B.C., the importance to murrelets of disputed forests such as the Upper Carmanah and Walbran valleys.

Seasonal peaks in detections between mid-June and early July were found in 1990 and 1991, and similar peaks occur elswhere. Part of the increase is attributed to an influx of non-breeding murrelets, perhaps prospecting for nest sites (Rodway et al. 1991, Manley et al. in press). This is obviously a topic requiring intensive study if the rates of detection are to be used as indices of nesting densities. We need to know what proportion of the detections are due to actively nesting adults. Our studies of seasonal and spatial variations in adjacent coastal seas, and detailed analysis of behaviour and vocalizations over the forest will contribute to this understanding.

Finally, one of our most important contributions has been the location and description of the first two intact nests of the murrelet in Canada (Manley and Kelson, in prep.). With continually improving knowledge of the bird and the habitat in SW Vancouver Island, and with continued support from experienced tree-climbers, we anticipate finding more nests in the next few years. Detailed descriptions of nest sites and surrounding habitat are critically important for a better understanding of the needs of this threatened species.

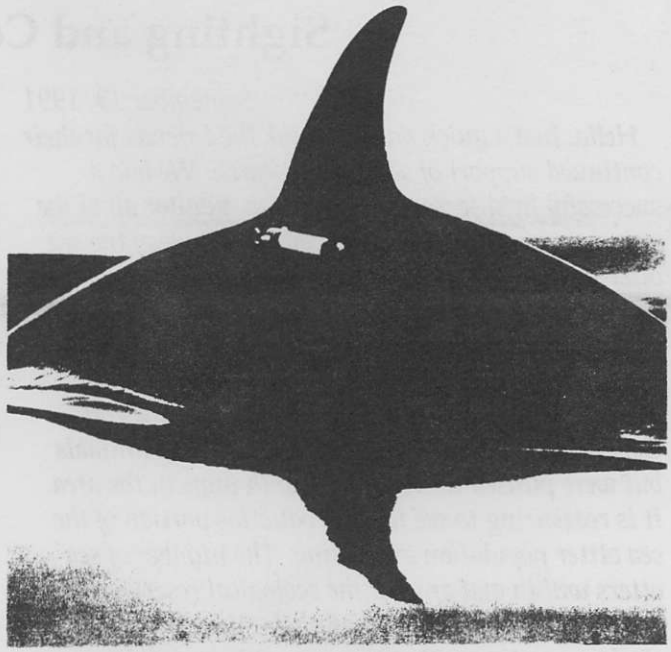
Studying Underwater Transient Killer Whales

Virtually all studies of killer whales to date have examined behaviours visible at the surface. For studying prey choice and foraging behaviour of transient killer whales we have been fortunate that transients bring many of their prey items to the surface. Since 1986, Pam Stacey of the Marine Mammal Research Group, Larry Dill of Simon Fraser University and I have been examining transient killer whale behaviour and have observed over 100 marine bird and mammal attacks. Understanding of what goes on beneath the surface has, however, remained elusive.

Those wishing to study marine mammal behaviour are faced with a difficult task. Simply finding the animals can be laborious due to the vast expanses of water and the distance individuals can move. Once animals are found, the researchers must in most cases assume that behaviour observed at the surface is representative of what goes on below. Since about 95 per cent of the time the animals are beneath the surface, this assumption may not always be correct.

Methods of observing behaviour of some species of marine mammals beneath the surface have been used for many years — including underwater viewing ports used by Ken Norris and his students studying spinner dolphins in the clear waters off Hawaii, the use of time-depth recorders and of transmitters emitting signals that vary with the depth of the animal. Both of the latter two systems involve attaching a small package to a seal or whale. To determine at which depth an animal was, the researcher must retrieve the recorder at a later date or monitor a transmitted signal via an underwater microphone. Knowledge of the depth of an animal can be correlated to water depth, to the presence of feed on an echosounder and to surface behaviour. Combined, this information provides a much broader window into understanding the lives of these animals.

In October of last year, working with Jeff Goodyear of the University of Guelph, we successfully attached a telemetry package to a transient killer whale. The tag was modified from an earlier version designed by Jeff for a study he undertook of humpback whales off Newfoundland; it attaches with a suction-cup to the whale, with a mechanism causing it to release after a pre-determined time. The whale tagged in October showed virtually no reaction to the tag, which stayed on for three and one-half hours.



Transient kller whale M9, a three-year-old female, with radio-tag, attached with a suction cup, off Victoria, October 1991. Robin Baird photo.

In 1992 we hope to increase our knowledge of killer whale behaviour beneath the surface by incorporating the use of time-depth recorders into our study, and that by this time next year we will be able to report on some of the results of this work.

Those wishing more information can phone me at 380-1925, or write me at:

Marine Mammal Research Group
Box 6244
Victoria, B.C. V8P 5L5.

Robin W. Baird

Sighting and Counting Sea Otters

September 19, 1991

Hello. Just a quick note to thank the Friends for their continued support of sea otter research. We had a successful field season. I was able to monitor all of the permanent sites in Checleset Bay, and survey the sea otter population between Brooks Bay and Ferrer Point on Nootka Island. We will complete the Nootka Island portion of the survey next week, weather permitting.

We were able to confirm a report of over 100 sea otters made by Mike Sheehan and Mike Blades off Cape Cook in Brooks Bay. We sighted fewer animals but were pleased to see females with pups in the area. It is reassuring to see the reproductive portion of the sea ottter population expanding. The number of sea otters within and around the ecological reserve appear to be stable at around 300 animals. Very conservatively, we estimate that there are at least 400 between Ferrer Point on Nootka Island and Quatsino Light.

Earlier in the year, the Vancouver Aquarium funded a trip to the central coast to confirm a sea otter sighting in the Goose Group by naturalist Damian Powers of the Hakai Recreation Area. We counted between 80 and 100 sea otters, including females with pups. All in all, the B.C. sea otter population appears to be doing very well.

The permanent sites established in and around the ecological reserve were examined. The areas recently foraged by sea otters continue to change; the successional similarities to terrestrial systems amaze me.

I shall send a more complete report of this season's work once we have finished the sea otter surveys of Nootka Island and subtidal surveys of all established permanent sites.

December 5, 1991

I had a good trip to Checleset Bay this summer, despite a few mishaps (lost all my SCUBA tanks in 250 feet of water). I managed to get everything done, and even sneaked around Brooks Peninsula to count the otters in Brooks Bay and the Klaskish. The otters are doing really well: they now form an almost continuous group from Lawn Point to Nootka Point, and are getting very hard to keep track of. It takes over a week of actual counting to do the whole Vancouver Island population, not including travel between areas.

My permanent sites are still in place and growing kelp furiously. I plan to carry on the permanent site research and counting otters after, or if, I become "Dr. Jane," so you will undoubtedly hear from me again.

When Captain James Cook arrived on the west coast of North America in 1778 in need of supplies and equipment, he was helped by the people of Friendly Cove, who traded food and sea otter pelts for iron tools. Cook's ships, minus Cook — killed *en route*, after searching unsuccessfully for the North West Passage to the Atlantic Ocean — proceeded to China where the sea otter pelts sold for handsome profit. Publication of Cook's journals in 1784 started the rush to hunt sea otters on the north west coast of America.

Exactly how many sea otters were taken in the 133-year hunt, no-one knows. But in 1911, when sea otters were finally protected, the world population was less than 4000 sea otters. In B.C., the last reported sea otter was shot at Kyuquot, in Checleset Bay, in 1929.

Thus it may have been poetic justice that led Ian MacAskie and colleagues to Checleset Bay in search of a location to reintroduce sea otters. Between 1969 and 1972, they released eighty-nine Alaskan sea otters into what was to become Ecological Reserve 109. The sea otters flourished. There are now about 700 otters in B.C. waters.

