

# The Victoria NATURALIST

NOVEMBER  
DECEMBER  
1989  
VOL. 46.3

VICTORIA NATURAL HISTORY SOCIETY





# The Victoria NATURALIST

Published six times a year by the  
**VICTORIA NATURAL HISTORY SOCIETY**  
 P.O. Box 5220, Station B, Victoria, B.C. V8R 6N4  
 Contents Copyright © 1989 as credited.  
 ISSN 0049-612X Printed in Canada

Chair, Publications Committee: Bruce Whittington  
 Editor: Brenda Robson (477-3081)  
 Editorial Assistants: Alan Burger, Pat Freeman,  
 Thelma Landon, Patti Parish, Leah Ramsay  
 Advertising, Contents: Dannie Carsen (384-4924)  
 Distribution: Ed Coffin, Lyndis Davis, Connie Hawley

Opinions expressed by contributors to *The Victoria Naturalist* are not necessarily those of the Society.

## VICTORIA NATURAL HISTORY SOCIETY

### Honorary Life Members

Miss E.K. Lemon, A. Douglas Turnbull, Mrs. L.E. Chambers,  
 Mrs. Peggy Goodwill, Vic Goodwill

### Officers 1989-90

PRESIDENT Betty Kennedy, 592-2070  
 VICE-PRESIDENT Mike McGrenere, 658-8624  
 PAST PRESIDENT Mary Richmond, 385-0504  
 SECRETARY Reuben Ware, 385-2803  
 TREASURER Gordon Devey, 652-6879

### Directors and Committees

Ed Coffin, 592-0964 (Membership)  
 Mike McGrenere, 658-8624 (Birding)  
 Mary Richmond, 385-0504 (Library)  
 Bruce Whittington, 652-1529 (Publications)  
 Bob Nixon, 727-6630 (Parks and Conservation)  
 Richard Ring, 656-2246 (Program)  
 Dannie Carsen, 384-4924 (Program)  
 Margaret Mackenzie-Grieve, 477-2402 (Social)  
 Ann Scarfe, 477-1986 (Events)

### Other Functions

FBCN: Wilf Medd, 658-5829; Bob Nixon, 727-6630  
 Friends of the Royal B.C. Museum: Mary Richmond, 385-0504  
 Birding Trips: Lyndis Davis, 477-9952  
 Birders Night Contact: Mike McGrenere, 658-8624

### Annual Dues:

Includes *The Victoria Naturalist* and *B.C. Naturalist*.

(Through December 31, 1990)

Regular	\$17.00	Family	\$22.00
Golden Age	\$16.00	Sustaining	\$30.00

RARE BIRD ALERT: 592-3381  
 VNHS EVENT TAPE: 479-2054

## DEADLINE FOR SUBMISSIONS:

November 30, 1989

Send to: Brenda Robson  
 1818 San Lorenzo Avenue  
 Victoria, B.C. V8N 5H5, 477-3081

## Notice to Subscribers:

The January/February issue of the *Naturalist* will arrive approximately one week late (volunteers need a Christmas break, too!) Articles must still be submitted by the deadline above; however, short items and calendar notices will be accepted until Friday, December 8.

## ADVERTISING GUIDELINES

The deadline for ad submission is the 8th of the month preceding publication. Ads requiring any typesetting must be submitted at least a month in advance of publication.

Ad	Price	Dimensions
Back Page	\$150	7.25 x 8 inches
1/2 Page	\$80	7.25 x 5 inches
1/3 Page	\$50	7.25 x 3.25 inches
1/4 Page	\$40	3.5 x 4.675 inches
1/8 Page	\$25	3.5 x 2.25 inches

### Guidelines

1. Ad copy should be typeset and camera ready, not just sketched or typed on a typewriter.
2. Alterations to existing ads will cost \$10. Typesetting of complete (new) ads will be charged out at \$20 per hour.
3. Add \$7 per photo for PMT (done at Island Blueprint).
4. Advertising fees are due and payable when ad copy is submitted or as of publication date. **Save \$5 per ad by prepaying for 3 ads when copy is submitted!**
5. Please phone Dannie Carsen for details at 384-4924.

Submit ads to:  
 205 - 429 Linden Avenue, Victoria, B.C. V8V 4G2

For membership information and renewal please contact Ed Coffin (592-0964) or write to Ed c/o the Victoria Natural History Society, Box 5220, Station B, Victoria, B.C. V8R 6N4.

Members: It's renewal time. Send in those forms!

## Contents

Does the VNHS have a role in habitat conservation? by Bob Nixon .....	4
My bear by Gerry Andrews .....	5
Birds made the difference by Gwennie Hooper .....	6
The case of the "Red-tailed Vultures" by David Pearce .....	7
The Pacific Hagfish by Graham E. Gillespie .....	8
Vancouver Island Bird Report by David F. Fraser .....	12
Gadget goes to the Okanagan by Dannie Carsen .....	14
Christmas Bird Count by Mike McGrenere .....	16
The Western Canada Wilderness Committee by Dannie Carsen .....	17
Welcome to new members .....	19
Bulletin board .....	20
Calendar of events .....	22

## The artist worked fast

Our cover this month features the centre portion of a painting by Lissa Calvert, a Victoria artist and illustrator whose work is well known to many B.C. naturalists. "Grizzly and Cub," done in acrylics and measuring 32" x 48" in the original, is a portrait of the bear and its environment that conveys power and largeness in a comforting kind of balance.

As for working fast--we're just kidding, of course. Lissa, a VNHS member, tells us that she did this painting largely from memory and from sketches of a grizzly that she saw years ago in the Selkirks. Photographs were used only for reference.

"I've been painting wildlife since I was a child, as a logical development of my fascination with nature. You have to get into the bush if you want good results. I go out regularly. It's not just a matter of working from photographs. You must see the creature to get it right even if it's only for a few seconds, but it's that vivid mental image that stays with you--the animal in its own space and environment, a separate nation."

Lissa has illustrated many books for major Canadian publishers, and was also commissioned to design a series of plates and figurines for the world famous Goebel of Germany. Imperial Oil toured her "Arctic Wildlife" show to museums and public galleries from coast to coast. One of her recent paintings can be seen as part of the Carmanah *Artistic Visions* exhibit that is currently touring Vancouver Island (see page 19).



### the Pelican Pouch

Designed to hold a field guide on your hip. Also great for passport, Spanish phrase book, maps, and granola bar.  
**\$10.95**

## the field-naturalist

Natural History Specialists

1241 Broad St.

388-4174



# Does the VNHS have a role in habitat conservation?

by Bob Nixon

Last month, both major newspapers in Vancouver commissioned and then published the results of public opinion polls on the environment. The findings are significant.

We British Columbians care very deeply about the environment. Not only do we place environmental issues at or near the top of our list of priorities, but we're prepared to translate our concern into political action—how we cast our votes in elections. Politicians are learning that our environmental concerns can indeed influence their chances at the polls.

To paraphrase an economic analysis published by the B.C. Central Union in August, our politicians are quickly learning

that if they ignore our concerns about the environment, they do so at their peril. This is a new phenomenon. As well, the analysis tells us of the recognition within business circles of the need to readjust the basic structure of our economic processes.

In the area of forests, which is my area of particular interest, the analysis points to the need to re-think our reliance upon the clear-cut method of logging. Next, we are told that our business accounting systems in forestry—and other areas—must be adjusted to bring the costs of environmental degradation into the normal cost-accounting procedures. By doing this, the analysis notes, the reliance by logging companies on huge machines and techniques that harm the environment and waste potentially usable trees will diminish. In turn, the relative cost of employing people to work in the forests to do the harvesting in a manner that preserves all forest values becomes less expensive. More jobs, better all-around forest protection: what more could we ask for?

Of course, the public's environmental interest extends beyond just forests. We're concerned about liveable urban environments, preserving habitat for wildlife, etc. The list is really quite lengthy. But the message is clear: we have become a people consumed with a passion to do the right thing by our planet.

But there are two major challenges ahead. The first, as already mentioned, is to adjust economic processes. The second, and equally important, is to restructure existing institutions to allow for a constructive, leadership role by government ministries and agencies. Neither of these tasks will be easy.

In all of this, what will the role of the Victoria Natural History Society be? One school of thought suggests that the Society has three main areas of activity, each revolving around the theme of natural history: 1) recreation, 2) education, and 3) conservation. Another view of the Society's function is that it should focus more exclusively on those recreational and educational pursuits that members identify as important to their immediate interests. Birding outings, for example, are of great interest to members and on that basis the activities of the Society should focus on serving the recreational and educational needs of members as they relate to birds.

But what of the habitats, the natural environments upon which birds, and other living creatures, depend for survival? What role, if any, should the Society play in their protection? Is this none of our business as a Society? Or should the Society take a leadership role by being an advocate for the protection, enhancement and even restoration of habitats important to living creatures?

And if we decide the Society should take a leadership role—within the context of the Federation of B.C. Naturalists' motto, "To Know the Outdoors, and to Keep it Worth Knowing"—how vocal and active should we be?

The question is one that your Board of Directors is currently pondering, and input from the membership is vital. Let the board know what you think.

# My bear

by Gerry Andrews

Did someone ask for another bear story? Our interest in bears seems perennial. Experts identify three major species in North America: the common black bear (*Ursus americana*), the grizzly (*Ursus horribilis*), and the polar bear (*Thalarctos maritimus*). There are many variations. They are omnivorous, remarkably adaptable, and in cold climates tend to hibernate. Grizzlies in Alaska are among the largest carnivores on Earth, standing 10 feet high erect, and weighing over 1500 pounds.

My experience in bear country includes time spent in the southern Cariboo, the Rocky Mountains, and in rocks and muskegs east of Lake Winnipeg. Thankfully I never tried to shoot one of these animals. In 1924 two companions and I chopped our way down the Misinchinka River with packhorses, and enroute we noticed sand bars that were full of huge fresh grizzly tracks. Being short of grub and behind schedule, we had no wish to encounter those monsters, so we kept the bell on the lead horse klonking loudly all day to give Mr. Bear enough advance notice that he could withdraw with his accustomed dignity. It worked. We never saw one.

My last undergrad summer job, 1929, was as "timber cruiser" on the Elk Forest Survey in the East Kootenays. We worked in pairs running examination strips to cruise and map timber types. Direction was by compass, distance by rough chainage and elevations by Abney level. Strips averaged a mile apart and were oriented to cross contours squarely from the valley bottoms up to alpine barren, where we could see to sketch what was between strips. Our maps were drawn at 2 inches per mile with 100-foot contours. We also took sample age-diameter-height measurements for local volume and growth tables. To determine age, instead of cutting down the tree to count the rings, we used a Swedish "increment borer," a special hollow augur of hard steel. It could be screwed into the tree centre and the core withdrawn to show the growth rings. The augur fitted inside a steel tube about an inch in diameter and 20 inches long, which was clipped to one's belt when not in use. The opposite end of the augur was square to fit a square hole in the tube's centre, such that the latter served as handles to twist the augur for boring. We called the contraption an "inky borer." We carried no firearms. We didn't need them.

