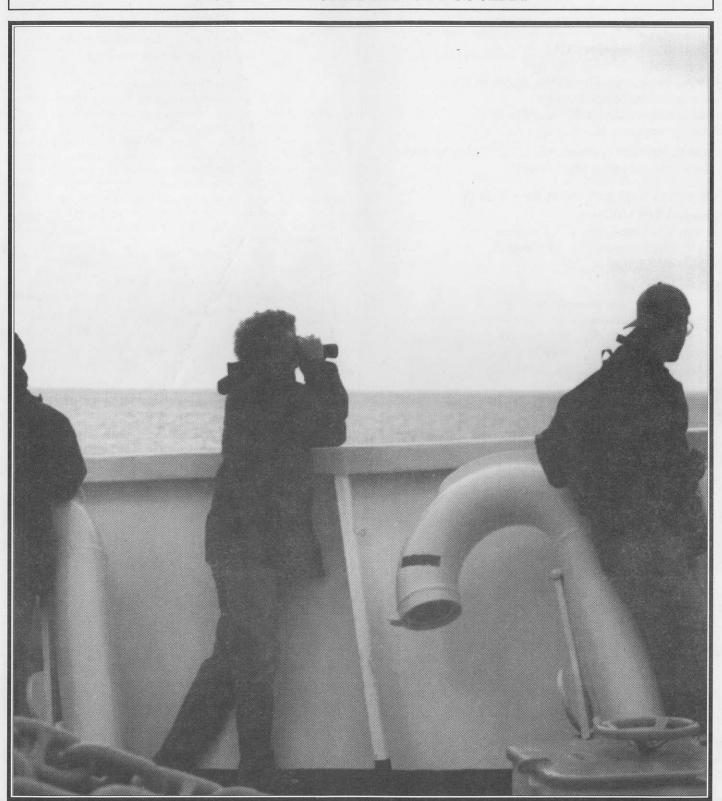


The Victoria NATURALIST

SEPTEMBER OCTOBER 1998 **VOL 55.2**

VICTORIA NATURAL HISTORY SOCIETY





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Members are encouraged to submit articles, field trip reports, birding and botany notes, and book reviews with photographs or illustrations if possible. Photographs of natural history are appreciated along with documentation of location, species names and a date. Please label your submission with your name, address, and phone number and provide a title. We will accept and use copy in almost any legible form but we encourage submission of typed, double-spaced copy or an IBM compatible word processing file on any size diskette, plus printed output. Having copy submitted on diskette saves a lot of time and work for the publications group and we really appreciate the help. If you have an obscure or very old word processing program, call the Editor, Glen Moores, at 655-3772, or save the text in ASCII format. Blank diskettes may be obtained from the editor and we will return any of your own diskettes submitted. Photos and slides submitted may be picked up at the Field-Naturalist, 1126 Blanshard Street, or will be returned if a stamped, self-addressed envelope is included with the material.

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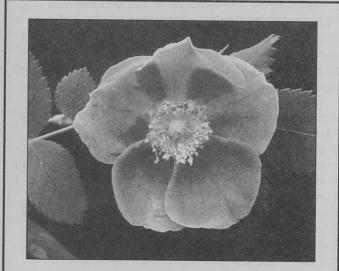
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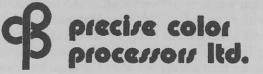
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OUR COVER

Our members have been on travels throughout the world. This issue we travel to England, Jamaica, Arizona and Washington State. The cover reflects the travel theme with Bruce Whittington looking for that elusive Orca from the Coho.

Photo by Glen Moores.





QUALITY PHOTOFINISHING

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Hurricane Ridge Expeditions, 1998

By Barbara Begg

he Victoria Natural History Society's traditional field trips to Hurricane Ridge in Olympic National Park, Washington, July 11th and 12th were enjoyed by about 50 eager members. The Saturday group was led by Darren and Clauin Copley and Sunday by Carrina Maslovat and Barbara Begg.

Participants had no need to worry about sunburned faces on either day as both were mostly cloudy and cool, with some rain on Saturday at the end of the day. Conditions on the Juan de Fuca Strait crossings Saturday and Sunday were great for bird and mammal watching from the bow of the M.V. Coho, which is ideally shaped to direct most of the wind up and over the keen bird watchers assembled there. Numerous Common Murres and Rhinoceros Auklets were seen, and a small number of Red-necked Phalaropes, rare here in July. Some highlights the first day were two Pacific Loons and a Northern Fulmar, both also rare at this time of the year, and a male Black Scoter in Canadian waters. This latter species would be an extension to the Victoria checklist for the month of July. On Sunday special birds seen were a few Cassin's Auklets mid-strait and two Common Loons in basic plumage, both rare in summer, in the Port Angeles harbour. A fly-by White-winged Scoter, uncommon in July, was a pleasant surprise, as was the lone Red-necked Phalarope foraging in a tideline. As usual, the lovely Heermann's Gulls were a big hit and there were hundreds of them, particularly at Ediz Hook, the sandspit protecting Port Angeles harbour.

On the return passage Sunday there was the usual afternoon chop on the water, fewer birds, but good shows of Dall Propoises, Harbour Seals and Orcas. Sharp-eyed observers noted a collection of whale watching boats and soon spotted their quest, a small pod of Orcase frolicking in the water nearby. Before long another group was sighted quite a distance away for a total of perhaps a dozen individual whales. In both pads the high, sharply piramidal dorsal fins of the adult males were intermingled with the shorter, more curvaceous fins of the females and young. Neither did land mammals disappoint. On Saturday one Black Bear was seen well and Sunday, two were spotted, along with many endemic Olympic Marmots and Olympic Chipmunks, Black-tailed Deer, too numerous to count, Varying Hare, Douglas Squirrel and Townsend Chipmunk heard giving their alarm calls when Common Ravens were in the neighbourhood. The Saturday group had an interesting, but brief, show of a Cooper's Hawk chasing the only Horned Lark seen either day. They also saw a Blue Grouse with wellgrown young. Hurricane Ridge is always a reliable location to find Blue Grouse, a much sought after species for birders from eastern North America.



But of course, the primary attraction at Hurricane Ridge in July is the wonderful display of sub-alpine flowers. There was an abundance of both spring and summer blooming plants which proved a welcome distraction for the birders, given the gray skies.

Bird species were tallied for the entire day, from the Victoria harbour and return and included mooching Canada Geese, Mallards, Rock Doves and House Sparrows. Purple Martins flew around the next boxes at West Bay Marina, Ovstercatchers searched for tidbits on the rocks and even White-crowned Sparrows were heard signing on shore. Flora and fauns were studies from sea level to the top of Hurricane Hill. The two day's lists were combined for a total of 115 plant species, 64 bird species and 12 mammals. Because of the cloudy cool conditions, butterflies were scarce, the High Mountain Blue, Agriades franklinii, being the sole representatives.