My research focuses on how sea otter foraging affects the nearshore community they live in. By feeding on sea urchins and removing those "lawn mowers of the sea," otters increase the abundance of kelp and productivity. To examine the effects of sea otter foraging, I study changes in the size and range of the B.C. otter population.

Sea otters can be counted from aircraft or boats. Helicopters are most effective, but very expensive, so most surveys have been conducted using inflatable boats (fondly known as "deflatables"). Counting an animal, the size of a German Shepherd, that lives amongst kelp and surf-washed, jagged rocks is not easy. It takes time to develop an eye that can distinguish the whiskered face of a sleeping sea otter from bristling blades of bull kelp or differentiate a distant raft of otters from a floating mat of kelp.

The process is aided by the fact that sea otters are creatures of habit. They use the same areas repeatedly, congregate in large rafts and segregate by age and reproductive status. Thus, females with pups raft together, sub-adult animals raft together, and adult males are usually solitary, occupying large home ranges which they seldom leave.

Sea otters also have daily and weather related habits. In the summer, females with pups raft up and rest when afternoon westerlies blow. Subadults, less bothered by the weather, congregate during the evening but disperse each morning to feed. During stormy weather sea otters are more likely to raft up in sheltered areas, close to shore. During the winter they seem to use inshore areas more frequently and forage offshore when the weather is suitable.

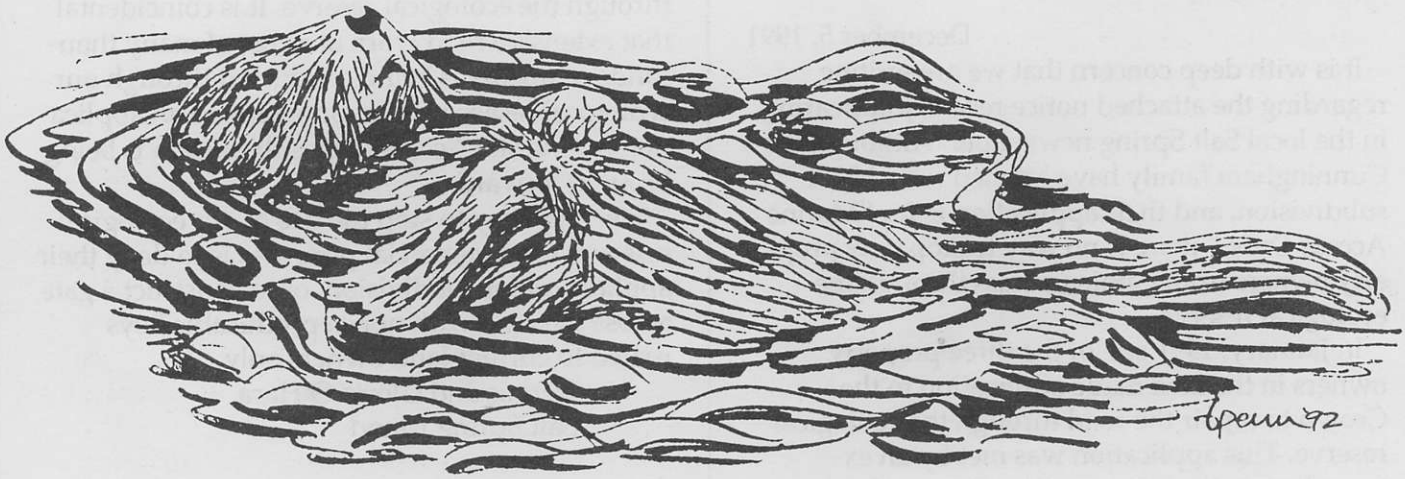
Surveys of the sea otter population can only be made when the sea is calm, and preferably when high overcast reduces glare. Ironically, the highest counts have occurred just before storms, when sea otters congregate in sheltered areas. Some of our lowest counts have been made in seemingly idyllic conditions, but when sea otters scatter to forage in offshore areas.

On Vancouver Island the geographic range of sea otters is from Estevan Point — occcasionally into Hesquiat Harbour — to Quatsino Light, with concentrations at Bajo Reef, Checleset Bay, Brooks Bay and Quatsino Sound.

Information on the population size and extent, as well as the habits, movements and seasonal use of areas by sea otters, is essential in the event of an oil spill. Knowing where to look will speed our ability to find and capture oiled animals for cleaning and rehabilitation and will allow clean up crews to remove oil from areas used by sea otters. These are sombre, but realistic reasons to make sure otter surveys continue.

Sea otters are a success story. They have increased from the verge of extinction to a worldwide population of 150,000 to 200,000 animals. In Canada sea otters are classed as endangered — an animal threatened with extinction throughout part or all of its Canadian range. In my mind, B.C. sea otters will remain endangered, at least as long as the possibility of an oil spill threatens our coast. Happily, as sea otters spread out and fill their historic range, the threat to the whole population diminishes. In the meantime, we watch, count, and hope for their continued success.

Jane Watson



The Road Through Mt. Tuam Ecological Reserve

The letter following, to B.C. Parks, refers to notice of a proposed subdivision of land near Cape Keppel on Salt Spring Island in the December 4 Gulf Islands Driftwood. *The Salt Spring Island Trust Committee was to consider an application for a zoning by-law variance to permit a property near Cape Keppel to be subdivided into 10 lots, with "marine access only" — no road frontage. Vehicle access to the property and the two others near Cape Keppel is, however, available — through Mt. Tuam Ecological Reserve (#16). Mountain Road runs southwest from Isabella Point Road, mostly on a right-of-way that provides access to the Mt. Tuam Coast Guard beacon. The B.C. Government deleted a 50-foot corridor from the reserve in the 1980s after wrestling for years with the conflict between the exclusive terms of the* Ecological Reserves Act *and a used road that predated the reserve. More recently a logging company lobbied for use of the reserve for a haul route. According to Salt Spring Island resident James Scarfo, who discovered negotiations in progress and asked to review the terms, inquiring citizen were required by BC Parks officials to prepare their response over a week-end. An ad hoc citizens' meeting drew a group of "50 or 60 people," who prepared a legal challenge to the government's apparent pro-development policy with respect to ecological reserves. The company's application was subsequently denied.*

December 5, 1991

It is with deep concern that we are writing regarding the attached notice recently appearing in the local Salt Spring newspaper. Although the Cunningham family have applied for a 10 lot subdivision, and their application is for "Marine Access Only," there is no way to stop new property owners from gaining access through the ecological reserve.

In January, 1991 one of the three property owners in the area made application to the Crown to repair the road through the ecological reserve. This application was met by an extremely negative response by concerned citizens, but permission was still granted by the Crown Lands division of your ministry.

(Following paragraph from a more recent letter to Environment, Lands and Parks minister John Cashore]

It was reported to the Islands Trust which in turn reported to the Ministry of Parks that the work being done was exceeding the mandate to "repair" the road — they were extensively upgrading the road through extensive ditching, blasting and several encroachments into the ecological reserve itself. Government representatives reviewed the road during the upgrading and elected to do nothing about it.