My compassman that summer was Davis Carey, a delightful Irishman in first year Forestry at UBC. Early June, with about four others, we had a fly camp near the headwaters of the Wigwam River at a trapper's cabin, about four miles north of the Montana Border (vicinity 49° 03'-114° 49'). The trapper was away for the summer, and his cabin had been ravaged by a bear (it was such a mess, in fact, that we chose to camp outside). One of our strips started from a traverse station on the river, elevation 4,200 ft., and ran northeasterly about two miles

up to a barren ridge at 6,700 ft. It was steep but we made good time, so delayed lunch until we could enjoy the sunshine in the open up top whence we could also sketch map detail. After lunch I told Davis to relax while I hiked not far along the ridge to a shoulder from which I could see and sketch detail up the tributary valley of Desolation Creek.

*A few moments later I looked up and there he was, about 50 feet ahead and just above. I was surprised that he did not retreat, but stood facing me. My next surprise was that it was a grizzly, and a big one.*

I followed just below the ridge for shelter from a brisk west wind. There were still patches of snow. I noticed rocks had been freshly turned over, probably by a bear looking for ants and bugs. A few moments later I looked up and there he was, about 50 feet ahead and just above. I was surprised that he did not retreat, but stood facing me. My next surprise was that it was a grizzly and a big one. His acute profile had a gaunt and hungry look. I did not panic, annoyed that he was in my way.



Gerry Andrews on the Flathead Forest Survey in 1930. He met the grizzly in 1929 about 10 miles WNW from this spot.

**EXCLUSIVE**

**DAVID SKILLAN'S**

**AFRICAN WILDLIFE SAFARIS**

<b>KENYA SAFARI</b>	<b>\$4995 per person</b>
Departure: Jan. 4, 1990	22 exciting days
<b>KENYA/TANZANIA SAFARI</b>	<b>\$5175 per person</b>
Departure: Feb. 3, 1990	

**ONLY A FEW PLACES LEFT**

Our first class, fully escorted Wildlife Safaris include 'Close-ups' of Big Game and exotic birdlife; encounters with colourful friendly people in a superb climate with magnificent scenery, sumptuous meals and some of the finest lodges and hotels in Africa—an exceptionally rewarding and memorable tour personally escorted by safari specialist and former resident of East Africa, David Skillan.

**SKILLAN'S TOURS & SAFARIS**  
181, WEST BROADWAY VANCOUVER, B.C.  
TEL: (604) 879-9377  
*"The Finest Tours & Safaris"*



I then decided to detour around below him. When I moved sideways he advanced, so I stopped and he stopped. After a couple of such moves, he was within 25 feet, and evidently agitated, head down and sort of whining. I talked to him, like to a strange dog, but decided, if he attacked, I would give him a whack on his snout with my inky borer that he would not forget.

Then, instinctively I stepped backward. He did not move. I took another step, and another. He stayed put. Gradually, still facing him, I dropped down in a depression and the ground came between us. I then retreated smartly, watching that he did not follow. When I reached Davis, he said "Gee you're white, what happened?" I said, "There is a grizzly over there--let's get the hell out of here!" We made good time down the mountain back to camp. In bed that night I really was scared, thinking what might have happened.

## Birds made the difference

by Gwennie Hooper

There was nothing to recommend that campground. Flush toilets were reluctantly opened by the ranger after we protested at the overnight fee of \$9.61. The water was newly chlorinated and not yet fit for drinking. The showers ran cold. And it rained.

A flash of white outside sent us running for binoculars. White wing patches, white underparts, maroon-red head. A Red-headed Woodpecker. Two of them! Kilen Woods State Park, Minnesota, was not so bad after all. We took a walk through the wet woods and meadows and saw two Turkey Vultures flying over at close quarters, their bare red heads plain to be seen. We spotted them again, perched on a tree, huge birds that flew off quietly at our approach. There were Baltimore Oriole, Blue Jay, Rose-breasted Grosbeak and Field Sparrow. Down by the river was a little dead tree "blooming" with Barn Swallows; an unforgettable sight. They were arranged like flowers on every branch, navy blue backs, and rusty patches on their heads. On one of the branches was a blue Tree Swallow, and on another two brown Rough-winged Swallows. This was exciting! We saw Townsend's Warbler, Black-headed Grosbeak, Brown Thrasher, Chimney Swift and Song Sparrow and heard Common Nighthawk and Ring-necked Pheasant. By the time we returned to the trailer, legs and feet soaking wet, we had seen 21 species. Gordon said there was a marvellous dawn chorus next morning. I slept through it, but I didn't care. We'd had a wonderful overnight stay. What a campground!

My diagnosis is that the bear heard me before I appeared, and when I did, he was puzzled but fortunately not belligerent. The strong cross wind prevented him getting my scent. When I moved sideways he was curious so he moved closer. My backing up was not so conspicuous, so he didn't follow. It could have been a she with a cub or two--fortunately not in my direction. All's well that ends well. We both lived to tell the tale.

One reason for the happy ending to this tale may be that I am one of those (queer?) people who have an empathy with animals. I like them and communicate with them by telepathy. I make vicious dogs ashamed of their stupid behaviour. It works with wild animals too, including *Homo sapiens*. On early morning walks the neighbourhood crows seem to know me and move aside just enough to let me pass and say, "Good morning" in crow language.

The next summer, 1930, after graduating, I was chief of the Flathead Forest Survey east of the Wigwam area. It was beautiful Rocky Mountain country and notorious for grizzly bears. We saw them but had no trouble, likely because in our work we have to shout to each other about chainage marks, Abney readings, etc. In general, bears are not aggressive if they are aware of your presence in good time.

Editor's note: Gerry Andrews is the author of a book entitled *Metis Outpost*, in which he chronicles his experiences as a young teacher opening a new school in the Peace River country in 1923-24. One chapter in the book is devoted to the trip down the Misinchinka River referred to in the early part of this article. The book contains a number of accounts likely to be of interest to naturalists. It can be obtained by contacting the author at 116 Wellington Avenue, Victoria, V8V 4H7.

## UBC team concerned about grizzlies

(reprinted from Provincial Report, September 1989)

B.C.'s grizzly bears may face the fate of their threatened counterparts in the U.S. unless people and industry learn to live with them, says a University of B.C. animal science professor. "Most of the grizzlies live right next to industries like forestry and mining, and these are the ones we obviously have to emphasize because they're on the front line," says professor David Shackleton. One of his students has studied B.C. grizzlies for a decade and hopes to determine whether bears and resource extraction industries can exist together. The study looked at grizzlies' reactions to humans and their response to seismic exploration, timber harvesting and road maintenance. The bears are snared and fitted with radio collars in order to track their movements.

## The case of the "Red-tailed Vultures"

by David Pearce

The October 8th field trip to East Sooke Park to see Turkey Vultures began at 10 a.m. under overcast skies. About a dozen members participated, and bets were laid as to whether or not any Turkey Vultures would be spotted. As leader I fearlessly accepted all bets and stated that the skies would clear and the Turkey Vultures would appear at noon. We then headed toward the ocean to see what was in the bay, and immediately saw two river otters fishing from the dock. On the beach nearby there were six Heermann's Gulls, and flying around the bay there were more than a thousand Bonaparte's Gulls. On the water there were several rafts of sea birds, including about 200 Red-breasted Mergansers close to shore, 100 Surf Scoters beyond them, 50 Pelagic Cormorants further out, and in the distance six Common Murres. We also saw 10 Horned Grebes, 10 Red-necked Grebes and six Western Grebes. In the forest surrounding the bay we saw 30 Pine Siskins and heard numerous Golden-crowned Kinglets, Brown Creepers, Red-breasted Nuthatches and Northern Flickers.

The sky rapidly cleared and at 11 a.m., in brilliant sunshine, we returned to an open meadow surrounded by forest to look for the objects of our expedition. We suddenly saw seven specks circling high above the forest and I immediately identified them as Turkey Vultures before putting a scope on them. As I was about to collect my bets, one of the group remarked, "They look rather light coloured." We then put the scope on them, and they turned out to be six Red-tailed Hawks and a Cooper's Hawk! "It's not 12 o'clock yet," I said, and I lead the group to another bay. As we crossed the meadow about 50 Water Pipits flew up and we were entertained by their calls and dancing flight for several minutes.

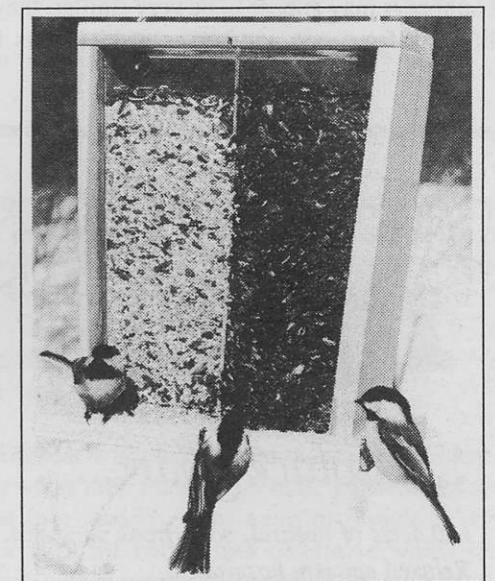
The next bay could only be accessed by scrambling down a steep bank and only four of the party decided to follow me down it. While we were watching Red-breasted Mergansers, Horned Grebes, Red-necked Grebes and Common Murres, a cry came from the top of the bank, "Turkey Vultures!" The beach party scrambled back up the bank just in time to see three groups of Turkey Vultures take to the sky. There were 19 in one group, six in another and four in the third. Three more then flew low directly overhead, giving everyone a tremendous view of their huge translucent brown wings and vulture heads. To add to the performance, two adult Bald Eagles then flew over, and we saw a Cooper's Hawk and three Band-tailed Pigeons sitting in nearby trees. The time was 11:45 a.m., and I collected my bets.

The Following Publications  
May be Ordered through VNHS:

*The Naturalist's Guide to the Victoria Region*  
(a VNHS publication)  
Members' price \$10.50  
Non-members \$11.95

*National Geographic Society Field Guide  
to the Birds of North America*  
\$23.00

Call Lyndis Davis, 477-9952



Bird Feeders and Mixes: Black Oil Sunflower,  
Jumbo, Large, Bird-Preferred Sunflower,  
Chick Scratch, Plus Many More.