Bird Trip List - 64 species

Common Loon Horned Lark Northern Fulmar Purple Martin Double-crested Cormorant Violet-green Swallow Pelagic Cormorant Barn Swallow Great Blue Heron Gray Jay Canada Goose Steller's Jay Mallard Northwestern Crow Black Scoter Common Raven White-winged Scoter

Chestnut-backed Chickadee Bald Eagle Black-capped Chickadee Cooper's Hawk Red-breasted Nuthatch Golden Eagle Brown Creeper American Kestrel Winter Wren Blue Grouse Golden-crowned Kinglet Black Oystercatcher Townsend's Solitaire Western Sandpiper Red-necked Phalarope Hermit Thrush Heermann's Gull

American Robin California Gull Varied Thrush Glaucous-winged Gull American Pipit Common Murre Cedar Waxwing Pigeon Guillemot European Starling Marbled Murrelet Yellow-rumped Warbler Cassin's Auklet Townsend's Warbler Phinoceros Auklet Chipping Sparrow

Rock Dove White-crowned Sparrow Band-tailed Pigeon Dark-eved Junco Rufous Hummingbird Red Crossbill Belted Kingfisher Pine Siskin Northern Flicker American Goldfinch Olive-sided Flycatcher Evening Grosbeak Hammond's Flycatcher House Sparrow

Mammal Trip List - 12 species

Black Bear Snowshoe (Varying) Hare California Sea Lion Black-tailed Deer Harbour Seal Olympic Chipmunk Harbour Porpoise Townsend Chipmunk Dall Porpoise

Douglas Squirrel (Chickaree)

Next year if the timing is right, we may be able to accommodate three times as many bird and flower fanciers on the ferry. A few days after this year's adventure, with a long, thin layer of fog entrenched in the centre of Juan de Fuca Strait, the ferry Coho was seen to slowly grow taller until a complete, inverted image appeared above. As the ship progressed further into the fog bank, a third image, upright this time, formed above the middle "shop". The centre image even had a bright red lower hull, as does the real ferry, when a long, narrow, darker strip of fog was visible in front of the apparition. This darker strip could have been a reflection from the sea, called the water sky, or possibly just a denser layer of fog. It was certainly the most fantastic mirage I have even seen and begs the question(s): would we see three times as many birds and mammals on the crossing? How would the people on the inverted ship fare? Would their birds be upside-down? Perhaps there would be a scramble of passengers to one of the upright shops.

Happy weather watching too!

Plant List

Plants seen in Olympic National Park 1998 (combined list for both Saturday and Sunday trips)

Abies lasiocarpa Acer glabrum Achillea millifolium Agoseris agantiaga Allium crenulatum Amelalnchier alnifolia Anaphalis margaritaceae Anemone multifida Antennaria lanata Antennaria racemosa Antennaria rosea Aquilegia formosa Arabis sp. Arenaria capillaris Arnica sp.(parryi?) Aruncus dioicus

Subalpine Fir Douglas Maple Common Yarrow Orange Agoseris Scalloped Onion Serviceberry Pearly Everlasting Pacific Anemone Wooly Pussytoes Raceme Pussytoes Rosy Pussytoes Sitka Columbine Rockcress Threadleaf Sandwort

Arnica Goat's Beard

Aster capitata Campanula rotundifolia Carex mertensii Carex nigricans Castilleja miniata Castilleja parviflora Cerastium arvence Chamaecyparis nootkatensis Chimaphila umbellata

Cirsium edule Clintonia uniflora Delphinium glareosum Delphinium glaucum Digitalia purpurea Dodecatheon sp. Douglasia leavigata Elmera rascemosa Epilobium angustifolium Epilobium glaberrimum Ervsimum capitatum Erythronium grandiflorum Erythronium montanum Festuca idahoenses Gaultheria shallon

Holodiscus discolor

Hydrophyllum fendleri

Hypopitys monotropa

Juniperus communis

Lathyrus navidensis

Leucanthemum vulgare

Lillium columbianum

Lomatium martindalei

Lomatium nudicaule

Linnaea borealis

Lonicera ciliosa

Luetkea pectinata

Luina hypoleuca

Lupinus latifolius

Mimulus sp.

Mitella breweri

Orobanche uniflora

Oxytropis monticola

Pachistima myrsinites

Pedicularis bracteosa

Pedicularis racemosa

Penstomen procerus

Phacelia leptosepala

Phacelia sericea

Phleum alpinum

Pinguicula vulgaris

Piperia unalascensis

Platanthera dilatata

Polemonium elegans

Polygonum bistortoides

Potentilla flabellifolia

Pseudotsuga menzeisii

Prunella vulgaria

Polemonium pulcherrimum

Pinus monticola

Phlox diffusa

Pedicularis groenlandica

Phyllodoce empetriformis

Orthocarpus imbricatus

Osmorhiza occidantalis

Western Wallflower Glacier Lilly Avalanche Lilly Idaho Fescue Salal Geum triflorum Old Man's Whiskers Hemitomus congestum Gnome-plant Heracleum lanatum Cow-parsnip Hieracium gracile Slender Hawkweed

> Ocean Spray Fendler's Waterleaf Pinesap Common Juniper Nutal's Peavine Oxeve Daisv Columbia Lily Twinflower

Olympic Aster

Merten's Sedge

Black Alpine Sedge

Scarlet Paintbrush

Majenta Paintbrush

Little Pipsissewa (not in bloom)

Field Chickweed

Yellow Cedar

Edible Thistle

Queen's Cup

Tall Larkspur

Shooting Star

Alumroot

Fireweed

Rockslide Larkspur

Common Foxglove

Smooth Douglasia

Smooth Willowherb

Harebell

Martindale's Lomatium Pestle Parsnip Orange Honeysuckle Partridgefoot Silverback Luina

Subalpine Lupine Monkeyflower Brewer's Mitrewort Nephrophyllidium crista-galli Deer-cabbage Naked Broomrape Mountain Owl-clover

Western Sweet-cicely Mountain Oxytropis Oregon False Box Bracted Lousewort Elephant's Head Sickletop Lousewort Small-flowered Penstemon

Narrow-sepaled Phacelia Silky Phacelia Alpine Timothy Spreading Phlox Red Mountain Heather Common Butterwort Western White Pine Unalaska Rein-orchid