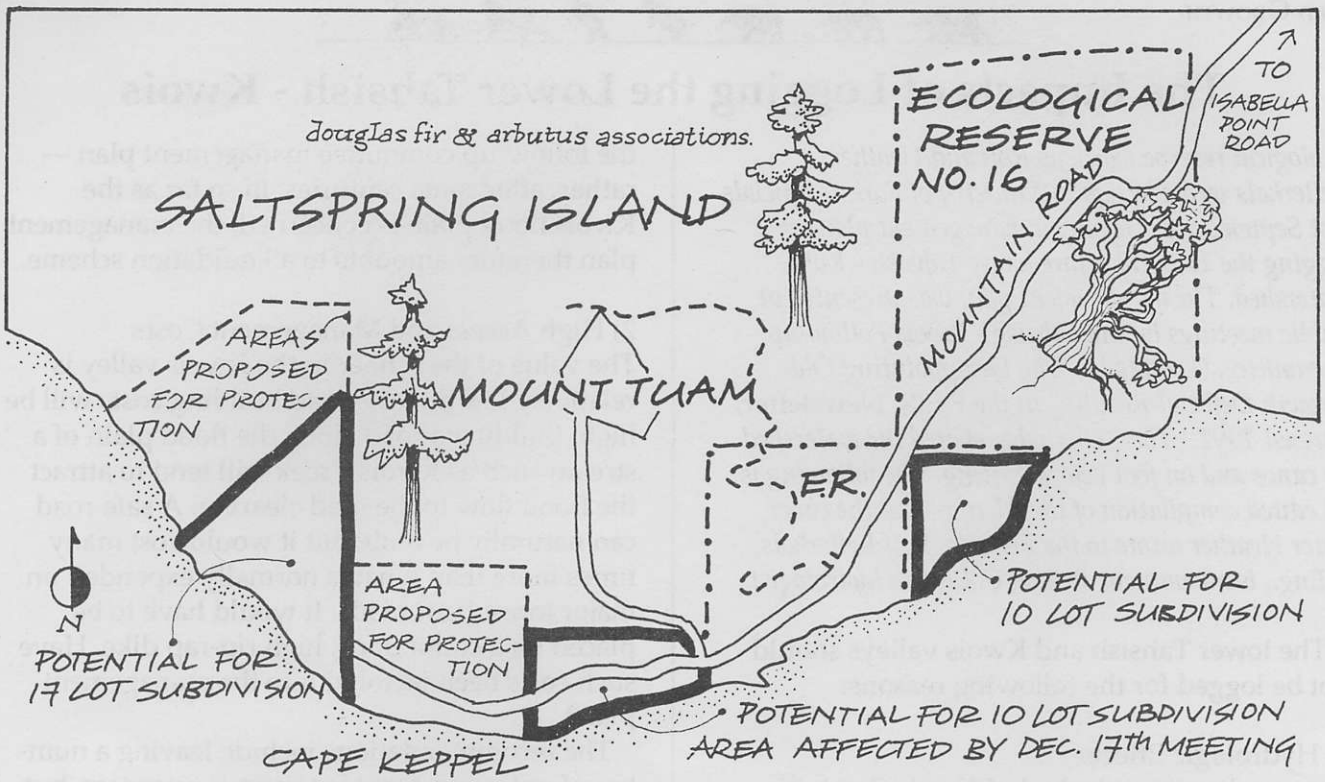
Immediately after permission was granted, the applicant, Mr. Lambert, listed his property for sale for $1.1 million [twice relisted, most recently at $1.5 million]. There is no reason to believe that he will not follow suit with an application for a seven-lot subdivision as allowed under current by-laws. The third owner in the area had his property listed for sale three or four years ago, and if so inclined could apply for an 11-lot subdivision. Each of these 18 lots would be entitled to build a principal residence and a guest cottage, thereby adding 36 buildings to an area with access through our ecological reserve.

It is not our intent to propose that these people be curtailed from subdividing their land as allowed under current by-laws. We are adamantly against any further road utilization through the ecological reserve. It is coincidental that extensive road work at a cost of many thousands of dollars is being conducted through our ecological reserve at the same time as an application for Marine Access Only subdivision is being brought forward.

The only way to stop the use of our ecological reserves for commercial purposes is to deny their application for subdivision, or to construct a gate across the road with non-reproducable keys issued to current land owners only.

Dennis and Gloria O'Hara
Salt Spring Island

Trudy Chatwin wrote to the Islands Trust at the same time to express the Friends' concern over possible use of the Mt. Tuam Ecological Reserve and to suggest a remedy:



We fear for the integrity of the ecological reserve, which protects a representative sample of the Coastal Douglas fir ecosystem. We feel that an increase in number of properties in the Cape Keppel / Satellite Channel area will greatly increase pressure to upgrade the now little used road through the Mt. Tuam Ecological Reserve.

Ecological reserves are meant to remain as natural as possible, so that they can be used as benchmarks, by which to measure change in the surrounding areas. According to the Ecological Reserves Guidebook (emphasis added): "Ecological reserves must be *permanently protected* sites to allow continuity of research over decades or even centuries." This restrictive protection is enshrined in the *Ecological Reserves Act*. We recognize that the road was deleted from the reserve to allow a few existing landowners continued access to properties beyond the reserve. Increased use of this road will further compromise the integrity of the ecological reserve through erosion, redirection of drainage, increased hunter traffic, illegal tree-cutting and other visitor' impacts.

We suggest that a gate be placed at the beginning of the reserve to allow only the existing property owners and safety-related visitors to use the road. The Ministry of Environment, Lands and Parks should undertake to guarantee that the road will not be upgraded, nor given legal status.

The application was turned down, but the problem won't just go away, according to Dennis O'Hara, who is himself a realtor and property owner in the area of the researve. Dennis and Gloria O'Hara may be contacted at 653-4101. The group James Scarfo convened is now known as the Island Watch Society. James and Kathy Scarfo are at 653-9207. The Crown Lands Use Coalition, another group Mr. Scarfo had a hand in starting, seeks to identify the best use of Salt Spring Island's undeveloped Crown lands. Last year the group approached the B.C. Government with a request to protect several sites, including two proposed westward extensions of Mt. Tuam Ecological Reserve.

Friends' director Peggy Frank attended a recent planning meeting on Salt Spring Island and affirmed the Friends' support for residents' opposition to any further encroachment on the reserve. Mr. O'Hara asks our members to write to Mr. Cashore as soon as possible, and send copies to the Islands Trust and MLA Clive Tanner. The Friends' executive are preparing a letter to the minister to discuss this and other concerns.

Peter Grant

The Impacts of Logging the Lower Tahsish - Kwois

Ecological reserve wardens Rolf and Heather Kellerhals wrote letters to Ministry of Forests officials last September criticising a management plan for logging the 11,600-hectare lower Tahsish - Kwois watershed. The management plan was presented at public meetings by the Tahsish - Kwois Follow-up Committee. (Details in "The Disappointing Old-Growth Deferral Results" in the F.E.R. Newsletter, *August 1991.) The Kellerhalss visited the watershed by canoe and on foot before writing. The following is an edited compilation of their letters and the cover letter Heather wrote to the Friends. Rolf Kellerhals, P.Eng., is an eminent British Columbia hydrologist.*

The lower Tahsish and Kwois valleys should not be logged for the following reasons:

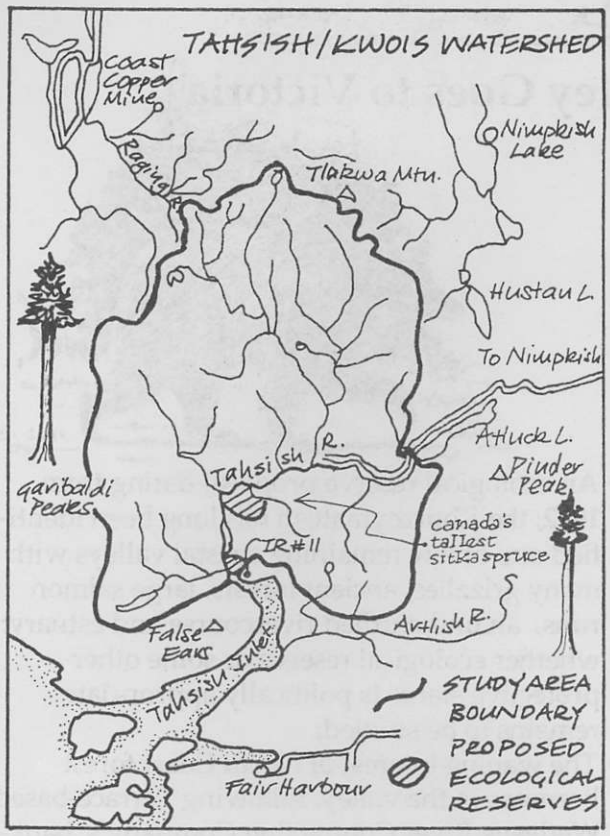
1) Hydrologic Effects
In many locations the bed of Kwois Creek is almost at the flood plain level, and it is only the mature forest of the flood plain that provides some stability to the channel. The climax forest of the flood plain must have taken centuries to develop. There is now some kind of dynamic equilibrium between the forested and active channel zone parts of the flood plain. During major floods the entire valley floor is under a significant depth of water, but the unvegetated active channel zone carries most of the flow, allowing the adjacent forest to survive. Clearcutting the flood plain will completely destabilize the channel. It will also eliminate much of the flood plain as a tree growing site. If, in such a situation, the forest is cut, the result has consistently been a widening of the rivers. On Kwois Creek, all the indications are that it will be more dramatic than at most other places. One would expect a channel zone width increase by some 300 to 500 per cent. The Elk River, upstream of Upper Campbell Lake, illustrates this phenomenon rather well. Before logging that channel was stable and only around 20 per cent as wide as it is now. There, it is true, a BC Hydro diversion aggravates the effects of clearcut logging. Eventually, the channel zone will return to its present width, but not in the 86-year rotation period of the follow-up committee management plan — rather, after some centuries. In so far as the Kwois flood plain is concerned, the management plan therefore amounts to a liquidation scheme.

2) High Access and Management Costs
The value of the timber in the Kwois valley is relatively low and the road building costs will be high. Building a road along the flood plain of a stream such as Kwois Creek will tend to attract the flood flow to the road clearing. A safe road can naturally be built, but it would cost many times more than what is normally expended on major forest haul roads. It would have to be placed on a continuous, high rip-rap dike. Have such costs been factored into the management plan?

The recommendations include leaving a number of unlogged areas for various purposes, but once logging and road building begins there is a distinct danger that Kwois Creek will become even less stable than it is now. Our experience on the Nimpkish River — one of us is a volunteer warden for the ecological reserve — shows that it is very difficult and expensive to try and protect pockets of old-growth surrounded by logged areas.

3) Impacts on Fish and Wildlife
The valley appears to have large elk, deer and bear populations in winter. With logging all around, especially the vast clearcuts in the upper Tahsish (some of the largest clearcuts we have seen on the island) there is probably not enough range for these wintering populations if the Tahsish is logged. Pocket areas set aside as winter range have not been uniformly successful — on occasion they have become little more than a "happy hunting ground" for predators.

Bird life in the river valley is rich and varied. We heard and observed both Pygmy Owls and Marbled Murrelets. Undoubtedly there are murrelets nesting on the boughs of the old growth trees, but we were there too late in the year to hear them passing overhead. Again, logging could threaten these species.



The lower Tahsish, below Kwois Creek, is characterized by a series of exceptionally deep, stable pools. There is much evidence that clearcutting and the associated roadbuilding increase the sediment supply to rivers and this in turn destabilizes the channels and destroys deep pools. Logging the Kwois Creek flood plain will send the gravel transport rates out of Kwois Creek to such levels that some of these pools will not survive, and all of them will be reduced in size. A complete change in channel morphology along this river reach is possible. The pools in the lower Tahsish are filled with young fish. One could hardly find more suitable gravels for spawning. Again, logging could jeopardize this valuable resource with the increased danger from flooding. The Department of Fisheries and Oceans has primary responsibility for matters of this nature, and we are astounded to see them approving any kind of clearcut logging on the Kwois flood plain.

4) Impacts on Tourism

The people of Kyuquot stand to benefit in the long term from leaving this river valley unlogged. Already many kayakers, fishermen and naturalists are coming to the Fair Harbour / Kyuquot area and this will undoubtedly increase.They provide the base for a truly unique wilderness canoeing / kayaking experience which would appeal to some tourist groups, who are, in our experience, generally appalled by the logging they observe around Kyuquot. While in the valley, we met another large group hiking up-river, plus a number of kayakers and boaters lower down. Below the confluence of the Kwois, the river is a series of long, often very deep pools, separated by short stretches of rapids which one can "ride" on the way down. Once logging roads are put in this wilderness value is lost and another aspect of tourism is lost to the people of Kyuquot. For the relatively small amount of timber involved and the associated high costs of road building, it seems folly to risk destroying the above values. We were amazed by the diversity, beauty, and richness of the Tahsish-Kwois river valley and we would like to think that others could repeat our "voyage of discovery."

In case any Friends are interested and don't already know, there is a very easy and pleasant way into the Tahsish via the Artlish River road. At the end is a small boat launch and from there it's only a two-km. paddle up Tahsish Inlet to the estuary. This way avoids Fair Harbour and the risk of having the car broken into while parked there, plus the way is shorter.

If anyone wants further information about access they could give us a ring at 285-3570. It would be nice if lots of people could get a glimpse of this extraordinary river.

Rolf and Heather Kellerhals

On October 15 the "Findings/Recommendations of the Tahsish-Kwois Follow-up Committee" written by chairman Darcy Yule, R.P.F., Ministry of Forests Campbell River District operations superintendent, was forwarded to ministry executive. The committee recommended a rate of cut of 64,000 cubic metres a year in the lower Tahsish-Kwois.

In January Premier Mike Harcourt announced an 18-month deferral of four cutblocks planned for logging in the Tahsish - Kwois in 1992 and 1993, in conjunction with the establishment of a Commission on Resources and Environment to plan land-use on Vancouver Island.

The Khutzeymateen Valley Goes to Victoria

The B.C. Government's three-year interagency study of the Khutzeymateen Valley is wrapping up and being prepared for presentation to Cabinet by the end of March. The Friends have watched the land-use planning process for the extraordinary "valley of the grizzlies" with the greatest interest since 1985, when we intervened in a thinly-veiled grab for its timber. (Forester Ray Travers, then a Ministry of Environment employee, blew the whistle on hush-hush government manoeuvring.) Vicky Husband raised enough money through donations to the Friends — in all, some $100,000 — to begin biology and forestry research in the valley. As part of an ongoing lobby, we opposed the Wilderness Advisory Committee's 1986 recommendation that "logging should be permitted, provided that sufficient field studies acceptable to the Wildlife Branch of the Ministry of Environment are undertaken and their conclusions are incorporated into the logging plan." We maintained that such studies should inform the decision whether to log at all. And, with such vocal allies as World Wildlife Fund Canada president Monte Hummel taking up the cause, our point of view prevailed.

As researchers Wayne McCrory and Herb Hammond compiled field data between 1986 and '88 and published their findings, our information grew considerably better-informed than the government's — and so did our confidence that logging and maintenance of grizzly bear habitat are utterly incompatible. The poster Her Child Deserves a Future, which Western Canada Wilderness Committee produced in 1987, helped focus international attention on the valley, as did Prince Philip's endorsement of protection in a 1987 speech in Vancouver. When, in 1988, the B.C. Government did initiate the recommended study, with the stated purpose of preparing an integrated resource use (logging) plan, we prevailed on the ministers of forests and environment to refine the terms, to ensure that the decision whether to log be made after the studies are complete and publicly reviewed.