3960 Borden Street Victoria, B.C. V8P 3H8  
479-2084 479-3414

Agricultural, Industrial, Garden, Pet Supplies



# The Pacific Hagfish

by Graham E. Gillespie

The Pacific hagfish, *Eptatretus stouti*, is an interesting inhabitant of British Columbia waters in both its biology and its place in the family tree of existing fishes. In some aspects of their anatomy and physiology, hagfishes resemble invertebrates (animals without backbones) more than vertebrates, and they were described by Linnaeus as "intestinal worms." Hagfishes and lampreys are the only living representatives of the Superclass Agnatha, a group of animals that made an early departure from the main body of vertebrate evolution. The hagfishes and lampreys are placed in separate Classes, Myxini for the former, and Cephalaspidomorphi for the latter. This level of differentiation is equivalent to that between sharks and bony fishes, which occupy separate taxonomic Classes. Thus, while hagfishes and lampreys may appear to be very similar, they are at least as different from one another as a dogfish is from a rockfish.

The Pacific hagfish is simple in its outer appearance. Its pinkish-purple body possesses no external eyes, paired fins, or scales, and only a modest fin fold at the tail. A series of slime pores line the belly, and twelve pairs of gill pouches open midway down the length of the body. The head of the hagfish is marked by three pairs of sensory tentacles, the mouth, and the nostril, or nasophyseal opening. During respiration, water passes from the nostril through a duct to the pharynx, through the gill pouches, and out the gill pores. The water current is driven by a scroll-like structure called the velum, attached to the roof of the pharynx. The mouth opening is under the snout, and consists of an extrusible tongue, armed with four dental plates, and a single tooth in the roof of the mouth. The maximum recorded length for a Pacific hagfish is 25 inches.

*The hagfish grips the flesh of the fish, and then ties itself in a knot by wrapping its tail over its body, and inserting the end into the loop formed. The knot is then slid up the length of the body, and the head is pulled through, tearing a plug of flesh away from the prey.*

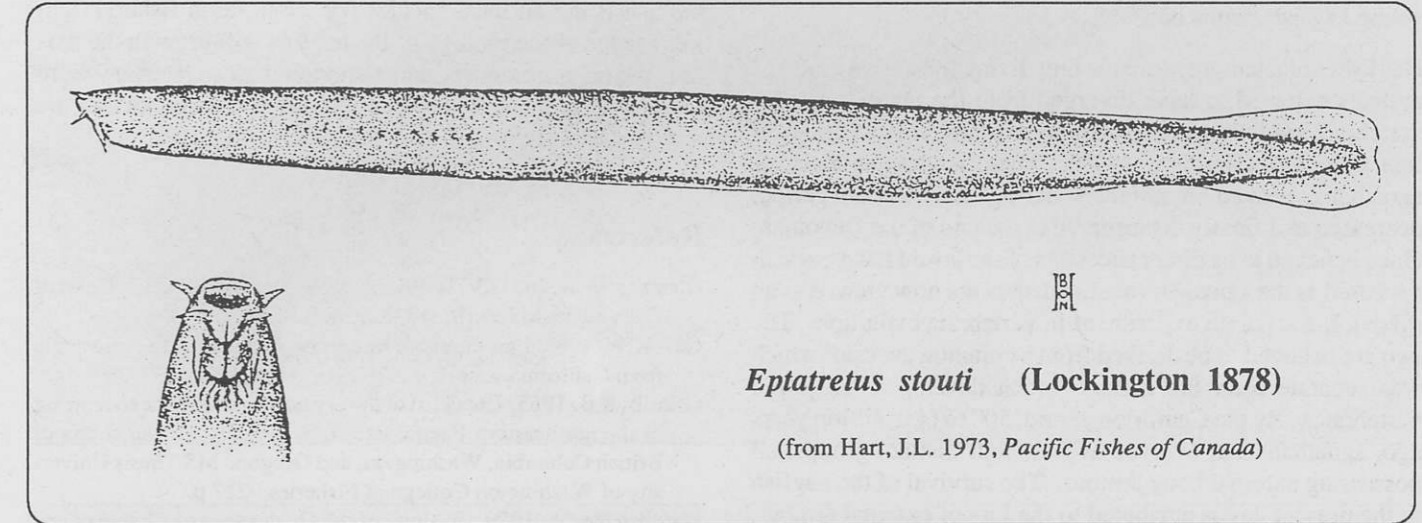
The hagfish has a circulatory system that boasts six hearts and several blood sinuses, in which the blood collects before returning to the veins. Besides the main branchial heart, hagfishes have two hearts in their head (cardinal hearts), two in their tails (caudal hearts), and a heart associated with their liver (portal heart). They possess a low pressure circulatory system, and the return of blood to the branchial heart is achieved both by the accessory hearts and the body movements of the animal squeezing the blood sinuses. Hagfish blood also differs from that of more derived vertebrates in that the haemoglobin molecules (which take up and transport oxygen) are present as monomers, or individual haem units (the iron-bearing proteins that bind to the oxygen molecules). In all other vertebrates (except lampreys) haemoglobin is present as a tetrameric molecule, with four haem units.

The hagfish does not possess the swimming ability and dental armature to make a successful feeding attack on a healthy mobile fish, and it is now accepted that they feed on moribund or dead animals. Hagfishes are considered nuisances in deep water hook, trap and set net fisheries, as they attack fishes that have been immobilized by the fishing gear. Entering by the gill openings or anus, the hagfish grips the flesh of the fish, and then ties itself in a knot by wrapping its tail over its body, and inserting the end into the loop formed. The knot is then slid up the length of the body, and the head is pulled through, tearing a plug of flesh away from the prey. The hagfish enters the hole it has created, and feeds on the soft inner tissues of the fish. A group of hagfish feeding on a large fish can literally reduce the carcass to skin and bones in a short time, and many fishermen retrieve their catch, only to find bags of fish skin filled with bones and hagfish.

Perhaps the least endearing trait of the hagfish is its ability to produce copious amounts of slimy mucous when disturbed. In the natural setting, this slime could serve to deter a predator, who would have to spit out a captured hagfish, and clear its mouth and gills of the cloying mass of mucous. Observers have also documented that slime is produced during feeding. This may be a result of the strenuous efforts of feeding, or may serve to deter other scavengers from sharing the hagfish's feast. Prawn fishermen complain that hagfish enter their traps and load them with slime, either in trying to escape, or as a by-product of feeding on the bait. The clinging mucous prevents

and the actual compliment of twelve pairs in *stouti* arises because the species that typified the genus, *Eptatretus dombeii*, possessed seven pairs of gill apertures.

Many common names have been reported, including hag, hagfish, Pacific hagfish, California hagfish, common hagfish, lamperina, slime-hag and slime-eel. The Pacific hagfish was first taken in British Columbia waters off Vancouver Island in July, 1898 (Clemens and Wilby, 1946). Its recorded range is from southern California to southeast Alaska, overlapping the distribution of the black hagfish, *Eptatretus deani*.



*Eptatretus stouti* (Lockington 1878)

(from Hart, J.L. 1973, *Pacific Fishes of Canada*)

the trap from fishing, and is difficult to remove. While the slime is nearly impossible to wash or scrape from the traps, boat deck, or other equipment, recent observations have shown that the mucous breaks down in direct sunlight, and may be easily washed away once dry.

The Pacific hagfish was first described by Lockington in 1878 as *Bdellostoma stoutii* (sic), from the Eel River in California. While the description is most likely that of a hagfish, and not an ammocoete (larval lamprey), the locality and related fishery information are suspect, as hagfishes do not enter fresh water. The name *Polystotrema stoutii* was used in the literature from 1881 to the 1960's, when *Eptatretus*, a generic name debated since 1901, was accepted (Grinols, 1965). The current scientific names are from the Greek (*hepta* (= 7) and *tretos* (= perforation), and in honour of Dr. Arthur B. Stout, former corresponding secretary for the California Academy of Sciences. The historic generic names are from the Greek *bdella* (= sucker) and *stomatos* (= mouth), and *polystos* (= superlative of many) and *trematos* (= hole). The references to holes and perforations pertain to the number of gill apertures. In some species of hagfish, there may be as many as 15 pairs of gill openings, but in the Atlantic hagfish, *Myxine glutinosa*, the gills discharge water from a single external pore. Since *M. glutinosa* was the first hagfish described, it served as the point of reference for later species descriptions, and the greater number of gill openings was noteworthy. The discrepancy between the seven openings implied by the name *Eptatretus*

McInerney and Evans (1970) reported catching more than 200 hagfish in one day in Barkley Sound, on the west coast of Vancouver Island. The hagfish were trapped in water of high salinity and low dissolved oxygen, and over a silt and clay bottom. Though normally found in deeper water, these hagfish were captured at 20 fathoms, and they were observed swimming at the surface at night.

Hagfish appear to be undecided as to their sexual identity. Most adults possess both male and female gonadal tissues, though they are functionally either male or female. The relative proportions of the two tissues determine which sex will be functional, with antagonistic hormonal effects rendering sterile those animals with equal proportions of testes and ovary. It is not known whether hagfishes were ancestrally hermaphroditic (functionally both male and female) evolving towards two separate sexes, or vice versa (Hardisty, 1979). Little is known about the seasonality of the breeding cycle, but females often have eggs at several developmental stages in the ovary at the same time, and recent estimates of fecundity indicate that hagfish may produce only 10 eggs per year. The Copenhagen Academy of Sciences offered a cash prize for information on the reproductive habits of the Atlantic hagfish *Myxine* in 1854, but it remains unclaimed.

Hagfishes lay their eggs singly in distinctive egg cases, which Cox (1963) described as resembling "small, yellow cocktail sausages, about 25 mm long and 10 mm wide." The cases are

**Yellow Point Lodge**

*A place apart...*

- ~ 180 acres of natural, oceanfront parkland.
- ~ Relaxed country hospitality.
- ~ Fine home cooking.
- ~ Beach sauna and hot tub.
- ~ Salt water swimming pool.
- ~ 5 miles of walking and jogging trails.
- ~ Tennis courts, volleyball, badminton, canoes, row boats, ping-pong.
- ~ 1 mile of waterfront with secluded coves and beaches.

R.R.#3, Ladysmith, B.C.  
VOR 2E0  
604 • 245 • 7422



semi-transparent, and the colouration is due to a large bright yellow yolk. The ends of the case are marked by tufts of 30 to 40 threads, each tipped with minute hooks. The hooks resemble miniature long-stemmed mushrooms, with the caps split into three to six lobes. When the tufts of two egg cases come into contact, the stems of one set of hooks fit into the notches in the caps of the other set, locking the eggs together. Within the apical tuft at the end of the egg case is the micropylar funnel, the opening through which the sperm may penetrate the case. There is a slight indentation which runs around the egg case near this end, and when the egg is ready to hatch (after about six months), the egg case opens along this seam, and the young hagfish swims out.