Showy Polemonium American Bistort Fan-leaf Cinquefoil Self-heal Douglas Fir

White Bog Orchid

Polemonium

Natural History

at · CAPILANO COLLEGE

Saskatchewan: Last Mountain Lake

Visit Canada's oldest bird sanctuary for a fall birding spectacle with David Stirling. The trip is timed to the fall migration of whooping and sandhill cranes, geese, hawks and thousands of other waterbirds. October 2-8

Mexico's Copper Canyon

This maze of small canyons in the Sierra Madres is a unique and isolated wilderness. The landscape, varying from pine-forested mountain tops to lush riverside tropical forests boasts birds and plants from the deserts of the U.S. as well as the rainforests

of Central and South America. Join naturalist Syd Cannings and local birding guides. January 21-31

Southern California

Join biologist Dr. Nancy Ricker on a tour of the Salton Sea National Wildlife Refuge, the Anza-Borrego desert and the Laguna Mountains. The Salton Sea is a magnet for birds year-round and a wintering refuge for thousands of migratory waterbirds. Regions nearby attract many songbirds. The book, Down and Dirty Birding, rates this region as one of the ten hot spots in North America. February 23-28

Amazon Rainforest & the Galapagos Islands

With biologist Marja de Jong Westman experience the profound biological diversity of the Amazon jungle while staying at Sacha Jungle Lodge in Ecuador. Then follow in Darwin's footsteps to study the unique plants and animals of the Galapagos Islands while aboard the luxurious '98 yacht, the Andando.

Optional excursion to Machu Picchu. April 12-29

Great Zimbabwe & Madagascar

Led by ecologist Dr. Keith Wade, this tour takes you through Zimbabwe's nature reserves, the cultural highlights of the Great Zimbabwe Ruins and Victoria Falls, and a camping safari along the Zambezi River to view some of Africa's more remote parks and wildlife areas. May 13-31

Oregon's Malhear National Wildlife Reserve

Ornithologist and naturalist Dr. Nancy Ricker will take you exploring in the marshes, lakes, alkali flats and sagebrush habitats of this wonderful wildlife reserve in southern Oregon. May 1999

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Capilano Capilano College Continuing Education College 2055 Purcell Way, North Vancouver, B.C.



Edible Thistle (Cirsium edule). Photo by Glen Moores.

Pterydium aquilenum Ranunculus sp. Rhododendron albiflorum Ribes lacustre Ribes sanguineum Rosa nutkana Rubus lasiococcus Rubus spectabilis Rumex acetosella Sambucus racemosa Saxifraga bronchialis Saxifraga cespitosa Sedum sp. Silene parryi Sorbus sitchensis Spirea splendons Taraxicum officinale Thalictrum occidentale Thuja plicata Trifolium longipes Tsuga hererophylla Tsuga mertensiana Vaccinium sp. Valeriana sitchensis Veratrum viride

Veronica cusickii Veronica wormskjoldii Vicia americana Viola adunca Viola glabella

Bracken Fern Buttercups White Rhododendron Gooseberry Red Flowering Currant Nootka Rose Dwarf Bramble Salmonberry Sheep Sorrel Red Elderberry Spotted Saxifrage Tufted Saxifage Bladder Campion Grav's Sitka Mountain Ash Subalpine Spirea (not quite in flower) Common Dandelion Meadowrue (not quite in flower) Western Red Cedar Long-stalked Clover Western Hemlock Mountain Hemlock Huckleberry Sitka Valerian Green False Hellebore (not quite in flower) Cusick's Speedwell Alpine Speedwell American Vetch

Hook Violet

Yellow Violet

Jamaica

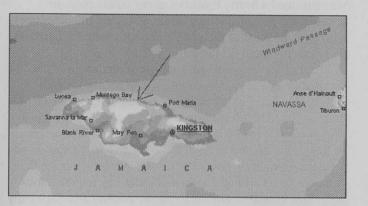
By K. Taylor

azing at our atlas during cold winter nights we would dream of classic journeys to tropical countries with immaculate sandy beaches lapped by deep-blue waters and fringed by waving coconut palms. To escape the brutal Canadian winter we would pore through our field guides dreaming of the hundreds of species we had yet to see at these quintessential destinations. We had only been thinking of a winter getaway until an ad in the local newspaper caught our eye, a fantastically inexpensive Jamaican charter with "Sun Tours", a deal we couldn't refuse. Although the Caribbean would not yield the prolific bird lists of other sun holidays, we were filling out the bird families of the world and knew we would eventually need to visit these islands to observe the endemic todies and Palmchat. A winter trip would maximize our chances of seeing approximently thirty migratory eastern North American species as well as the residents. So we decided to go to this island paradise where the people are friendly, speak English, and the birds are stunning and diverse—an enchanting sun-drenched land that embraces twenty-seven endemics, more than on any other Caribbean island or most other oceanic islands around the world.

As all of Jamaica's endemics can be easily located during a one-week stay, two weeks would allow plenty of time to pursue my non-birding wife's interests and spend alternate days as ordinary tourists. Although the cost of the charter paid for two-weeks of accommodation at the Comfort Inn, we paid extra to stay at Marshall's Pen for two nights. The purpose of this stay was mainly to see the nocturnal species but also for the ease of observing many endemics from our doorstep. Paying extra over the cost of the charter was still much less-expensive than booking separate accommodations.

Jamaica's avifauna is composed of 200 species and 50plus vagrants or rare winter visitors. Fifty of these are Greater Antillean specialties that can be found throughout this beautiful island that is blessed with a wide range of habitats from dry coastal scrub to mountain rainforests that loom 7,000 feet into endless blue skies. Jamaica's birding sites are easily accessed along paved roads from excellent accommodations. The five sites you must bird to see all of Jamaica's endemics include the Cockpit Country (Windsor Cave), Marshall's Pen, Rockland's Feeding Station, the Blue Mountains (Hardware Gap) and Mockingbird Hill for Blackbilled Streamertail.

Bird books such as "Birds of Jamaica" are widely available throughout Jamaica and less-expensive than at home. There is not as yet a birdfinding guide to Jamaica, although Mrs. Sutton has one in preparation. We used Craig During winter, Jamaica's climate is pleasant, the humidity is



low, it seldom rains, and temperatures range between 70° in the mountains to 85° on the coast. There are few biting insects.

PART 1

Montego Bay's sky was aflame as whisps of brilliantly-hued clouds captured the colours of the setting sun. Stepping from our plane we were instantly surrounded by wonderful frangipani scented breezes. After clearing customs we rendezvouzed with our hotel shuttle for the two-hour drive to Ocho Rios. The driver of the air-conditioned van ignored all speed limits as he hurtled along the narrow winding highway. White-knuckled, we roared through villages narrowly missing the toes of pedestrians. As this driving custom was routine, the Jamaicans took the near misses in stride. Safely reaching our destination the headlights revealed elaborate Fan Palms and fragrant pink blooms of hibiscus framing the gated entrance.