Among the factors the Cabinet will now have to weigh are these:

- An ecological reserve proposal dating from 1972; the Khutzeymateen has long been identified one of few remaining coastal valleys with many grizzlies, ancient forests, large salmon runs, an undisturbed rivercourse and estuary; whether ecological reserve or some other protective status is politically appropriate remains to be studied;
- The waning interest of North Coast forest licensees in the valley, following Terrace-based Wedeene River Contracting Company's bankruptcy and buy-out by West Fraser Mills of Prince George, and continuing dim prospects for its Prince Rupert sawmill;
- The ever-growing international lobby for establishment of the Khutzeymateen Valley Grizzly Bear Sanctuary, informed by excellent television features that David Suzuki and others have produced, in collaboration with Wayne McCrory and Erica Mallam, who have also guided numerous visitors through the valley in the last six years;
- The claim of the Tsimsian Nation, recently asserted, of aboriginal title to the valley;
- And finally, the results of the interagency study itself, which affirmed the presence of more than 50 grizzlies in the valley (the results of the logging scenario and cost-benefit studies are not yet known).

The Friends wrote a letter to Premier Mike Harcourt in February reasserting our support for protection of the Khutzeymateen Valley, and Prince Philip reiterated his support during a recent visit to the province. The Harcourt government could, nonetheless, use all the encouragment our members can muster.

Peter Grant

The Prospects for Protection under B.C.'s NDP Government

An N.D.P. government gives those seeking protection for British Columbia's biological diversity cause for hope. Campaign promises to double the parks system and to log around contentious areas have begun to be translated into some action. After just five months in office, that's not bad, right?

On January 21 Minister of Forests Dan Miller and John Cashore, Minister of Environment, Lands and Parks, spelled out the first log-arounds — Walbran, Tsitika, Nahmint, Bulson Creek and the lower Tahsish-Kwois. All but one of these Vancouver Island areas have been sites of anti-logging confrontation over ancient forests. And all of these areas were reviewed first by the Ministry of Forests' public review exercise, the Old Growth Strategy, then by the Cabinet, which okayed logging in most cases.

Those who think that logging has finally been suspended in those places — or what does "log around" mean? — should take a closer look at the terms announced for some of them.

Walbran Valley

In a recent *Monday* magazine article, reporter Tom Henry and Carmanah Forestry Society president Syd Haskell compared the maps minister Miller's people gave out at the press conference with the map and information in the 1992 Walbran Interim Management Plan. Miller's map does not show the 20 areas in the Walbran currently being logged or scheduled for logging between now and 1993, of which only seven cutblocks will be deferred. *(Refer to the map on page 13, above.)* The deferred areas amount to a total of 34 hectares in TFL 46 and 73 ha. in TFL 44, leaving 312 hectares of ancient forest — in the heart the only such extensive forest remaining on southern Vancouver Island — consigned to logging in 1992 or 1993.

Five areas are of particular concern to observers Warrick Whitehead and Steve Sherlock:

1. MacMillan Bloedel Ltd. (MB) pushed the Haddon 1000 road well into a key part of what became the deferred area — the ecologically significant "spruce flats," which Marbled Murrelet researchers have identified as prime habitat — to within a few hundred metres of Anderson Lake, where a planned cutblock has been deferred. MB will be allowed to log just above the floor of the valley at the very edge of the deferred area's northern boundary.

2. MB will proceed with two cutblocks immediately north of the deferred part of the central Walbran, in the vicinity of Botley and Auger lakes. The deferred area boundary virtually touches Botley Lake.

3. Fletcher Challenge Canada Ltd. (FCC) will complete a distastrous clearcut in the immediate vicinity of Fletcher Falls, the scenic centrepiece of the entire Walbran Valley.

4. FCC has pushed the Glad Lake Main road south, deep into the wilderness on the east side of the South Walbran, where it will complete a large clearcut.

5. FCC will be allowed to log along the western edge of the Cullite Creek watershed, a hitherto untouched part of the contiguous South Vancouver Island wilderness advocates are trying to protect.

The overall pattern of logging, the *Monday* analysis concludes, is to "push right to the edge of both TFLs [44 and 46]. Once the margins are logged, the pristine values of the areas disappear, making it easier for companies to lobby for continued cutting."

Lower Tsitika

The valley-bottom Douglas fir forest in the lower quarter of this 35,000-ha valley is still under development. The log-around line that should have put everything below Catherine Creek off limits was moved right near the bight, to exclude from logging only a narrow strip above the ecological reserve lands and below the fateful Block 101. Yet Miller's map says "92-93 harvesting redirected to Upper Tsitika Valley." Vicky Husband comments: "The Ministry of Forests drew the line in the wrong place."

Tahsish-Kwois

The lower Tahsish valley got off the lightest, with all logging deferred for 18 months. NDP-voting loggers in Port McNeill aren't going to give the lower Tahsish up that easily, however.

Peter Grant

Ancient Rain Forests at Risk

Excerpted from Ancient Rainforests at Risk: An Interim Report by the Vancouver Island Mapping Project, *produced jointly by the Sierra Club of Western Canada and The Wilderness Society (Victoria / Seattle, December 1991), pp. 5, 8-9, 14-15. Map and report available for $10 (map only for $6) from:*
Sierra Club of Western Canada
314 — 620 View Street
Victoria, B.C. V8W 1J6

Highlights

1. By 1990 more than half the ancient temperate rainforest that existed on Vancouver Island in 1954 had been liquidated.
2. Every year on average since 1954, the forest industry on Vancouver Island has logged an area of rainforest roughly equal in size to Pacific Rim National Park.
3. At that rate of logging an area totalling about 24,000 hectares, all unprotected ancient forests on Vancouver Island will be liquidated by 2022.
4. Most of the low elevation, high quality forests, and equally high quality fish and wildlife habitat, already have been logged. Most of the remaining forests are highly fragmented and are located on less accessible steep and windy mountain slopes.
5. Approximately 25 per cent of the ancient temperate rainforest that existed on southern Vancouver Island in 1954 remains intact today. Virtually all remaining unprotected ancient forests on the south island will be liquidated by the year 2001.

Temperate Rainforest: A Unique Ecosystem

.... In British Columbia, the term "temperate rainforest" is not officially recognized in forestry circles. The Ministry of Forests classifies the province's forests according to biogeoclimatic zones. The rain-drenched, low and middle elevation coastal forests stretching from Vancouver Island to Alaska form the Coastal Western Hemlock Zone. Mean annual precipitation for this zone is 2228 mm, and ranges from 1000 to at least 4400 mm. For the purposes of this report, the Coastal Western Hemlock Zone represents the ancient temperate rainforest of British Columbia.....

The main tree species of the ancient temperate rainforest in British Columbia are western hemlock (50 per cent of remaining mature forest), western redcedar and amabilis fir. Douglas fir and Sitka spruce together account for about ten per cent of the remaining ancient forest. Four species are unique to the Pacific Northwest, occuring naturally nowhere else in the world.

The dominant trees in the temperate rainforest commonly survive for 300 to 800 years; some veterans are thought to approach 2000 years. Over time they develop into some of the world's tallest (95 metres) and most massive trees. Vancouver Island is where they do some of their best growing of all. Record-sized specimens of the major tree species are found throughout the west coast of the island.

Today, stands of ancient temperate rainforest on Vancouver Island can still average more than 1100 tonnes of living biomass per hectare. This is by far the most biologically productive region in Canada, and one of the best tree growing regions in the world.

Not all of Vancouver Island contains ancient temperate rainforests. A narrow strip on the east side of the island, which was once blanketed in towering Douglas firs, does not receive enough rain to qualify as a true rainforest. The ancient forests of the Douglas Fir Zone have long been favoured by the forest industry, and today only tiny fragments of this drier forest ecosystem still remain. Ancient Douglas fir trees can, however, be found throughout the temperate rainforest.