Hagfishes and lampreys are the only living forms of a group of animals believed to have diverged from the main branch of vertebrate evolution in Pre-Cambrian times, at least 600 million years ago (Hardisty, 1979). These jawless animals, or agnathans, peaked in numbers during the Silurian period, decreased and finally disappeared at the end of the Devonian. Once believed to be direct ancestors of the jawed fishes, which appeared as the agnathans declined, they are now viewed as an offshoot, a separate experiment in vertebrate evolution. The two are believed to be derived from a common ancestor which was separate from the lineage which developed the jawed vertebrates. By the Cambrian period, 500 to 600 million years ago, agnathans had evolved at least four distinct groups, all possessing external bony armour. The survival of the hagfish to the present day is attributed to the loss of external armour, and their reliance upon a burrowing habit to evade potential predators. The regression in the development of the eye, loss of external armour, lack of pigment in the skin, and reliance on tactile and olfactory senses are viewed as adaptations that allowed these animals to avoid competition with the developing jawed vertebrates which competed with and ultimately replaced their relatives in other niches.

The hagfish is relatively unknown, having been largely ignored by all but a few researchers and annoyed fishermen. Until

recently, only Japan carried out commercial fisheries and exploited hagfish for human food. New interest has developed in North America due to a fishery for hagfish, which are processed to make "eel-skin" leathers, used to make purses and wallets. To prevent the hagfish from biting each other, and thus damaging the skins, the catch is narcotised with a fish anaesthetic, rendering the flesh useless as food.

The little that we know about hagfish suggests that they are opportunistic scavengers with few known predators, and that they are well equipped to compete successfully for food. If we assume a low natural mortality and limited fecundity, the hagfish is not an ideal species for a long-term fishery. Our knowledge of the biology of the hagfish will grow in the next few years, as scientists and fisheries managers try to learn enough about these mysterious animals to ensure that they are not over-exploited.

### References

- Clemens, W.A. and G.V. Wilby. 1946. Fishes of the Pacific Coast of Canada. Fish. Res. Board Canada Bull 68. 368 p.
- Cox, K.W. 1963. Egg-cases of some elasmobranchs and a cyclostome from California waters. Calif. Fish Game 49(4): 271-289.
- Grinols, R.B. 1965. Checklist of the offshore marine fishes occurring in the northeastern Pacific ocean, principally off the coasts of British Columbia, Washington, and Oregon. MS Thesis University of Washington College of Fisheries. 217 p.
- Hardisty, M.W. 1979. Biology of the Cyclostomes. Chapman and Hall Co., London. 428 p.
- Hart, J.L. 1973. Pacific Fishes of Canada. Fish. Res. Board Canada Bull. 180. 740 p.
- Jensen, D. 1966. The hagfish. Scientific American 214: 82-90.
- Lamb, A. and P. Edgell. 1986. Coastal Fishes of the Pacific Northwest. Harbour Publishing Co. Madeira Park, B.C. 224 p.
- McInerney, J.E. and D.O. Evans. 1970. Habitat characteristics of the Pacific hagfish, *Polystotrema stouti*. J. Fish. Res. Board Canada 27(5): 966-968.

## Audubon Calendars for 1990

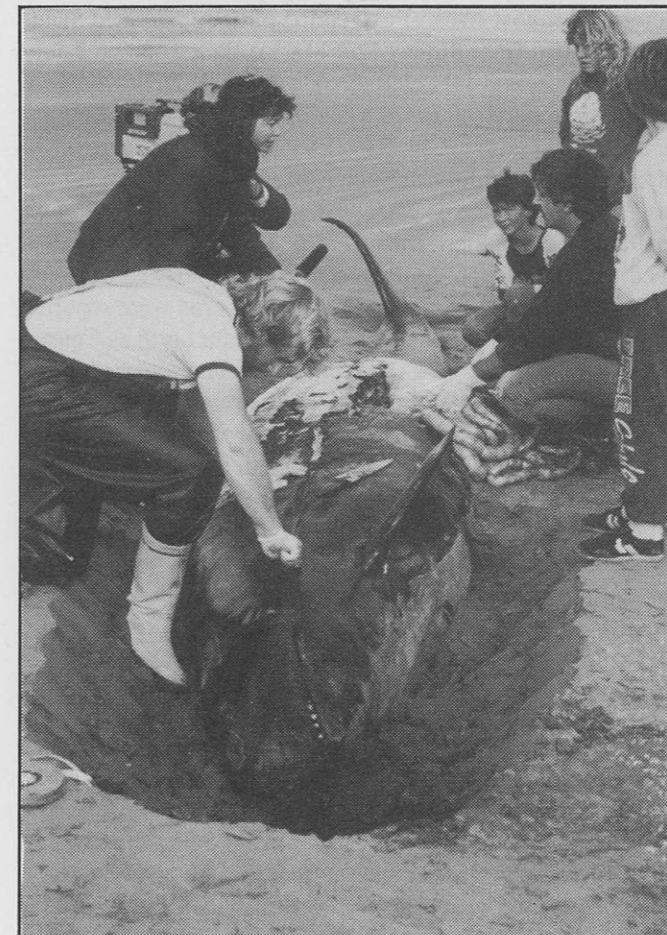
Wall Calendars (\$12.50 each)

- Wild Animals
- Sea Life
- Nature
- Wild Birds

Engagement Calendar (\$13.95)

at  
**Bolen Books**

Hillside Centre  
#16 • 1644 Hillside Ave  
Victoria, B.C.  
V8T 2C5 • 595-4232



A false killer whale (*Pseudorca crassidens*) live stranded on September 30, 1989, in Ahaus Bay, Vargas Island. The animal was returned to the water by hikers camping on the island, but it re-stranded and died. The majority of live-strandings of single animals are due to severe illness. This individual, a 5.12 metre adult male, had a severe abdominal infection that probably contributed to its stranding. Test results for histology and blood chemistry values (not ready yet when the *Naturalist* went to press) will further elucidate the cause of death.

The photo at left shows Dr. Ken Langelier (kneeling at right of whale) and Robin Baird (left front) beginning autopsy. The top photo shows the animal as found, half buried by wave action, on October 1. Top photo by R. Baird; photo at left by R. Beaupied.

This record is only about the tenth for Canada for this species. This, by the way, is *not* the individual that was pictured in the September/October issue of the *Naturalist*. The animals can be differentiated by scarring and other features of their dorsal fins.



# The nesting season, 1 June to 31 July 1989

by David F. Fraser

This summary is from reports prepared by Jerry and Gladys Anderson (loons through ducks); David F. Fraser and Leah Ramsay (plovers through puffins); Bruce Whittington (vultures through cranes); Barbara Begg (doves through vireos); and Ken Morgan (warblers through finches). It summarizes the summer bird report for 1989 that was compiled from sightings sent to the bird report committee.



Marbled Godwit.

Photo by David F. Fraser.

These reports are only as complete as the sightings that we receive. If you see a species that is uncommon, rare or accidental, we would like to know. We are also looking for unusual numbers (high or low), your first sighting of the season, and the last sighting of the season. **We need sightings for August through November by 1 December 1989.**

Sighting cards can be dropped off/mailed to David F. Fraser, 5836 Old West Saanich Rd., RR #7, Victoria, V8X 3X3; the Field-Naturalist/Swiftsure Tours office in downtown Victoria (1241 Broad St.); or at Barbara Begg's, 9350 Cresswell Rd., North Saanich, V8L 3S1.

## Loons through Ducks

Small numbers of Red-throated, Pacific and Common Loons were present throughout the area during this summer. A Brown Pelican was seen on 11 July at the Chain Islets off Oak Bay (Howard Rand *vide* BW). Despite the fact that the breeding colony of Great Blue Herons at Sidney Island failed this year,

the Sidney Lagoon still produced the highest count of birds reported this summer (Ron Satterfield). Green-backed Herons nested near Courtenay again, and were also reported from several locations in the Cowichan Valley. An unconfirmed report of a Black-crowned Night-Heron was one seen briefly at dusk flying over the Saanich Peninsula (DFF). A single Trumpeter Swan lingered here until 29 June at Courtland Flats, Saanich (JG). Once again the Cowichan Estuary was the hotspot for Mute Swans, with 65 there on 2 July (J & GA). A late straggler Brant was seen on 16 July at Cordova Spit, Central Saanich (BW).

## Shorebirds through Alcids

Five reports were received of Whimbrels, all along waterfront locations in the Greater Victoria Area. One Marbled Godwit was found, an adult, on 2 June from Sidney Spit Marine Provincial Park (J & RS). This is the first June record for the Victoria Checklist Area. Two reports of Semipalmated Sandpipers came in from Sidney Spit Marine Park: one on 7 July (RS), and five on 8 July (Jeff Gaskin & Keith Taylor). There were three reports of Baird's Sandpipers: one on 11 July, Victoria Golf Course, Oak Bay (RS); another one there on 16 July; and one on 26 July, at Loon Bay, Oak Bay (RS). Unusual was a Common Snipe on 25 June at Murray Meadows, Forbidden Plateau, elevation 1,158 m. (W.G. Harris). A Little Gull in breeding plumage on 13 July at Clover Point was our only report (RS). Small numbers of Caspian Terns were reported along the east side of Vancouver Island as far north as Courtenay. Small numbers of Common Murres had returned to the Victoria area at the end of the reporting period--with very few chicks so far. The area off Sidney Spit proved again to be the best area to see Rhinoceros Auklets, with a high count of 400 on 2 July there (J & RS). Slightly higher than usual numbers of Tufted Puffin sightings came in thanks to Pam Stacey's regular passage by the Chain Islets. A **Horned Puffin** was seen off Clover Point on 29 July (RS). This is only the 5th record from the Victoria Area, and the first one for July.

## Vultures through Rails:

Osprey reports were down, and some traditional nest sites failed or were inactive. A Northern Goshawk was seen on 11 June between Spectacle and Oliphant Lakes (BB). A pair of adult American Kestrels on Mt. Tuam, Saltspring Island, provided that island's first summer record (Calvert Palmateer). A pair of Merlins bred at Hastings House, Saltspring Island, for the second breeding record for that island (Mike Bentley). BW notes that Merlin sightings were higher than average for the

Victoria Checklist Area. No Ring-necked Pheasant reports were turned in this reporting period.

## Doves through Woodpeckers:

Unusual was a high elevation report of a Band-tailed Pigeon at the summit of Mt. Arrowsmith (M. & P. Fast, B. & M. Hooper, S. & E. Watts). Exciting was the find of a road-killed **Yellow-billed Cuckoo**, the fourth record for Victoria and the first since 1904! Specimen to the Royal British Columbia Museum. Barred Owls were reported in fair numbers, including the first report for Sidney Spit Provincial Marine Park. Northern Saw-whet Owls were reported in higher than average numbers for this period. A male Three-toed Woodpecker was reported from Battleship Lake, Strathcona Provincial Park, on 25 June (WGH) and July 9 (D.J. and V.B. Chungranes).