The Comfort Inn was an evocative and romantic place with its own special atmosphere and charm. A luxurious collection of three-story villas decorated with elegant white stucco encircled a large swimming pool and an aesthetic bamboo-constructed restaurant and bar. It was late in the evening when we signed the office register. Recieving the key from the hospitable receptionist and comatose from our long day, we went directly to bed.

Anxious, I was awake at first light. With tantalizing exotic calls emanating from the thick tangles, I forged outdoors to explore the small plot of rainforest surrounding the hotel grounds. A melodious you cheat, you cheat, sometimes cheat you announced the presence of my first endemic, a Jamaican Oriole, while a rapidly repeated churchur-chur-chur like a motor being started disclosed the second, a Jamaican Euphonia. Feeding on the nectar of the garden's striking flowers were minute Vervain

Hummingbirds, Red-billed Streamertails, and the blackthroated Jamaican race of Bananaquit. Overhead flocks of white-rumped Antillean Palm Swifts flew bat-like, gliding, wheeling, diving and twisting from side to side.

My wife awakened to the pleasant aroma of Blue Mountain Coffee and the serenade of tropical birds. Together we consumed a hearty breakfast at our hotels open-air restaurant, a peaceful setting under casuarina and palm trees where we ate most of our meals. The staff were friendly and the meals light and delicious.

One of the less-expensive means of renting an automobile at a foreign destination is to prepay through Holiday House. We had arranged the rental of a compact Suzuki Alto. After devouring scrambled eggs and drinking several cups of the most full-flavoured and mellow coffee to be found, we walked through Ocho Rios along narrow streets lined with old frame houses of Georgian architecture to their Jamaican agent, Island Car Rentals. The tiny unpretentious office was typical of any undeveloped country and dispite my unwarrented anxieties over the paperwork, everything went well. Actually we were in for a pleasant surprise...a rebate!

The air-conditioning purring, we struck out along the velvet-green coast towards Port Antonio and the aesthetic Mockingbird Hill Restaurant. We had come to this enchanting old Jamaican country hotel specifically to see the Black-billed Streamertail, a hummingbird which had just been split into a separate species from the widespread Redbilled Streamertail or "Doctorbird". As we sat on on the patio relishing our gourmet lunch, emerald Black-billed Streamertails and iridescent purple Jamaican Mangos fed in the flowering trees above our heads. It was a pleasant surprise to find two more endemics frequenting the gardens surrounding the inn, the local Ring-tailed Pigeon and widespread Jamaican Woodpecker.

The drive along the north coast from Port Antonio to Morant Bay is one of the most lush and scenic in Jamaica. Inspiring views materialized around every corner. We drove past sorbet-coloured homes with enclosed front porches and wooden jalousies, their yards filled with jungle-like trees. The predominantly rocky coastline was punctuated here and there with gleaming-white beaches shaded by magnificent swaying palms. Moored wooden fishing boats among inlets and tidal backwaters were painted brilliant crayon yellows and reds. Overhead, menacing Magnificent Frigatebirds drifted slowly on warm trade winds awaiting the opportunity to rob Laughing Gulls of their hard-earned meals. Brown Pelicans, Royal Terns, Cattle Egrets, Zenaida Doves, Loggerhead Kingbirds, Northern Mockingbirds, and Greater Antillean Grackles were common companions on the roadside. At the village of Hector's River we visited the cliffs where White-tailed Tropicbirds nest. The acrobatic maneuvering and high speed chases of these ribbon-tailed birds' courtship flights were indeed memorable.

It wasn't long before my driving speeds matched those of the Islanders and late in the afternoon we returned to our air-conditioned rooms dodging the potholes so predictable in Third World countries. The condo-like dwelling was one of

the most delightful that we had ever encountered with Spanish-tile floors, spacious living-room, self-contained kitchenette, and french doors that opened onto a small balcony. We could have easily made the tastfully furnished rooms with their plump upholstered sofas our permanent residence.

As twilight approached the first bats emerged to flit about overhead snapping up insects. Surrounded in tropical splendour, we dined on the lantern-lit terrace contented with a menu of spicy conch chowder, Blue Crab, wine, and a fabulous slice of homemade Key lime pie. The Caribbean ambience experienced in Jamaica was to be enhanced this night by the energetic yet soothing rhythms of the Reggae beat provided by a local band.

The horizon was painted the colour of honey when our senses were tantalized by the aroma of sizzling bacon and fresh brewed coffee. Breakfast service as always was impeccable and our steward kept the perfectly-brewed coffee flowing. After devouring plates of scrambled eggs, bacon, and fresh papaya we headed off for a tour of the nearby Prospect Plantation. From the tractor-pulled open jitney we were shown working examples of Jamaican crops such as cassava, banana, coffee, and sugar-cane. Here we tasted coconut milk fresh from the tree and slivers of exotic native

After the tour we stopped briefly to admire the charming manor "Goldeneye", once the home of Ian Flemming who wrote the famous 007 spy novels and now preserved as a historical site. James Bond, the author of "Birds of the West Indies" was chosen by Ian to be the main character's name of these best-sellers.

Returning to our hotel we paused at an alluring out-ofthe-way art gallery under an umbrella of spreading Banyon trees: Harmony Hall, a turreted 19th century estate house built of cut-stone restored with tray ceilings and embellished with gingerboard fretwork. Peering through the diamondpaned windows, rooms exhibiting the works of local artists delighted the eye. Once inside, the attic was crammed with superb traditional handicrafts; woodworking, candlemaking, embroidery and pottery. After purchasing a souvenir jewelery box made from local hardwood we sat in the shaded garden cafe' where we sipped chilled nectarine beverages to ward off the heat of midday. Here we were introduced to a Jamaican specialty—jerk—a spicy mix of salt and ground bonnet chili peppers. Bonnets are the hottest of chili's and the ierk chicken held both fire and flavour.

During the cooler hours after sunset we made a visit to Oco Rios' premier gourmet restaurant-Evita's-a charming 1860's house ornamented with delicately carved louvres, arbours, and an attractive wooden interior with stained-wood floors. Dining on the vine-hung veranda, romantic silver moonlight danced on the placid sea below as we conversed over sparkling wine and our Caribbean-Italian combination plates of Pasta Escovicha and Lasagne Rastafari.