Bogs and bog forests are common along the wet outer coast. These intricate ecosystems are highly acidic and contain little dissolved oxygen. Trees, if they can grow here at all, are stunted and contorted. Other marginal forests occur on poor growing sites across the island, especially on steep slopes and low-lying coastal areas.

The higher elevation, sub-alpine forests of Vancouver Island are dominated by mountain hemlock. These slow-growing, ancient "snow forests" are quite different in conposition from the lower elevation, ancient temperate

rainforests. Very little logging has occurred in the Mountain Hemlock Zone.

In mapping the ancient temperate rainforests of Vancouver Island, we have put bog ecosystems, marginal forests and the sub-alpine Mountain Hemlock Zone into separate categories. What fragments remain of the Douglas Fir Zone were included with the temperate rainforest.

Recommendations

1. Develop a Land-use Plan for Vancouver Island

The provincial government must develop an ecologically-based, sustainable land and water use plan for Vancouver Island. This island-wide plan will address in a serious and equitable manner the economic and environmental requirements of present and future generations of Vancouver Islanders. It must ensure that forest sector workers benefit from a restructured economy, and that the natural heritage of the island is protected.

2. Re-direct logging away from intact ancient temperate rainforests

Until the new Island Plan is in place, the Ministry of Forests should grant interim logging permits to licence holders to operate in already established forest industrial areas. No road building and logging should be allowed to fragment any wilderness region identified in Table A. Perhaps nowhere else in North America can one find such examples of extensive, integrated land and sea ecosystems that are still very much in their original condition. In fact, such ecosystems are rare in all the world.

3. Protect the natural environment

To protect the natural environnment of Vancouver Island and sustain its diverse biological systems, the cornerstone of the Island Plan must be an Ancient Temperate Rainforest Conservation Strategy which would set aside intact forest systems capable of sustaining the full range of ecological conditions found on the Island. Factors to consider include old-growth forests, biodiversity corridors, soil quality, fish and wildlife habitat, water quality and riparian zones.

4. Reduce the rate of cut

The Ancient Temperate Rainforest Conservation Strategy necessarily would include a major reduction in the rate of logging on Vancouver Island to accomodate a wide range of environmental and economic values. All logging operations must be ecologically sustainable.

5. Sustain levels of employment

To sustain levels of employment in the forest industry despite the reduced rate of logging, the Island Plan must develop an economic transition strategy to provide forest workers with alternative employment opportunities and training.

6. Develop a comprehensive forest inventory

There must be a comprehensive inventory of all the forest and biodiversity resources on Vancouver Island, including fish and wildlife.

Cameron Young

Table A
Key Wilderness Arreas on Vancouver Island

South Island

Walbran Valley
Upper Carmanah
Lower Klanawa
Sandstone, Cullite and Logan Creeks
Forests bordering the West Coast Trail

Upper Nahmint Valley

Kyuquot / Brooks

Tahsish-Kwois
Power River
Klashkish River
East Creek
Nasparti River

Clayoquot Sound

Clayoquot River
Bulson River
Upper Tofino Creek
Megin River Watershed
Sulphur Passage, Watta Creek, Shelter Creek to Sydney Inlet
Vargas, Meares and Flores Islands
Hesquiat Peninsula

Shushartie River
Lower Tsitika Valley

BC Parks' Personnel Changes

The Ministry of Environment, Lands and Parks was created last November, under minister John Cashore, NDP MLA for Maillardville-Coquitlam.

The Deputy Minister is Jerry Armstrong.

BC Parks is one of six divisions in the new ministry, which has more than 2200 employees.

The Assistant Deputy Minister of Parks remains Jake Masselink.

Director of Planning and Conservation Services remains Derek Thompson. (His letter follows.)

Staff in the planning section are

Louise Goulet, manager
Ken Morrison, system planner
Laurel Nash, planning technician

In the conservation services section are

Denis Moffatt, manager
Hans Roemer, conservation ecologist
Mona Holley, conservation technician

For information about particular ecological reserves — management issues, research, volunteer warden business — consult the responsible BC Parks district office. New reserve proposals and some research matters are handled through BC Parks' regional offices.

A good reference for BC Parks' three regions and 13 districts is the map *Provincial Parks of British Columbia.*

Those Who Manage Ecological Reserves

October 31, 1991

I have always read the Friends of Ecological Reserves Newsletter with interest. I wish to acknowledge the greatly enhanced quality of the newsletter, both in content and appearance. Each new issue is an improvement on the last, and the art work is very appealing. Well done!

I also appreciate your making the extra effort to have the August edition available to the delegates of the Federal and Provincial Parks Committee / Canadian Council of Ecological Areas conference. The delegates thought the newsletter impressive, and it sparked a great deal of interest.

I would like to share one further comment with you which relates to your recent edition. We are working very hard to ensure that all B.C. Parks staff are truly ecological reserves staff. We are working as a team to improve on the ecological reserves system and provide the volunteer wardens with direct access to people at the district, region and headquarters levels. I hope that Friends of Ecological Reserves can support us in this endeavour. There are not just two people involved. Many people now have as part of their job responsibilities direct involvement with ecological reserves. These reponsibilities vary, from the new Ecological Reserves System Planner, who will spend most time working on ecological reserve related-items, through to a district office manager who will be responsible for financial commitments involving reserves and wardens.

It will help our staff a great deal if you understand the role they play, and refer to them all, rather than to one or two individuals, who in the past had an exclusive and separate role in the Ecological Reserves Program.

Thank you for your continued support.

Derek Thompson
Director, Planning and Conservation Services
Ministry of Environment, Lands and Parks

B.C. Parks' South Coast Region Ecological Reserve System Plan

February 1992

The South Coast Region of BC Parks is preparing a system plan for Vancouver Island and the Lower Mainland. This detailed plan will analyse B.C.'s existing reserves, compare the set to what is needed to complete the system and recommend specific areas BC Parks needs to concentrate on for inclusion.

The framework for this analysis has been developed from the *Ecological Reserve Act*, setting aside land for ecological purposes, including:

(a) areas for scientific research and education;
(b) areas that are representative samples of natural ecosystems;
(c) areas that serve as examples of modified ecosystems, to study their recovery;
(d) areas with rare and endangered plants and animals.
(e) areas with unique or rare examples of botanical, zoological or geological phenomena.

In the first phase of the project we will analyse existing reserves in the Coastal Douglas Fir Zone, matching the Ministry of Forests' Biogeoclimatic Zone classification system with category (b), above — representative samples of natural ecosystems. Each reserve will be examined at the site association level of the classification system.

In 1991 Parks staff initiated a study to catalogue the rare and endangered species within ecological reserves. The report will be used for evaluating category (d), above.

BC Parks requests your assistance with this plan — specifically any information regarding the above.

Judy Millar
Resource Officer

Last November the Friends met with B.C. Parks planners at the Victoria headquarters to discuss ecological reserve planning on Vancouver Island and the lower mainland. Trudy, Bristol, Henry, Peter and I sat down with Mel Turner, Judy Millar and Ric Simmons of B.C. Parks' South Coast Region. The region embraces Vancouver Island, the Coast Mountains south of Cape Caution and the Cascades.

B.C. Parks are taking an open approach to planning, and we agreed to assist them to get the word out and to solicit the input of our membership. We also expressed concern for the apparent loss of the system plan that Dr. Hans Roemer has spent so many years preparing.

Judy is reviewing the South Coast Region to identify candidate areas and zones requiring representation in the ecological reserves system. Using the Ministry of Forests biogeoclimatic classification system, she is focussing on the Coastal Douglas Fir Zone first.