## Tyrant Flycatchers through Vireos

Two Eastern Kingbirds were seen at Dove Creek, Courtenay, on July 7 (Dianne Maloff). Purple Martin were reported from the usual Cowichan Bay and Esquimalt Harbour locations. Exciting was the report of several pairs around the docks at Nanaimo (Mike Bentley) and an immature bird at nearby Newcastle Island Provincial Park (Bill Merilees). Unusual was a pair of Townsend's Solitaires gathering nesting material at Mt. Douglas Park, Saanich, on 7 July (RS).

## Warblers through Finches

A Yellow-headed Blackbird was seen on 11 July at the Cowichan River Estuary (B & MH). Small numbers of Northern Orioles were seen on southern Vancouver Island; breeding orioles were also found at Quamichan Lake (Mrs. Shaw, B & MH).

## "BEST OF THE SEASON"

An exhibition featuring work by:

**Mark Nyhof**  
**Andres Bohaker**  
**Rick Beaver**  
**Leonard Matte**

Exhibition opens  
Sunday, December 3  
2-5 p.m. (artists in attendance)  
and continues until  
December 23

the marshall gallery

1636 CEDAR HILL CROSS ROAD, VICTORIA 477-1242

Don't miss these

## November-December Programs

November 14:  
"A New Way of Thinking about Forests"  
with Ray Travers

December 3:  
"Raising and Releasing Peregrine Falcons"  
with Beverley Glover

8 p.m., Begbie 159, UVic  
(details in calendar of events, p. 22)





# Gadget goes to the Okanagan

## (or How my portable blind proved its worth)

by Dannie Carsen

The green folds of my barrel-shaped portable blind perched jauntily upon the bulging packsacks in the back seat of the car as we wheeled our way towards the Okanagan on the Hope-Princeton highway. The three of us, Anthony, myself and the blind, had endured a few last minute delays getting that long lens that we would need to aim through the hole in the blind at our quarry--the colourful birds of the Okanagan. I could sense that the blind was impatient to get on the road towards the action-packed excitement of bird photography. By 7:00 on that May evening we were hot from the blazing sun of the Similkameen Valley as we pulled into Princeton for supper. Later, as we made camp near Road 22 close to the Haynes Lease Ecological Reserve, we could hear the last few noises from the campground at the north end of Osoyoos Lake and the occasional hoot of a Western Screech Owl.

It was hazy when the sharp cries of Western Meadowlarks and an exceptionally noisy quail woke me the next morning. Since it was only 5:30, I dressed quietly and sallied forth to get a look at some new species. Regrettably, I had to leave the portable blind behind since it was an hour away from good light for photography. As the grey sky brightened with the approaching sun, I could make out the jousting shapes of Eastern Kingbirds and the vague outline of a Grey Catbird as the dawn chorus rang around me. I was able to get quite close to my prey, but I still wished I had brought the blind.

Later in the day, the sun was up and the temperature was climbing to 85°F when we drove the car up the road to Haynes Lease in search of Burrowing Owls and nesting rarities. Again the portable blind didn't make it out of the car, this time because we were so hot and sweaty already that we thought we would suffocate in the darn thing. As we walked through the sage and the jumping cactus attacked our ankles, Western Kingbirds and Savannah Sparrows called to each other and we kept hoping for a glimpse of something exciting. We finally made it to the top of the benchland just below the bluff and stopped for lunch under a large tree. With the binoculars I could just make out some birds flying to and from a tree--a large, lone ponderosa pine in clear view below the bluff. Several birds of different sizes were flying around the tree and I wondered if it was a nest site.

Clambering closer to the large ponderosa, I immediately thought, "now where would I hide in the portable blind on that tree?" With the 100-foot pine surrounded by nothing higher than antelope brush, it would be difficult to get close enough to look into the nesting holes on the tree. After watching the tree for several minutes, I suddenly recognized what appeared to be

condominium nesting by three families of birds. There must have been a shortage of good nesting sites nearby to result in one tree being so heavily utilized. The Merlins had taken up the large central hole and the male and female were back and forth feeding their young. Above them, a Starling couple had taken over a smaller hole and were busily bringing in insects. Finally, the flamboyant couple at the top of the tree had taken on the penthouse suite and were calling, flying past with wings spread, and sometimes even disappearing inside the nesting cavity. It was interesting that the Lewis' Woodpecker appeared to be at the top of the tree in this situation. Perhaps the Merlin was content to grab the larger nest hole near the bluff that it was using as a hunting territory. By climbing up the bluff I was able to get within 8 feet of the Lewis' Woodpecker with my camera, but the direct lighting from the sun overhead did not allow any decent pictures. Hmmmm... how about if I built a platform and hung the portable blind on it?



*My mean, green portable blind in use. Photo by D. Carsen.*

I decided to think about putting the blind in such danger for my own selfish purposes and remained deep in thought for the next two days. By then we had taken a trip down to Vaseux Lake to see the Rock Wrens and Canyon Wrens that produce those magical songs among the boulders. Unfortunately, clambering up the huge boulders with a large green blind on my back, I managed to scare the Canyon Wrens and they stopped singing. Desolate, the portable blind sagged in the back seat of the car, realizing that it would be alone for another afternoon.

The blind soon grew excited again as I set up for a nest just 5 feet off the ground near the salt lick for mountain sheep above Vaseux Lake. The birds were only Northern Flickers, but I thought it would be a good chance to use the blind. Unfortunately, when I set it up the birds refused to come in to feed their young. Fuming, after three hours I put the blind away, set up my camera and tripod 6 feet away from the nest cavity, and unrolled my 25 foot pneumatic cord over to a stump. Hiding behind the stump and wishing I had a power winder, I was able to get several good shots within an hour. Understandably, the next time I loaded my camera gear into the car there was a lot of tension between the portable blind and that 25-foot pneumatic release.

Near the mud flats and mosquitoes of the Vaseux Lake bird sanctuary I had yet another chance for the blind the next day. I was hoping to get close to a group of Caspian Terns I had spotted resting on the mud flats when canoeing by that morning. The muddy bottom proved too shallow to allow ambush from the water, so I shouldered the portable blind and trudged through the mosquito-infested trails to try and get closer. Instead of the terns, I was greeted by the antics of a Marsh Wren hanging onto the tops of cattails and eyeing the green blind with deep suspicion. I could never see the darn thing through the blind when I harnessed up. Shucks! The portable blind went limp and pouting when I dropped it on shore and came back to chase the Marsh Wren without it. With the occasional pish, pish, pish I was able to call the Marsh Wren in to within 12 feet of the camera. The resulting picture, I knew, would look like a bumblebee in the grass when I got the slides back. I sighed, thinking about finding some larger birds to photograph. I could see the blind smirking when I returned to pick it up on the way back.

By this time I was thinking of therapy for the blind, since it was feeling so neglected and useless. But I was to have one last try at restoring its self esteem. I didn't think there was much chance of getting the Bullock's Oriole, Lazuli Bunting, West-



*The high-tech silver blind with its owner.*

*Photo by Dannie Carsen.*

ern Tanager or Bobolink within camera distance of the blind, so we took a tip from a hot-shot birder who had driven up to our camp and endeared himself by species name-dropping for a full 15 minutes. He had just come back from a recent burn near Highway 3A, where he had observed a Black-backed Woodpecker. We decided to seek out this mysterious bird that loves to frequent black and scorched landscapes.

We decided to drive up through Green Lake and Mahoney Lake and stop at White Lake before exploring the burn. This was going to be a great day for the blind, its big chance to stalk shore birds near these lakes--but it proved to offer far more than that. We spotted Ruddy Ducks and Redheads near the first few lakes, but the big surprise was at White Lake. As we drove up to the lake we could see a white object and reflecting bits of silver on the far shore of the lake. Intrigued, we dragged the equipment out of the car and walked up towards the object. As we approached, I could make out the unmistakable outline of another blind! Shades of My American Cousin, this blind was much different from my ugly green barrel-shaped model. It was a square pillar about 6 feet high. A surveyor's platform with heavy aluminium corners made up the frame, over which a light silvery tent fabric was draped. In the centre of the blind was a long tunnel-like hole with something like a windsock to poke a camera lens through. As I watched, a Volkswagen pulled up and the owner of the blind emerged. As we talked, he explained how he had fashioned the blind from a surveyor's platform and used some mosquito netting in places so it didn't get too hot and stuffy in the Okanagan heat. He set it up for me and took it to his shooting location, a fence-top nesting box for Mountain Bluebirds. The birds were extremely tame, waiting patiently until I got into the blind and then going closer to the box as I waited. The blind was quite light and airy inside compared to my green hothouse, as the mosquito netting let the



slight breeze through--refreshing in the 90°F heat. After 20 minutes of waiting for the parents to feed their young, I decided to try some freehand shots without the blind, and that is how I captured my male and female Bluebirds facing each other on the fence. Alas, even the cousin of my portable blind was unable to do the job for me! I studied the silver reflectors near the high-tech blind and found they were being used to provide backlit halos around the birds. Certainly a novel way to enhance the natural light. The blind was perfect for warm weather photography, but it was quite heavy and awkward to move around--not ideal for carting about on your back. However, I understand the creator of this blind has some remarkable shots for his efforts, though it took him several days in the heat to get them.

As was to be expected, my own blind was extremely jealous and refused to acknowledge me for the rest of the trip. Without its help, we still managed to see Wilson's Phalarope, Long-billed Curlew, Townsend's Solitaire and even the elusive Black-backed Woodpecker. We drove up to the burned-out area near Highway 3A and walked up the trails that had been left after the fire. Eventually I could hear the woodpeckers calling as they came in to feed their young. We tracked them to a burned out pine, nesting no more than 4 feet off the ground in a blackened hole in the trunk. Again the blind was left behind (who needs green against the black of burned out pines?) I feverishly set up my tripod as close as possible to the nest and lay down under a fallen log to wait. They are very cagey birds, these Black-backed Woodpeckers! They sent one of the pair in to perch 30-40 feet up a neighbouring tree to "case the joint" before they returned. Of course, they were wary of me, last seen scrambling beneath a log, and took a long while to check me out before flying in closer. The routine was to hop down the trunk of a nearby tree until they were 8-10 feet above the ground, then fly over to the nest tree. Then the woodpecker hopped down the trunk with a wary eye out for me and with several last looks around perched on the edge of the hole. By this time the young birds could hear mother or father coming with food and their raucous cries increased in frequency and volume until the parent bird finally fed them. As soon as I clicked the shutter, the bird would fly off and we would go through the whole routine again and I soon was hot, wet and

### Speaking of Christmas ...

Victoria Natural History Society Memberships make great Christmas gifts for newcomers, friends and neighbours. If you know someone who would enjoy receiving the *Naturalist* and hearing about the Society's activities, why not treat them to their first year? Surprise someone who's not even "on your list"!

wishing I had brought the blind. Finally, I got what I felt was a good shot and we left the burn to return to our camp at Vaseux Lake. The next day we got up early, packed up the blind and left for home.