WATCH FOR PART 2 IN OUR NEXT ISSUE

Martindale Flats—Birder and **Farmer Friendly**

By Hank VanderPol

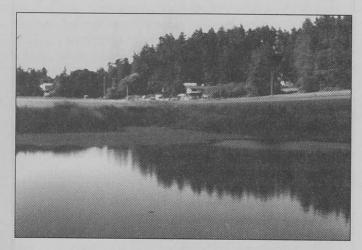
n the early fall of 1997, at the height of shorebird migration, two Birders were scoping one of the ponds in ⚠ Martindale flats. Preoccupied by trying to figure out the difference between a Lesser Yellow-legs and a Stilt Sandpiper, they scarcely noticed a man working near the pump-house. The man had noticed the birders, and on approaching them, he entered into a friendly discussion. He introduced himself as the owner of the property, and out of sheer curiosity, wondered, in the eleven years he had lived there, why no one had ever asked him for permission to walk on his land!

Valid question? You bet! The question took the two birders by surprise. When their story was told, it also jolted most of us birders into the realization that we had been taking Martindale flats for granted. Several hundred birders per year likely trod across this land In-groups and singles. It is one of our most popular birding areas, valued for its diversity of bird life at different times of the year. It is also frequented by out of town birders wishing to see the resident Skylark. Most of the land is privately owned, or leased, and as a group of birders, we seldom if ever ask any of the landowners or tenants for permission to walk on their land. We simply assume it's OK with the farmers. But is it?

So in November, 1997, a small group of us decided to find out. The Martindale Flats subcommittee was formed under the Society's umbrella, to develop a plan of action. Members included Brent Diakow, Jim Fliczuk, Marie O'Shaughnessey, Bryan Gates, Kevin Slagboom, with Hank VanderPol as the chair. We set the following objectives:

- 1. Meet and talk with each farmer individually to:
- a. Express our recognition and thanks for allowing us to bird on their land:
- b. Determine what, if any problems they have encountered with birders, and how these could be remedied;
- c. Obtain their suggestions and ideas for articles to be included in a code of ethics for birding Martindale flats—things that would be more specific than the ABA Code of Ethics, and would ensure continued goodwill between birders and landowners or tenants.
- 2. Develop a Martindale Flats sub-code of birding ethics to accompany the existing ABA birding code of ethics.
- 3. Write or visit each farmer after the sub-code has been developed, give them a copy, and acknowledge and thank them on behalf of all birders.

Three teams of two people each set out to meet, or at least talk by telephone with the owners/tenants. We talked or met with 12 farmers and the owner of Danica nurseries. Here are some of the comments we received:



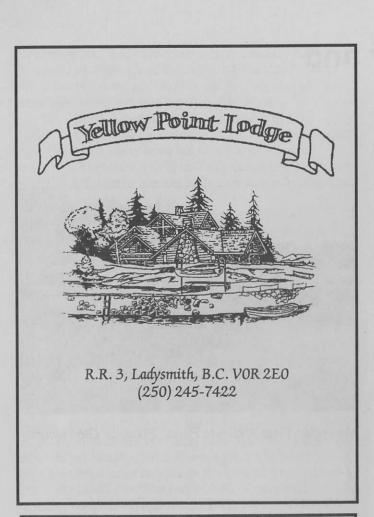
Martindale Flats-McIntyre Pond. Photo by Glen Moores.

- 1. Almost ALL were complimentary about birders.
- 2. NONE have had negative experiences with birders on their land.
- 3. ALL think that as a group, we are well behaved.
- 4. Some believe that the visibility of birders discourages vandalism or dumping by others.
- 5. Almost ALL will have no problem with birders on their land if we stay within the "Code of Ethics".

Some had suggestions, which we agreed to incorporate in the new sub-code.

Once we talked with the farmers, we developed a "Martindale Flats sub-code of Ethics for Birders". It is considered a sub-code as we will continue to use the ABA code of Birding Ethics as our standard guide (published in the Victoria Naturalist, Vol. 54.1 (1997). The Martindale subcode is as follows:

- 1. CAR PARKING. Always park cars in areas where they do not block field access trails, or if on roadways, always park well on the road shoulders in respect of wide farm equipment.
- 2. FENCED FIELDS. Fenced in farm property needs to be respected. Do not cross the fence, but if there is a really rare bird inside the Fences, which cannot otherwise be seen, ask permission to enter first.
- 3. PERMISSION TO WALK ON THE LAND. It is not necessary to ask permission to walk the fields each time one wants to bird there. (Deviates from ABA code Section 2a.)





- STAY ON TRAILS. Where there are tractor trails, stay on them. Where there are no trails, stay on the perimeter of the field.
- 5. GRASSY FIELDS. Fields of green grass are cut frequently for silo storage. Do not walk on them.
- 6. WEEDY FIELDS. There is no problem with walking through weedy, unused or harvested fields.
- 6a. HARVESTED FIELDS. If it is clear that the field is not being replanted after harvest, walking through them is OK. Some fields are re-seeded with winter rye, or grass, and are not to be walked on.
- 7. VEGETABLE FIELDS. Stay on the main vehicle trails and do not walk through the rows.
- 8. IRRIGATION PIPES. Do not step on, or in any way disturb the wheels or the pipes. For your safety, stay clear of water wheels (big sprinkler) both when running and idle. Farmers often operate these from a distance, they can't see you, and the pressure if turned on could harm you.
- 9. FARM BUILDINGS. Avoid going too close to farm buildings. If there is a really rare bird close to farm buildings, ask permission to enter first.
- 10. MODEL AIRPLANE FIELD. Keep a respectful distance when aircraft are being flown, and move quickly past the airstrip if in the vicinity. Airplanes do crash, and the flyers are worried about hitting and injuring someone.
- 11. BULB FIELDS. Stay out of these in the spring and early summer as they are often sprayed with poisons.
- 12. ACKNOWLEDGEMENT. Acknowledge farmers and farmworkers when you encounter them; wave, say "hello", and feel free to approach to say "thank you", and chat.
- 13. DANICA NURSERY. Do not walk in the nursery itself as there are hidden holes where trees have been dug out. It can be dangerous.
- 14. NO TRESPASSING SIGNS. Honor these signs unless permission is obtained to enter.

And finally, BUY LOCALLY GROWN FOODS. Ultimately, your purchases may well save the Martindale flats that we know.

We have written to all the farmers we had contact with, and send them acopy of the ABA code, and Martindale subcode. We are encouraged and very grateful for the positive responses we received. It is with pleasure that we acknowledge the landowners/tenants for allowing us to share their land so that we may enjoy our hobby. We want to thank all birders for abiding by the code of Ethics, and encourage them to adopt the Martindale sub-code, most parts of which are applicable to all other farm areas in Greater Victoria. And last but not least, we want to thank those two birders who alerted us and unwittingly started this valuable dialog and exchange.