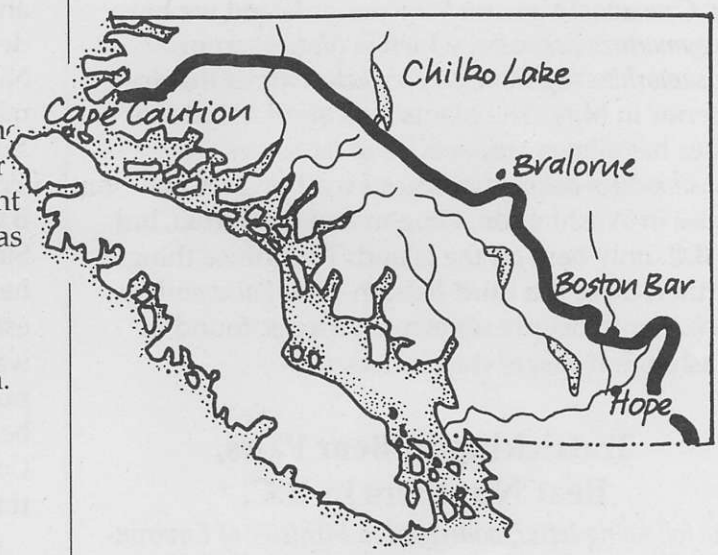
We discussed the limitations of the biogeoclimatic classification system. It was designed to help manage the farming of trees, not to account for biodiversity, wildlife and general ecology. Wetlands are not well-defined in the forest classification system, because they are not important "forest" areas. Microhabitats and variety are essential habitat considerations, yet the biogeoclimatic system focuses on similarities rather than uniqueness or transitions. Think of the number of bird species within the transition areas between forests and open grasslands. These important transition zones are avoided in the classification system. Even with these constraints, however, Judy feels the biogeoclimatic system is the best tool to use for classifying ecosystems. Certainly representative samples of the forest-related communities are important to the ecological reserve network. We also discussed the problems of accounting for rare and endangered species and species requiring habitats that span several biogeoclimatic zones.

We agreed on the need to move quickly towards establishing reserves. If you are aware of a place on Vancouver Island or the southern mainland coast where rare or endangered plants or animals should be protected, contact:

Mel Turner, Manager of Planning,
South Coast Region, B.C. Parks
1610 Mount Seymour Road
North Vancouver, B.C. V7G 1L3

Please forward a copy of your correspondence to the Friends.

Peggy Frank



Keeping tabs

No New Reserves, No New Proposals

B.C.'s roster of ecological reserves and proposed reserves is exactly the same as reported in the August 1991 newsletter — 131 reserves, 124 viable proposals.

Three Kinds of Balsam Root

September 11, 1991

I am writing to comment on an article on Mt. Tzuhalem Ecological Reserve (Field Reports and Program Notes, *F.E.R. Newsletter*, August 1991). Mention was made of Balsam Root in this reserve and Thetis Lake as being the only places in B.C. where these plants grow.

Come on! Balsam Root is quite widespread in B.C. It grows to north of Clinton. I've seen it on the Chilcotin Plateau, and certainly Kamloops has large areas with lots of these sturdy, tough plants brightening the hillsides in springtime, with their bright yellow long stemmed "daisies." We have them growing right in the city up the slopes of Peterson Creek Park.

Irene Voyer
E.R. Warden, Kamloops

Henry Bauld responds:

Irene has been spending too much time east of the Cascades! Here on Vancouver Island we have *Balsamorhiza deltoidea*, which is distinct from *Balsamorhiza sagittata*, so characteristic of the dry interior in May. The plants look similar, but the latter has silvery undersides to its leaves. *Balsamorhiza deltoidea* is found west of the Cascades in Washington, Oregon and California, but in B.C. only here on the Island. To confuse things further, there is a third Balsam-root, *Balsamorhiza hookeri*,with deeply segmented leaves, found in Washington east of the Cascades.

Trafficking in Bear Parts, Bear Numbers in B.C.

The following letter, addressed to Minister of Environment, Lands and Parks John Cashore by a long-time Friends' supporter, has been edited for publication.

November 30, 1991

As an independent bear researcher and a concerned citizen, I started a campaign in April 1990 against the trafficking in bear parts such as gall bladders, genitals and paws for the Oriental markets. My goal was to protect B.C.'s grizzly and black bears from being slaughtered and decimated for this purpose. During 1990, more than 1500 people signed a petition urging the Government of British Columbia to put a stop to the killing of grizzlies and black bears for Oriental medicinal markets, by prohibiting trade in bear gall bladders, genitals and paws and ceasing the issue of export permits for these parts. (See the *F.E.R. Newsletter*, July 1990.) Those who signed the petition expressed distaste and shock.

Your predecessors have taken some steps to quiet the public, but those steps were totally unsatisfactory. They did not redress the significant poaching problem and do not consider the unknown number of bears killed by natives.

Meanwhile, grizzly and black bear populations in most parts of British Columbia continue to shrink. Mr. Garry Grigg, the federal government's wildlife trafficking expert, was quoted in *The Vancouver Province* (August 18, 1991): "Black Bears in B.C. are under attack and at this rate they will all be gone in a few years." Grigg said the bears' biggest enemies are lax provincial laws and inadequate enforcement.

The major objective of my work during the last two decades has been to document black bear and grizzly bear distribution and population development in B.C., the Yukon and Alaska. Numbers of both have been heavily overestimated by the B.C. government. A Ministry of Environment official claimed, in Prince George in 1990, that there are 11,000 to 12,000 grizzlies in B.C. Such an estimation is unrealistically high. Since 1973, when I started my studies, the grizzly has disappeared from much of its range. An estimation of a B.C. population of around 6500 was worked out in the early 70s by highly reputed scientists. I believe the numbers of both bear species are declining rapidly in British Columbia. The number of grizzlies at the present time is probably down to 3000.

After 20 years of bear research in this country, I think that the only way to slow the dramatic decrease of our bear populations is to prohibit all trade of those special bear parts — as has been done in neighbouring Alberta, the Yukon, Alaska and other parts of Canada and the U.S..

A resolution on this matter was submitted by the Cariboo North NDP Constituency Association on May 3rd, 1990. The party response was positive. Can we get this old problem resolved?

Helmut P. Heft
Wells, B.C. / Bremen, Germany

Trees and Shrubs of the Queen Charlotte Islands: An Illustrated Guide

by Sheila Douglas

(Islands Ecological Research, 1991)

This little book is a welcome addition to a coastal naturalist's field reference library. Previously the best reference on the plants of the Queen Charlottes was a highly technical key, decipherable only by skilled botanists. Sheila Douglas has produced an understandable, informative guide, illustrated with beautiful drawings, that will help one both identify plants and understand something about the unique nature of the Queen Charlotte flora.

She writes: "The plants of the Queen Charlotte Islands — isolated from the mainland, sharing a mist-shrouded and volatile environment and possessed of an ancient botanical legacy — developed into communities as unique as the forces that shaped them."

Sheila draws on her knowlege from extensive explorations and collections to describe each plant and its respective habitat. She uses age-old knowledge from the Haida to describe traditional uses of the plants.

I particularily enjoyed the introduction. From a section describing the origins of the rainforest and its conservation: "As communities of plants and animals developed, they were molded by the unique character of the Islands.... The ridge of mountains along the west coast is a barrier lifting and catching the air-borne water drifting in from the Pacific. The Pacific 'rainforest' is aptly named, since the forests depend on the mist, rain and soil moisture for their life."

"Conservationists and foresters are now realizing that old growth forest is a much more complex and diverse habitat than previously thought. Although many of the characteristics of old growth have been formally defined, for example, the presence of dead standing snags, of fallen trees that act as nurse logs for seedlings, of a range in tree ages and sizes, the critical research on biodiversity and on ecological relationships has not been done. Issues such as nutrient cycling, critical patch size, endangered species habitat and invertebrate diversity have not been addressed. For most forest types, the simple task of counting, naming and documenting the plants and animals has not even begun."