Tim Fitzharris, in *The Adventure of Nature Photography*, claims winter use with chest waders is the best use for the portable blind. My blind and I were beginning to see Tim's point of view. On the other hand ... perhaps with the right modifications, like air vents covered with mosquito netting and a light-coloured, breathable fabric, there was a chance the blind might make the transition into summer plumage. We await with dread and longing another spring in the Okanagan ...

## Christmas Bird Count December 16

by Mike McGrenere

The Victoria Christmas Bird Count will be held on Saturday, December 16, 1989. The purpose of the CBC is to count the birds observed within a 15-mile diameter circle covering the greater Victoria area and centred on the intersection of Grange Road and Jasmine Avenue in Marigold. The circle is divided into 22 areas, each having an area leader.

Victoria Natural History Society members are encouraged to participate in the Christmas count in one of two ways, either as an active "counter" in the field or as a feeder watcher.

If you participated in the Christmas count last year, you will be contacted and asked if you would like to participate this year. If you did not take part in the Victoria count last year but would like to participate, please contact Mike McGrenere, count co-ordinator, at 658-8624 by November 30, or sign up at the November birders' night.

If you have a bird feeder in your yard, there is another way to participate in the Christmas count. Simply watch your feeder on December 16 and record all bird species and the number of individuals of those species. Record only the highest number of birds observed. For example, if you see eight Dark-eyed Juncos in the morning and six at noon, report only the eight seen in the morning. Keep a list of the birds seen at your feeder and mail or bring your list in to the Field-Naturalist/Swiftsure Tours, 1241 Broad Street, Victoria, V8W 2A4. Please put your name, address and telephone number on the list. Your report must be received by Friday, December 22 in order to be included in the count records. If you see a rare bird at your feeder on December 16 (see the new Victoria area Checklist of Birds or last year's Christmas count results in the May/June issue of *The Victoria Naturalist* to find out what is rare in December), please phone your sighting immediately to the Bird Alert at 592-3381 and leave a message on the tape.

## The Western Canada Wilderness Committee —understanding their objectives

by Dannie Carsen

One of the environmental groups that has been very active in communicating conservationist viewpoints on old growth forests is the Western Canada Wilderness Committee (WCWC). I felt that our membership might be interested in finding out more about the WCWC and what it does. I met with two local representatives of the group: Derek Young, the Victoria director, and Dennis Kangasniemi, the Victoria office coordinator. They were very helpful in providing information about the objectives and accomplishments of the Committee.

The WCWC was formed in 1980 by six people who travelled extensively in the South Moresby area of the Queen Charlotte Islands. Since then it has been involved in wilderness preservation campaigns such as Meares Island, Lyell Island, the Stein Valley and Carmanah Valley. The membership has expanded to over 10,000, and a Victoria branch has been operating since July 1989 at 1002 Wharf Street. The Wharf Street office is well staffed with volunteers and offers products with an environmental message such as posters, books, maps, calendars and recycled paper products. The Victoria branch is self-sufficient and is mostly involved with wilderness issues of importance to Vancouver Island.

The primary objective of the WCWC is wilderness preservation. Preserving all types of habitat is important--from lush bottomland forests to dry interior parkland--and protection of whole watersheds is stressed. A secondary objective is to educate the public about the value of wilderness and about developments that threaten the wilderness areas in B.C. The membership is committed to working within the law and without using civil disobedience to achieve these objectives.

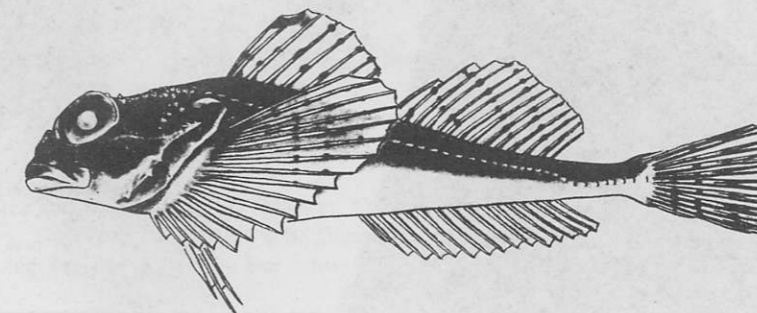
The importance of preserving larger representative wilderness

areas in all biogeoclimatic zones as benchmarks for future study and for the enjoyment of future generations is emphasized by the WCWC in its educational campaigns. Representative old growth forests and their complex ecosystems are genetic blueprints that we are fast losing throughout British Columbia. The Committee is alarmed by the way the Ministry of Forests is currently managing our forest resources and by the actions of forest companies in the rate of liquidation of old growth stands (80% of coastal logging is still in the remaining old growth). Other practices such as building roads in mountainous terrain, clearcutting, and poor silvicultural techniques are also of great concern to the WCWC, and it feels that these practices should be subject to more regulation.

The members I spoke to explained that the WCWC has been devoting much of its attention to the study of forestry practices, since it appears that we in British Columbia are losing our options for wilderness preservation because of the near exclusive use of forests for logging by private corporations. We have handed over our management responsibilities to these logging companies and retain only a minor audit function. Despite the Committee's distaste for some forestry practices, the directors say the WCWC is not anti-logging or anti-business. However, they feel it is necessary to balance the claims of the logging industry (e.g. that wilderness preservation costs forestry jobs) with the observation that increasing mechanization and decisions to close mills due to decreasing supplies of large timber are also a factor in lost jobs.

The WCWC believes there are two alternate visions of future forests in B.C., and Derek Young summed them up as follows: If we continue to cut most of the old growth stands

### Scientific Illustration & Graphic Art



Karen Uldall-Ekman, (B.Sc.)  
Victoria, B.C.

658-8297



using current methods, then the second growth that results will be essentially a "fibre forest" used to supply pulp and paper and fibreboard in a radically altered forest industry. A more optimistic vision of our forests in the future is to harvest old growth forests in a more sustainable fashion that will preserve the character of these forests for future harvesting. The use of new harvesting techniques such as selective logging, leaving some of the canopy intact so that succession can continue, and leaving the "dead" wood behind to enrich plant and animal habitats would result in new growth that more closely resembles a natural forest. By our actions now, we decide which of these visions will be embraced in the future.

The battle to save wilderness areas involves lobbying the Ministry of Forests and getting public attention through the media and WCWC publications. The WCWC has no government funding to accomplish these aims but relies on receipts from storefront sales, canvassing, membership drives and artists' exhibitions to fund their operations. The public education programs use volunteers for school programs, slide shows, videos and publications to bring WCWC concerns to people's attention. Speakers are arranged for Tree Farm Licence meetings and public hearings, and researchers are hired to investigate bad logging practices and identify special ecological zones for preservation. The WCWC presently has a staff of 15, which includes a registered professional forester, a forest ecologist, a biologist and several seasoned campaigners.

Some of the successful achievements of the WCWC have been the publication of books such as *Meares Island--Protecting a Natural Paradise*; *Rediscovery*; and *Hiking Guide to the Big Trees of Southwestern British Columbia*.

The campaign that has received the most publicity of late is the fight to preserve the large trees and surrounding ecosystem of the Carmanah Valley. The WCWC has constructed trails into the valley on crown land in order to carry out research and allow the public to see the magnificent trees that are threatened with

destruction. The courts have upheld the right of the public to use and enjoy this crown land in a way that does not interfere with logging of the land by MacMillan Bloedel, holders of the tree farm licence, who had filed an injunction against the WCWC to prevent access to the valley.

With the trail completed, the WCWC has been trying to foster interest in Carmanah by organizing group tours into the valley for natural scientists, professionals and artists, giving them a chance to experience first hand its species diversity and wilderness appeal. These individuals contribute considerable expertise to the information bank on the area, and also relate to others the urgency of preserving the valley.

Publicity for Carmanah was generated in May and June, when the WCWC invited more than eighty B.C. artists into the valley to paint their impressions of the rainforest. The artists--among them Robert Bateman, Toni Onley, Carol Evans, Gordon Smith and Roy Vickers--have all donated their works in support of continuing efforts to preserve the valley. Their creations have been reproduced in a book, *Carmanah--Artistic Visions of an Ancient Rainforest*, which is available in a coffee table edition as well as a special collector's edition. The art works themselves are being sold by "silent auction" during the course of public showings in Victoria (exhibit closed October 26), Qualicum Beach, Courtenay, Duncan and Vancouver (see box on page 19 for dates). A documentary film on the Carmanah artists is being produced in cooperation with the National Film Board, and a video version of the film will be sold by the WCWC.

This project is a good example of the innovative methods devised by members of the WCWC to promote the Carmanah as wilderness worth saving, while at the same time funding further efforts to preserve the area. We have to admire the dedication of this group of environmentalists, who believe that "public education is the only sure path to an ecologically balanced world where the natural environment is fully protected."



One of Carmanah's friendly giants.

From a Western Canada Wilderness Committee poster.

## Welcome to new members

- July 21 Lorraine Fontaine, of Saturna Island.
- Aug. 1 Kimberley Nemrava, of Maplewood Road.
- Aug. 3 Tessa Campbell, of Kilgary Place. A scholarship member.
- Aug. 23 Richard Calderwood, of Gladstone Avenue. Looking forward to *The Victoria Naturalist*.
- Aug. 25 Emil Burdett, of Heron Street. A new Junior Subscriber.
- Sep. 19 Bev and Ed Kissinger, of Calgary. Looking forward to a February birding trip to Vancouver Island and the San Juan Islands.
- Sep. 19 Bruce Bennett, of Emery Place. Interested in botany, birds, environmental issues, local natural history events, field trips, mushrooms, and community projects.
- Sep. 19 Glen Moores, of Ganges. Glen's main interest is birding.
- Sep. 19 Bobbie Macdonald, of Tiswilde Road.
- Sep. 19 Wayne Maloff, of McBriar Avenue. Interests range from "ogling arachnids" to waving at whales, hiking, bird watching, and making friends.
- Sep. 22 Shane Ford, of Finlayson Street.
- Sep. 22 Rod Burns, of C to C Tours, Victoria. Particular interests: environmental tourism, business and environmental awareness.
- Sep. 22 Liz McNelly, of Superior Street.
- Sep. 22 Mrs. Donna Keith, of Gladiola Avenue.

### Visions of an Ancient Rainforest

an art exhibit organized by the  
Western Canada Wilderness Committee

includes works by the following  
VNHS members:

Lissa Calvert  
Mark Nyhof  
Morgan Warren

Dates and locations are as follows: Qualicum Beach: Nov. 1-4; Courtenay: Nov. 5-8; Duncan: Nov 10-13; Vancouver: Nov. 16-19. For information: 388-9292.




## Naturally B.C.

Look to us for Royal B.C. Museum Publications such as: The Memoir Series; Contributions to Natural Science; Heritage Records and Handbooks.