For The Subcommittee, Hank Vanderpol

Birding on the Farne Islands

By Dale Geils

he Farne Islands—an important and well-known nature reserve, are located off the coast of Northumberland in north-east England. Owned and managed by the National Trust, there are two main groups, separated by Staple Sound. These are the Inner and the Outer Farnes which vary in number between 15 to 28, depending on the tides. The main island, Inner Farne, is approximately 16.5 acres.

On a cool misty morning in May of this year, out boat left Seahouse harbour for the 30 minute run out to the Farnes. We were a group of 15 birders, including our leader, who had come from Alnmouth where we were staying at a Holiday Fellowship Centre.

These Islands are situated on part of the Great Whin Sill—a formation of hard dolerite which provides nesting habitat for many species of sea birds.

Upon arrival, we cruised slowly around and were able to come quite close up to "The Pinnacles", (rock stacks), off Staple Island. The tops of these were crowded with noisy seabirds, including, Shags, Guillemots, Cormorants, Kittiwakes, many black-headed gulls and others. Some Oystercatchers were visible on the lower rocks, while many little puffins swam near the boat.

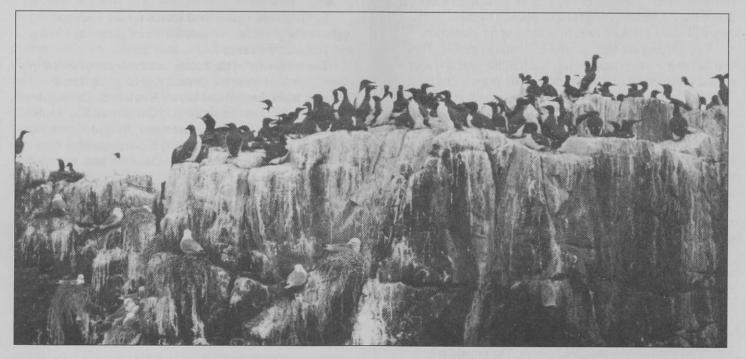
We landed on this island, where the ground consists of huge rock areas—split and worn into cracks and crevices. Good footwear is essential here as the walking can be treacherous.

The cliffs are crammed with breeding seabirds at this time of year. Cormorants build up their nests some of them are stacked high with seaweed, twigs and bits of driftwood, grasses and plants and whatever else can be found and added. We watched a male Cormorant stagger up to his nest dragging a long piece of dried kelp, while the female sat in their high nest, taking things easy, and with a great view out to sea.

The Kittiwakes, of which there are about six thousand breeding on these islands, cement their cup-shaped nests, made of seaweed and a kind of mud, or "puddled soil" as it is called, on to the steep sides of the cliffs where they remain as permanent fixtures.

The Razerbills are few but increasing in numbers, and we saw several. They lay a single egg on bare rock in a crack or crevice. These birds are closely related to the Guillemots that lay a single egg on exposed ledges. Apparently, when the young Guillemots are eighteen days old, and with the encouragement of the male parent, they jump off the cliff into the ocean below from a great height. Not yet able to fly, yet instinctively able to swim. Hence, they are known as "jumplings" at this stage.

These islands are one of the most southern breeding areas in Britain for the Terns, and about three thousand nest here. We saw hundreds of these noisy gulls on both islands we were able to visit, most of them being the Common Tern



Staple Island, May 19, 1998. Guillemots, Kittiwakes, Cormorants and Shags. Photo by Dale Geils

and Arctic Tern. In addition we did see some of the Sandwich Tern which are slightly larger and are easily distinguishable by their long black bills with a yellow tip, and black legs.

The Roseate Term with its delicate pinkish colouring was not seen by our group. The numbers are declining, until now, there are very few nesting here.

Terns can be very aggressive during the nesting period and have been known to attack anyone approaching the nest if the bird feels threatened. For this reason, some areas are closed off and signs posted by the wardens, usually when the chicks are newly hatched.

We ate our packed lunch near the centre of the island, sitting close to a nest containing two pale brown speckled eggs. These were so well hidden, we hadn't noticed the nest when we first sat by this cleft in the rock, so then we moved away,

but the nest was still unattended long after we had gone.

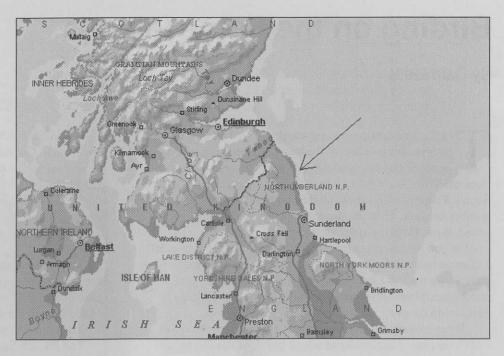
Earlier, we had watched as two Herring Gulls squabbled over the ownership of a pale green egg, stolen from a Guillemot's net. The egg kept rolling away from the two of them, but because of its shape, (narrower at one end), it spun rather than rolled, so did not drop off the ledge. Finally one of the gulls pierced the shell with its beak and broke into it and both set to and gobbled up the remains, shell and all. When I mentioned this incident to one of the wardens, he told me that these predator gulls actually help to keep the bird numbers down to a manageable count, so they don't worry too much about these situations with the predators. However, in some special cases, such as the Ringed Plover, if they think the numbers might be threatened by these gulls, they will place a special cage over the nest for protection.

The wardens are very helpful and knowledgeable. They live on Inner Farne Island during much of the year and keep a good watch on all of the islands they are responsible for.

Leaving Staple Island after lunch, we continued on to the Inner Farne. For almost nine hundred years this island was inhabited as a retreat by monks, and for many years was a place for pilgrimage. St. Cuthbert lived along on Inner Farne until his death in AD 687 and a stone built chapel dedicated to him and completed in the year 1370 is still there, and was being renovated at the time of our visit.

There are no trees and the only shrubs are some stunted Elder. The While Sea Campion and the Pink Thrift were in bloom and a few other plants I didn't recognize.

The Inner Farne Island was remarkable, I thought, because of numbers of female Eiders nesting on the ground everywhere. The nests can be found in the oddest places, often in full view beside entrances and walkways, under seats and beside rocks. The female blends into the background and keeps so still in her down-filled nest, she can remain unnoticed until almost stumbled across. The female is a gentle looking bird and her brown plumage is in great



contract to the drake which has black and white colouring and pale green down and forehead and the nape, and in appearance is quite striking. He spends a short time with the female and after the young hatch, hands over the caring duties to the mother and often another female who take over and help the young to reach the sea.