Trees and Shrubs of the Queen Charlotte Islands is available in soft cover (100 pages) for $12.50 from: Islands Ecological Research
Box 970, Queen Charlotte City, B.C.
VOT 1SO

Trudy Chatwin

Ancient Forests of the Pacific Northwest

by Elliott A. Norse

(The Wilderness Society / Island Press, 1990)

For many years we have been labouring under the forest industry's version of our ancient forests. "Overmature" forests should be "harvested," preferably by the clearcut method, so that vigorous young plantations could flourish. Old forests were biological deserts.

Modern scientific research has overturned all this, but not much has gotten through to the public. Good summaries of this research for a general audience have been very few. Norse's book has come to fill the gap. The author, senior ecologist with The Wilderness Society, does more than that, though. His book is so thorough that few people could not learn something from it.

The first chapters are devoted to giving us a basic understanding of the subject. The next 100 pages concerns the biological values of ancient forests. Next he describes the effects of timber operations and such external threats as climate change. He concludes with a chapter on the possibilities of truly sustainable forestry, with recommendations for the future.

This summary does not do justice to the rich detail of the text. Norse, for example, devotes six pages to describe how salmon use forest streams, and why logging is so destructive to spawning. Many pages are devoted to the role of fungi in forests. Another section shows the wide genetic variation within individual tree species, and how this can be a defense against predators. Included are ten essays by various outside specialists. The bibliography runs to 22 pages.

This book is recommended for anyone with even a mild interest in forests. Ideally it would be a textbook for university courses, to promote understanding of the value of our forests andthe peril of their destruction.

Stephen Ruttan

Wildlife Species With a Degree of Dependence on Old-Growth Forests

Reprinted from Towards an Old Growth Strategy: Public Review Draft *(Ministry of Forests, January 1992), page 13, based on an unpublished study, "Biodiversity, Old Growth Forests and Wildlife in British Columbia," by* Andrew Harcombe *and* Mike Fenger, *Ministry of Environment, Lands and Parks.*

Terms employed by the ministry:

Red-listed: *endangered or threatened indigenous species — of low abundance and either* endangered *(threatened with imminent extinction or extirpation from a significant portion of their range in B.C.) or* threatened *(likely to become endangered in B.C. if factors affecting their vulnerability are not reversed)*

Blue-listed: *sensitive or vulnerable species, because of population declines, or flagged because of unknown population or distribution factors*

Forest dependent: *need intact old-growth landscapes*

Attribute dependent: *species needing such old-growth forest attributes as large-diameter dead trees and coarse woody debris, present in sufficient quantity to support that population. (Such attributes can be maintained by special stand management.)*

Full red and blue lists are in Managing Wildlife to 2001: A Discussion Paper, *Wildlife Branch,1991.*

Reptiles and Amphibians (total 8 — 1 red-listed, 2 blue-listed)

Red	*attribute dependent*	Sharptailed Snake
Blue	*attribute dependent*	Pacific Giant Salamander, Tailed Frog
Not at risk	*attribute dependent*	Rough-skinned Newt, Clouded Salamander, Ensatina Salamander, Northwestern Salamander

Birds (total 41 — 3 red-listed, 7 blue-listed)

Red	*forest dependent*	Spotted Owl, Marbled Murrelet
	attribute dependent	Flammulated Owl
Blue	*forest dependent*	Ancient Murrelet
	attribute dependent	White-headed Woodpecker, Williamson's Sapsucker, Blue Heron, Bald Eagle, Gray-cheeked Thrush (suspected), Lewis's Woodpecker
Not at risk	*forest dependent*	Vaux's Swift, Black-backed Woodpecker, Boreal Owl (suspected)
	attribute dependent	American Kestrel, Blue Grouse, Brown Creeper, Barrow's Goldeneye, Bufflehead, Hermit Thrush (suspected), Pileated Woodpecker, Osprey, Chesnut-backed Chickadee, Clark's Nutcracker, Common Merganser, Gray Jay, Great Grey Owl, Hairy Woodpecker, Northern Goshawk, Northern Three-toed Woodpecker, Olive-sided Flycatcher, Pygmy Nuthatch, Red Crossbill, Red-breasted Nuthatch, Red-breasted Sapsucker, Spruce Grouse, Townsend's Warbler, Varied Thrush, Western Flycatcher, White-breasted Nuthatch, Wood Duck, Hooded Merganser

Mammals (total 28 — 4 red-listed, 7 blue-listed)

Red	*forest dependent*	Cascade Mantled Ground Squirrel
	attribute dependent	Keen's Long-eared Myotis, Fringed Myotis, Western Small-footed Myotis
Blue	*forest dependent*	Caribou (southern populations), Roosevelt Elk
	attribute dependent	Grizzly Bear, Mountain Beaver, Northern Long-eared Myotis, Shrew-mole, Trowbridge's Shrew
Not at risk	*forest dependent*	Black-tailed Deer (in deep snow-belts), Mule Deer (forest dependent in severe winters), Moose (coastal populations, in severe winters in deep snow areas), Mountain Goat (coastal populations dependent in severe winters)
	attribute dependent	Marten (dependent in some deep snow areas), Big Brown Bat, Silver-haired Bat, Black Bear (denning), Long-legged Myotis, Northern Flying Squirrel, River Otter, Western Long-eared Myotis, Wolverine, Yuma Myotis, California Myotis, Little Brown Myotis

Developing a Framework for Old Growth Conservation

The following statement is from Toward an Old Growth Strategy: Public Review Draft, *page 29.*

An old growth conservation framework is needed to describe the overall plan of an organizational structure, as well as the research, inventory, planning, and management activities, recommended for conserving old growth values.

The goal of such a framework is to ensure that the full spectrum of old growth values is sustained for the benefit of future generations. To this end, the framework adopts two complementary approaches to old growth conservation:

- Reserves, in which the approach is to reserve provincially-representative old growth forest ecosystems in their natural state, in sufficient distribution and size to ensure that their ecological integrity is sustained and that they are capable of meeting a wide range of values;
- Management practices, in which the approach is to ensure that commodity uses of old growth forests, including timber, range, wildlife, and recreation, are managed to sustain the productivity and integrity of the ecosystems on which those commodity uses — and resource-based communities — depend.

The Old Growth Strategy Project presented its draft strategy at a series of public meetings around the province in February and March. Comments are solicited and should be submitted as early as possible. Copies of the draft strategy are available from Ministry of Forests offices. Send comments to:

Old Growth Project Office
205 — 2951 Tillicum Road
Victoria, B.C. V9A 2A6

Friends of Ecological Reserves

Membership __ Application __ Renewal

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Address: _____

_____

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I / We enclose a cheque for:

___ Individual membership @ $15 _____

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Your Comments are appreciated about the Friends' newsletter, our work and issues of special concern to you: _____

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_____

Please send news!

Friends of Ecological Reserves is a non-profit society established in 1983. The purposes of the society, outlined in its constitution, are to:

- Promote the establishment, management and maintenance of ecological reserves in British Columbia, including the acquisition of land for ecological reserves;
- Promote understanding, communication and co-operation between the people of British Columbia and the ecological reserves program of the Government of British Columbia;
- Provide interested persons and organizations with opportunities to share in the development of the ecological reserves concept and in the benefits which it may offer;
- Assist the ecological reserves program in publicising its activities, its needs and its offerings;
- Bring to the assistance of the ecological reserves program on a voluntary basis the talents and abilities of the public at large, particularly with regards to volunteer wardens;
- Undertake such other activities which from from time to time may be deemed appropriate;
- Provide an avenue for private donations to fund research, management and acquisition of ecological reserves land.

The Log

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