We also carry a wide selection of Provincial Government Publications including Forestry, Mining, your Environment, and many other topics.

Come in and explore our conveniently located downtown bookstore. We are within easy walking distance of the main shopping district.

 **Crown Publications Inc.**  
546 Yates St. Ph. 386-4636  
Victoria, B.C.  
V8W 1K5 Fax 386-0221

### REPORT MARINE MAMMAL SIGHTINGS AND STRANDINGS TO:

380-1925 in the Victoria area

On the water: VHF channel 68 to the vessel *Sundiver*


1-800-334-8832 toll-free anywhere in B.C.


All sightings, no matter how old, are useful for research purposes, and are put into a computer data base. Records are available to all researchers. When current local sightings of killer whales, or any unusual species, are reported promptly, researchers will try to respond to them. Please report date, time, location, a description of the animals, and number and direction of travel, as well as your name and phone number in case further information is required.



## BULLETIN BOARD


Items for the Bulletin Board should be submitted to the editor by two weeks prior to the publication date. We cannot guarantee inclusion after that point.


 The **Canadian Nature Federation Christmas cards and calendars are here** and can be purchased at the general meetings and Birders' Night. The card selection can be seen at the Field-Naturalist, 1241 Broad Street, or by calling Lyndis Davis at 477-9952. (Lyndis also has Nature Canada Bookshop catalogues, if anyone would like one.) Your Society and the CNF will get a higher profile and the profits if you use these cards.


 The **VNHS Annual Dinner** will be held on **Tuesday, February 13**, so mark that date on your 1990 calendars (the ones you're going to buy from Lyndis), and watch for full details in the January/February issue of the *Naturalist*.





A Red-necked Phalarope (winter plumage) at Victoria Golf Course shoreline, late August 1989. Photo by G.F. Houston.


 **Photographers: show us your stuff!** If you have interesting prints or slides that you think would reproduce reasonably well in black and white, *The Victoria Naturalist* would like to give you some exposure. Photos needn't be accompanied by a full story, but please provide as many details as you can about the subject so that we can provide an informative caption. If we feel we won't be able to use a photo in an early issue of the magazine, we will of course return it. **Prints are preferred** for publication. Photos can be dropped off at the Field-Naturalist if it's convenient for you. Call Brenda Robson at 477-3081 if you have any questions.


 The **Tuesday Group held a successful garage sale** on August 26 to raise money to excavate a pond by the winter blind at Swan Lake. More than \$1200 was raised, and everyone was very happy with the turnout for the sale. The pond will be 25 feet by 45 feet with the island in the middle. It will provide habitat for marsh plants and animals and encourage shore bird activity. Prior to the sale, the Tuesday Group raised enough money by donations to buy three benches in memory of Davey's (the late A.R. Davidson's) one hundredth birthday last fall. There was \$353 left over after purchasing the benches, and with the \$1200 raised at the garage sale there is now sufficient money for the excavation of the pond. The Group would like to thank all those who made donations or contributed items to the garage sale.


 The **Swan Lake-Christmas Hill Nature Sanctuary needs volunteers** to give two or three hours a week to help with grounds maintenance, hosting in the Nature House and interpreting displays. The VNHS is a member of the Sanctuary and we share a common interest in our environment and in generating an interest in the flora and fauna of our region, so please give Ann Howe a call at 477-0211 if you have some spare time to help.


 For those who may be interested in birding, botanizing or just enjoying the wilderness of **Carmanah Valley**, the Western Canada Wilderness Committee is willing to offer a **three-day trip** into the valley during **May 19-21, 1990**. The trip would cost \$60-\$100 depending on the size of the group, and transportation, meals and guides would be supplied. Cooking facilities and tents are managed by the WCWC, who have taken a number of scientists and artists into the area. Participants would have to be reasonably fit for the 45-60 minute walk into Camp Heaven in the lower valley, but many people, from infants to golden-agers, have managed the hike. Personal equipment such as boots, rain gear, sleeping bag, foamie and any camera gear you want to lug in would be your own responsibility. For more information, call Dannie Carsen at 384-4924. We will need to hear from at least 20-30 people before January 1 so that we can proceed with plans for the trip.

 The **Thetis Park Nature Sanctuary Association** meets every third Thursday of the month at 8 p.m. Please note the **new meeting place**: Knox Presbyterian Church Hall, 2964 Richmond Road. There is parking adjacent to the hall, and the hall has access for the handicapped. The **November 16 meeting** will feature a talk by Leon Pavlick of the Royal B.C. Museum on "The Natural History of the Grasslands of B.C." Members and friends are welcome. For information contact Jane Waddell at 385-2864.

 *The Victoria Naturalist* is now being printed on 100% recycled paper (with the exception of the cover, which is on heavier stock for durability). We would welcome your comments on this change, and in particular we'd like to know whether the current (lighter weight) issue got through the mail in good condition. We'll assume that it did, unless we hear otherwise.

 On September 16 the City of Victoria held its first **Recreation Day** at Memorial Arena. The city invited community organizations involved in recreation and leisure activities to sponsor booths, displays, and demonstrations. The Victoria Natural History Society was represented with an excellent display. Society publications and membership information were also available to the participants. Thanks go to Lyndis Davis, Rosemary Partridge, Enid Lemon, Sue Cumming, Bertha Gow, Audrey Compton, Olive Compton, Helen Curry, Peggy Johnson, Connie Hawley, Dannie Carsen, Swan Lake-Christmas Hill Nature Sanctuary, Borden Mercantile, and the Field-Naturalist for preparing the display and assisting during the day's activities.

 The VNHS Board of Directors has reviewed and revised the bylaws of the Society and will be seeking the membership's approval of proposed changes at the annual general meeting in March. A few major changes have been proposed, but most of the revisions are minor clarifications of language. A copy of the revised bylaws will appear in the January/February issue of the *Naturalist* so that you will have time to go over them before the AGM.

 **Free for recycling:** styrofoam "popcorn" for packing and shipping parcels (might as well be re-used before it's disposed of). Pick up at the Field-Naturalist, 1241 Broad St.

 **precise color processors ltd.**  
747 Discovery Street  
Victoria, B.C. V8T 1H1  
385-5512

Quality photofinishing for  
discriminating photographers



It's Not too Soon  
to think about  
photo-gifts for  
Christmas!

Our specialty:  
Quality Colour Prints from  
Slides or Negatives

## Distinguished Service Award

The Distinguished Service Award was established by the VNHS Board of Directors in 1988. This prestigious award is granted to a member who has contributed in some outstanding way to the aims and objectives of the Society. Awards are made at the annual dinner or at the annual general meeting each March. All members of the Society are eligible to nominate any other member who in their opinion merits this honour.

**Nominations should be forwarded by December 15, 1989** to the **Awards Committee Chairperson (currently Reuben Ware), c/o VNHS, Box 5220, Stn. B, Victoria, V8R 6N4**. All nominations must be in writing and should be signed by at least three other members of the Society. A brief biographical sketch and a description of the contributions and achievements of the nominee, along with his or her address and telephone number, should be included. The Awards Committee reviews the nominations and makes recommendations to the Board of Directors, which grants the awards. For more information, contact Reuben Ware at 385-2803.



### THIMBLE FARMS

Bedding plants — Hanging baskets  
Shrubs & ground covers  
and fruit trees.

RR1 Arbutus Rd., Southey Pt. 537-5788

Salt Spring Island

**Growing Native???**

10% off native plants to VNHS members

### Cadboro Bay SHOP EASY

**100% locally owned and operated**

3829 Cadboro Bay

Victoria, B.C., V8N 4G1

Telephone: 477-6513



# CALENDAR

**Regular Meetings** are held as follows: Board of Directors meetings the first Tuesday of each month; general meetings the second Tuesday of each month; Botany Night the third Tuesday, and Birders' Night the third Wednesday of each month. Locations are given in the calendar listings.

**Field Trips:** Please meet at the location indicated for each trip and **BRING A LUNCH**. Be equipped for changes in the weather with hat, rain gear and boots if necessary. **Always phone the VNHS Events Tape at 479-2054 before a trip** to get further details or any changes in plans. On VNHS trips participants usually pool vehicles to reduce parking problems and costs. The Board suggests that fuel costs be shared with the driver.

## NOVEMBER EVENTS

**During November. Birding Trips on the M.V. Coho.** There will be a couple of "Strait of Juan de Fuca" birding trips during the month to find petrels, shearwaters and phalaropes that may be seen crossing the Strait. The dates will depend on the weather conditions (usually after the first storms) so phone Hank VanderPol at 658-1924 for further details. These trips will be announced on the Bird Alert Tape at 592-3381.



**NEW GORE-TEX JACKET**

What makes a jacket your 'favorite' - is it its features, comfort, styling or a special colour? This new jacket from **chlorophylle** has it all!

A soft poly-cotton liner (no more nylon feel), new relaxed cut and style (fits large sizes), roll away hood, and natural earth tone shades blend easily with the most sophisticated wardrobe. Come in now, and see the new **Glacier** **chlorophylle** **MADE IN CANADA!**

**Pacific Trekking**  
Your adventure begins here

THE WEATHER WISE STORE FOR PEOPLE WHO LOVE TO WALK, HIKE AND TRAVEL

HILLSIDE CENTRE 592-7429    MAYFAIR SHOPPING CENTRE 384-2052    DOWNTOWN, 622 VIEW ST. 388-7088

**Friday, Nov. 3. "Around the World with Bristol Foster."** 7:30 p.m. Newcombe Theatre, Royal B.C. Museum. In 1957 and 1958 ecological consultant Dr. Bristol Foster travelled around the world by Land Rover, documenting the rich ecosystems of three continents. Thirty years later he returns from a repeat journey sponsored by *Equinox* magazine and reflects on the changes he found in the environments, the people and the wildlife. Don't miss this thought-provoking slide presentation sponsored by the **Friends of Ecological Reserves** and the **Friends of the Royal B.C. Museum**. Admission \$3, \$2 for Friends and students, and \$1 for children.

**Saturday, Nov. 4. Botany Field Trip to John Dean Park.** Join Cathy Enns for a lichen identification outing. Meet at 9 a.m. in the parking lot on the top of Mt. Newton in John Dean Park.

**Sunday, Nov. 5. Gull identification workshop with Dave Fraser.** An excellent opportunity to hone your skills before the Christmas Bird Count. Dave will show slides and lead a walk at Goldstream to identify the gulls. An examination of gull specimens will follow back at the Visitor Centre. Meet at the Goldstream Park Nature House at 10 a.m.

**Tuesday, Nov. 7. Board of Directors Meeting at 7:30 p.m.** in the Clifford Carl Reading Room, Cunningham Building, UVic.