There are about 34,000 pairs of Puffins on the islands more than any other species. They lay a single egg in a burrow which can be about three feet long. Last year, unfortunately, due to heavy rains many of these burrows were flooded and chicks drowned. The wardens told us that they expect the Puffin numbers to recover from this disaster fairly quickly.

Sand eels are a good food source for sea birds and appear to be plentiful. It was a familiar sight to see Puffins and Terns carry three or four in their bills.

The remainder of the nesting sea birds out of a total of about 70,000 who use the islands regularly are: Terns, Fulmars, Black-headed and Lesser Black-back Gulls and Herring Gulls, Cormorants, Shags, Guillemots, Razorbills and Kittiwakes. Also the Oystercatcher, Ringed Plover, Rock Pipit and Pied Wagtail. Altogether, 270 species have been identified on the Farnes and 38 species have been recorded as having nested here.

The islands are visited by thousands of people each year and many school groups take advantage of this unique educational experience. The wardens are responsible to see that the birds are not unduly disturbed and sometimes will close off whole areas and even islands to protect the bird population.

Our group all agreed that our visit to the Farne Islands was the most exciting and interesting place for observing birds that we could ever hope for and we plan on going again one day.

HAT Tricks

By Jeff Stone

hanges in nature often occur slowly. Similarly, progress on some initiatives at HAT seem to take equally as long. We have been hinting over the past 1 1/2 years that HAT would be opening a Land Stewardship Office. Well, we have finally secured seed funding that will enable us to open a "store-front" office this fall with a paid part-time coordinator. Many thanks to the Provincial Capital Commission and CRD Parks for providing this funding.

The objective of the Land Stewardship Office is to improve and help coordinate land stewardship information exchange among local conservation organizations, municipalities, and individuals. The storefront office is to be a visible focal point for this exchange and distribution of information. The Land Stewardship Office will also acquire the resources and expertise necessary to enable efficient land stewardship initiatives in the Capital Regional District. In general the goal is to assist other conservation organizations in the work that they do but not to duplicate their good work. For the general public, it will be a visible location where they can get answers related to land stewardship (e.g.,. I want to protect the natural value of my property, how can I do it?).

Andrew MacDonald has been contracted to be our Information Coordinator for the initial year. Andrew brings to the job his background in creative writing and experience in the development and presentation of environmental extension materials. Andrew is also an active naturalist who many of you know through his work as an assistant manager at the Field-Naturalist. He has also been active with HAT for the past 2 years.

The Land Stewardship Office will be physically located upstairs at the Field-Naturalist at the corner of Blanshard and View in downtown Victoria. Many of you may have noticed the layout of the Field-Naturalist was modified in July to accommodate increase access to the stairway leading upstairs. HAT has maintained a rough office upstairs at the Field-Naturalist for the past year or more but with extra funding we will now be able to make our office functional. So if you get the chance come and visit us. Office hours still need to be determined at this time.

With the opening of the Land Stewardship Office, HAT will be stepping up many of its initiatives. However, to do so we will require your help (or someone you are willing to

With the opening of the Land Stewardship Office, HAT will be stepping up many of its initiatives.

We have finally secured seed funding that will enable us to open a "store-front" office this fall with a paid part-time coordinator.

volunteer in your place). If you are interested in finding more about what HAT is doing and the type of help we need, phone Jeff Stone at 370-2449. Please come and join us to help ensure that our children's children can enjoy the natural areas that you are enjoying today.

Associated with the Land Stewardship Office initiative, Karen Cleary a Camosum co-op student has been looking at the "map-based" needs of the Land Stewardship Office. She has been surveying a number of conservation organizations as well as local governments about their mapping needs and the resources that they use or could use. Karen is also identifying (and obtaining where possible) various land base information sources and developing an example computer based Geographic Information System for HAT. From Karen's work, HAT will be in a better position to evaluate the needs for providing "map-based" services to other organizations as well as its own needs for such information. Karen is working out of the EcoTrust Conservation Mapping Consortium Office under the guidance of David Carruthers. She has been funded through a provincial E-Team grant to EcoTrust and your donations to HAT.

As a final HAT Tricks item, HAT has entered into partnership with a number of organizations (The Land Conservancy, Western Canada Wilderness Committee, The Sea-to-Sea Greenbelt Society) in a campaign to fill the missing pieces of the Sea-to-Sea Greenbelt, that beautiful wilderness area at your doorstep that many of us take for granted. A number of privately owned properties within the greenbelt have recently come on the market and it is felt by many that it is now or never for us to protect these areas from development. It is estimated that it may require up to \$10,000,000 to fill in the major missing piece over the next 10 to 15 years. More details about our campaign will be available at our HAT office (phone 995-2HAT or check our website at http://victoria.tc.ca/Environment/HAT). For more information on the Sea-to-Sea Greenbelt, I suggest looking at an article on the greenbelt that will appear in Beautiful British Columbia this fall. So please help, it's worth it.

Under-Thirty Birding

By Hilary Sandford

we went to Madera Canyon.

'm an under-thirty birder. In my experience, that classifies as a "rare" to "uncommon" occurrence. I keep L a low profile simply because birding is not a common pursuit in my age bracket—in fact, I meet with puzzled stares if I reveal my interest to my friends.

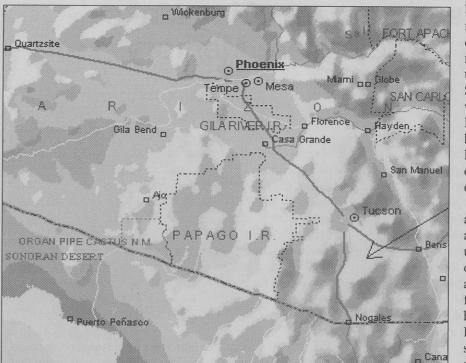
I'm a relatively new birder; an accidental birder, of sorts. I am a geomorphologist by trade and, like my peers, I used to ignore the chirrups and tzweets that surrounded me during my summers of fieldwork. I only looked up if there was a brilliant flash of colour...and even then I would never have cracked open a field guide for identification. The transformation came on a holiday. My husband and I took a trip to Arizona at Christmas and, before we left, one of my colleagues, an avid birder, looked like he'd been injected with adrenaline when I told him of our plans. "Oh my god, you have got to go to Madera Canyon...it is the greatest

place. I had the best holiday ever at Madera Canyon". So,

It was late December when we drove up the Santa Rita Mountains into the Coronado National Forest. The air temperature was dropping as we rose in elevation and I was getting more and more disenchanted with the whole expedition. We had just come from sunny Saguaro Park, west of Tucson, where the Californian tourists wore sweaters and grumbled about the chilling 17 degree temperature and we, the pasty Canadians in our shorts, reveled in the heat. I was beginning the never-ending process of "layering" by the time we reached the deserted Madera campground and, when the lone warden finally approached us, I was into full-fleece, including a toque ("a what?" said the warden). We were mildly concerned with the level of excitement displayed by the warden when he saw us...he nearly ran over to greet us. "I don't get many campers up here, this time of year" he said. "In fact, the last RV I had was late last week. I guess you guys haven't been listening to the radio...oh, but you're from Canada, so snow doesn't bother you."