**Tuesday, Nov. 14. General Meeting and Program: "A New Way of Thinking About Forests."** This presentation by Ray Travers will be interesting to those who are concerned about the management of our old growth forests. Ray is a professional forester who works with the habitat management section of the Ministry of Environment. He is currently responsible for helping field biologists protect fish and wildlife habitats on public forest lands. The presentation includes a summary the lessons learned from U.S. research on old growth Douglas fir forests, with comments on applications to managed forests. The meeting begins at 8 p.m. in Begbie 159, UVic with the presentation to follow.

**Thursday, Nov. 16. "The Natural History of the Grasslands of B.C.,"** a talk by Leon Pavlick of the Royal B.C. Museum to the Thetis Park Nature Sanctuary Association. 8 p.m. Knox Presbyterian Church Hall, 2964 Richmond Road.

**Sunday, Nov. 19. Bird the Victoria Waterfront with Mike Edgell.** Meet at Cattle Point at 9 a.m. The trip will tour the "high" spots to view seabirds off the coast.

**Tuesday, Nov. 21. Botany Night meeting** in the classroom at the Royal B.C. Museum at 7:30 p.m. Phone Adolf Ceska for details at 477-1221 (home) or 387-2423 (work).

**Wednesday, Nov. 22. Birders' Night--Planning for Christmas Bird Count 1989.** Meet at 7:30 p.m. in Cornett B108, UVic, to find out everything about the CBC: information on the count areas and teams; slides to help with identification; and the sign-up sheet for contributions for the post-count party on December 16. Tea and coffee will be served.

**Thursday, Nov. 23. Friends of the Nature Sanctuary Lecture Series, Lecture #8, 8 p.m.** at the Swan Lake-Christmas Hill Nature Sanctuary. Topic and speaker to be determined; please phone 479-0211 for information.

## DECEMBER EVENTS

**Saturday, Dec. 2. Birding at Island View Beach with Alan McLeod.** Meet at Sanwood Farms vegetable stand, on Island View Road and Pat Bay Highway at 9 a.m. Gumboots and rain gear are sometimes useful at this time of the year.

**Tuesday, Dec. 5. Board of Directors Meeting at 7:30 p.m.** in Clifford Carl Reading Room, Cunningham Building, UVic.

**Tuesday, Dec. 5. "Birds in Your Garden"** is a presentation by Wayne Campbell to the Victoria Horticultural Society monthly meeting, and VNHS members are invited to attend. There is a short business meeting at 7:30 p.m. and the speaker starts about 8:30 p.m. The presentation is held in the 1st United Church Hall on Quadra and North Park (parking lot on North Park).

**Wednesday, Dec. 6. "Wildlife in Old Growth Forests" and "Old Growth Forests: B.C.'s Forgotten Resource."** 7:30 p.m. at the Newcombe Theatre, Royal B.C. Museum. Dr. Fred Bunnell and Dr. Ken Lertzman, scientists from UBC and SFU respectively, will present information regarding the value of old growth forests as sources of ecological diversity and as preserves for wildlife. Are there ways to maintain viable populations of wildlife in our shrinking old growth forests and in our managed forests? Dr. Bunnell will present results from his research on wildlife in relation to the forest resource, with slides for illustration. Dr. Ken Lertzman's slide talk will focus on the ecological function of old growth forests. Sponsored by the **Friends of Ecological Reserves** and the **Friends of the Royal B.C. Museum**. Admission \$3, \$2 for Friends and students, and \$1 for children.

**Tuesday, Dec. 12. General Meeting and Program: "Raising and Releasing Peregrine Falcons."** Have you ever wondered how it would feel to be a foster parent to youngsters who love acrobatic flight and power dives at 300 km per hour? Beverley Glover will be relating her experiences raising four peregrine chicks as part of the Peregrine Falcon Release Program in Guelph, Ontario. The Guelph Field Naturalist Club undertook the raising and releasing of four irascible peregrines and followed their adolescent adventures using a network of over 100 members to find out how they adapted to life in the wilds of Guelph. Meeting begins at 8 p.m. in Begbie 159, UVic, with the presentation to follow.

**Saturday, Dec. 16. Christmas Bird Count and Post-Count Roast.** Call Mike McGrenere at 658-8624 for last minute information on the Christmas Count. The post-count potluck supper will be held at Gordon Head United Church Hall, 4201 Tyndall Ave, which is between Feltham and Ash. Come about 6:30 p.m. and dinner will commence at 7 p.m. Remember to

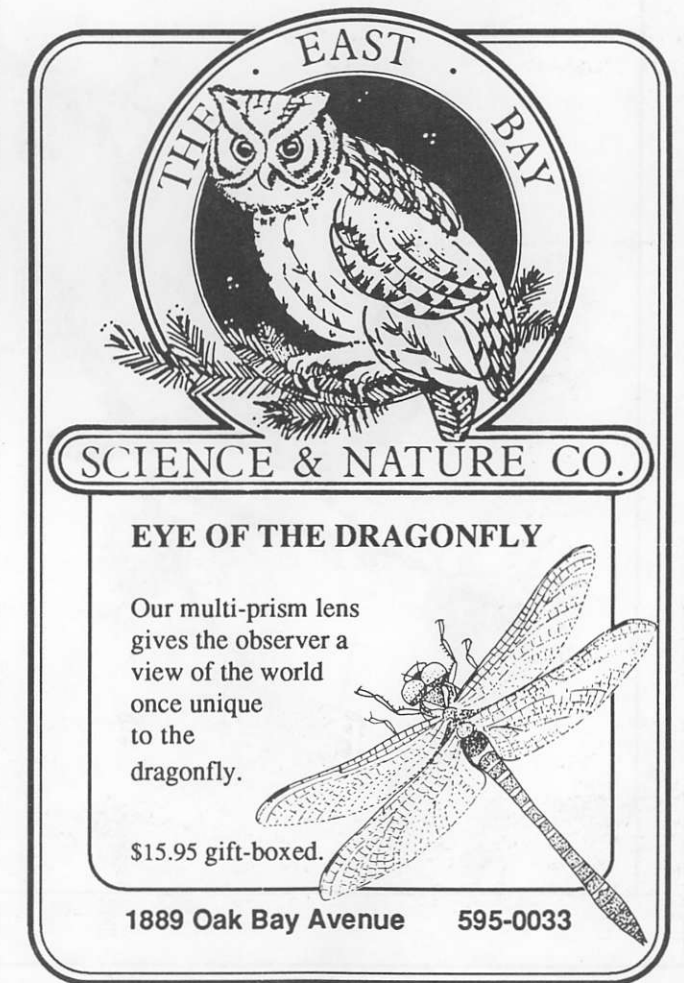
bring what you promised on Birders' Night! There will be a charge of \$1 per person for the hall and \$5 per person if you did not bring food. **Bring your own dishes and cutlery!** Contact Kay Goodall at 382-1935 before December 12 if you would like to bring something but have not signed up.

## OTHER PROGRAMS

**Saturday, Jan. 6, 1990. Brackendale Eagles Trip with Peter Axhorn.** Meet on the 9 a.m. Horseshoe Bay Ferry out of Nanaimo to bird the dykes of Brackendale, North of Squamish, the winter home of Bald Eagles. Lunch at Brackendale Art Gallery. Cost \$8 plus ferry and meals. Register with Edward Milne Community School by phoning 642-6371.

**Tuesday, Feb. 13, 1990. VNHS Annual Dinner.** Full details in January/February issue of the *Naturalist*.

**Sunday, Feb. 18, 1990. Birding trip aboard the Bastion City** out of Nanaimo. There is a concentration of eagles, sea lions and seabirds feeding on the herring that congregate in the channels around the islands off Nanaimo. The boat will leave at 10 a.m. for a three hour trip. Coffee and a "goodie" included in cost of \$13 per person (\$9 for children under 15). Contact Lyndis Davis at 477-9952 to register and arrange car pool.



**THE EAST BAY**

**SCIENCE & NATURE CO.**

**EYE OF THE DRAGONFLY**

Our multi-prism lens gives the observer a view of the world once unique to the dragonfly.

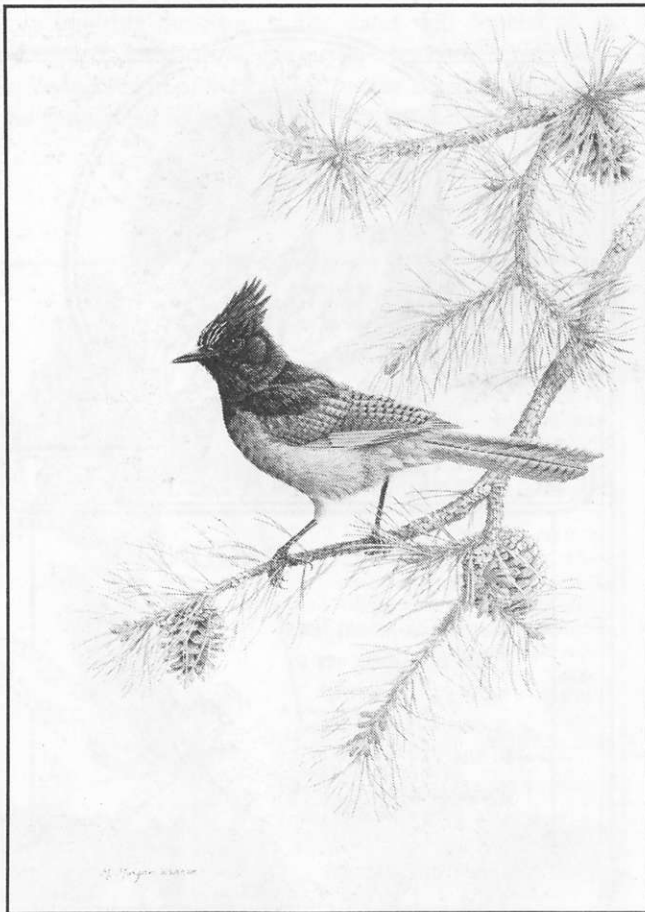
\$15.95 gift-boxed.

1889 Oak Bay Avenue 595-0033



P.O. Box 5220, Stn. B  
Victoria, B.C. V8R 6N4

James A. Rainer ✓  
5229 Sonora Drive  
NORTH VANCOUVER, B C V7R 3V7



## "SPIRIT OF THE WEST"

A Limited Edition Print  
by  
M. Morgan Warren

"Long before the Steller's Jay became the Provincial Bird, he was a favourite of mine: his strong colours and bold, saucy ways make him a challenge, and a delight, to paint; the tones of blue in his plumage change constantly according to the angle at which one views them.

In one sense, the Steller's Jay is the perfect symbol for British Columbia--his features echo all the blues of the West Coast--caerulean sky, ultramarine sea, cobalt and indigo mountain snowshadows, and the darkness of the lush rainforest.

I have pictured my bird as he most often appears--up in a conifer with a mischievous gleam in his eye."

— M.M.W.

Phone: 652-9694 (Home)  
or: 655-1081 (Studio)

200 signed and numbered, and 20 artist's proofs.