Hummingbird, Sonoran Museum. Photo by Hilary Sandford



It didn't snow. But it did get darn cold. And quiet. Until the birds began to go wild at about 4 am. My multi-purpose fleece ensemble handily muffled the chorus of a zillion birds when it was balled up and placed over my head. But, after a short time, the suffocating heat of the fleece left me no choice but an early start. We got up. And made breakfast. And began to notice that these birds were very different from the birds up north. The little titmice were so cute (the damn beggars) and the jays were so...gray (the damn beggars). And there were all these orange birds, red birds, multicoloured birds and, wow, so many birds.

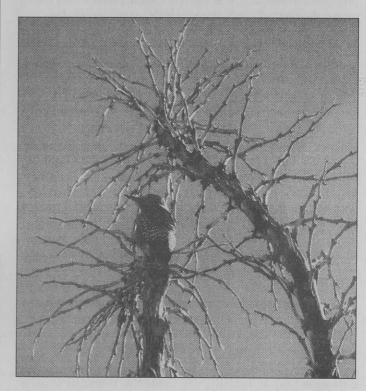
My husband is a wildlife biologist and a serious nature enthusiast. So, he whipped out the field guide and we went to work. I had identified five birds (stop laughing) by lunch time, and wow, was I proud. I saw a Yellow-eyed Junco, I could distinguish between a Strikland's and an Acorn Woodpecker, and Bridled Titmouse even landed on my outstretched hand. But the pinnacle achievement came that afternoon when I spotted a red and black bird in a large riverside tree. Actually, I didn't spot it, instead it called and called until I finally looked up. The persistent bird was a find, indeed. It was a Painted Redstart, brightly coloured and a real showman. I'd never heard of a Painted Redstart until that day and our borrowed birdlist classified it as "rare" for the area at that time of year. Outstanding! The fact that I saw it and I identified it before my husband even heard it was the icing on the cake! I was a budding birder.

We spent two days rattling around an empty Madera canyon and we got to know the resident birds quite well. It could've been a disappointing trip for those with large expectations but, for us, it was overwhelming. So many birds, so little time. As we were driving down the Madera Canyon roadway, back to the sun in Tucson, I spotted five little harlequin faces on the roadside. Being a confirmed

birder, at this point, I wheeled the car off the road and leapt for the binoculars. Five little quail waddled their way along the ditch, up the road edge and into the tall grass. We pursued them...but they disappeared. "Five to beam up, Scotty"...they were gone. I stomped out the whole area but the entire pack had vaporized. Back at the car, the handy field guide was hauled out and my sighting was confirmed. Montezuma Quail. An "uncommon" occurrence in the area! Woohoo! I was a birddog!

On returning to Victoria, I proudly announced my finds to my group of friends and this was when I learned that birding, in the under-thirty crowd, is something best kept to one's self. It wasn't until I returned to work and met my Madera-promoting colleague that I finally received confirmation that it was cool to have seen such birds...not only was it cool, but I had seen a Montezuma Quail, a bird he had stalked continuously on his visit but had never

So, now I admit it. I will openly declare that I'm a birder. And I'm becoming just obnoxious enough to casually fan my hand in the air and say "oh, a Townsend's Warbler" as I walk along with friends...their faces grimacing as they realize that I've mutated to the point where I want to know bird songs! How far with this go? All I know is that I've got years ahead of me.



Gila Woodpecker, Tucson. Photo by Hilary Sandford.

Meteorological Measurements May Make Merilees-Melburn Muddle Mere Memory

By Eric Redekop

o investigate the question of whether spring arrives first at Nanaimo or Victoria, a recent comparison was made between anecdotal data for Nanaimo in 1997 and 1998 (Merilees, 1998) and observations recorded by M.C. Melburn for the Victoria region in 1954 (Melburn, 1988a-e). If it is assumed that the flowering of native plants may indicate the changing seasons, the strong synchronicity between climatic and biological cycles suggests that normal climatic events and conditions might even be substituted for seasonal indicators in place of plant flowering dates. Indeed, even Merilees (1998) admitted that knowledge of the weather conditions in 1954 might be useful in arriving at a just allocation of vernal bragging rights.

From the perspective of plants, the conditions of each season are distinct and adaptively challenging. Ever practical, native plants grow and reproduce in harmony with this cycle of natural conditions. For example, because meadow wildflowers need both sunshine and water to grow and flower, they are adapted to do so when the sun is shining but there is still water in the soil for their use. These flowers then need the heat of summer to ripen their seed pods and capsules and dry out their bulb or corm. When seasonal precipitation resumes, it is often associated with winds which propel the ripened seeds from their dry capsules into the warm and moistened soil. When soil pores are finally refilled by precipitation, freezing temperatures will help seeds deposited in the soil to break their dormancy and germinate, eventually renewing the reproductive cycle.

To apply the proposed criterion to the immediate question, normal and actual climate data for Victoria and Nanaimo were collected for July 1953 to December 1954 (Tables 1-6), and for Nanaimo alone from July 1996 to December 1997 (Table 7)*. Soil water budgets were then calculated for Victoria and Nanaimo, using both climatic norms (Canada 1975a, 1975b, 1982a, 1982b) and actual observations (Canada 1953, 1954a, 1954b, 1998). All measurements are stated in millimeters.

In the middle of winter, temperatures are relatively low, so plant demand for moisture is amply supplied by normal precipitation, and actual evapotranspiration (Ea) is equal to potential evapotranspiration (Ep). Since soil pores (S) are filled to capacity with water, any additional precipitation (P) runs off (R) under the force of gravity. As temperatures rise and precipitation declines, plant demand for moisture eventually exceeds that supplied by precipitation alone, and plants begin drawing from soil water to make up the difference (-G). Eventually, when even this source of water is exhausted, a soil moisture deficit (D) becomes established

and herbaceous plant growth will whither. When fall and winter rains return, skies become cloudier, day length shortens, the sun declines, and temperatures fall. Vegetation demand for water declines as the supply increases, and eventually its need is once again adequately met by available precipitation. Soil pores refill (+G) as the rains continue, and gravitational runoff (R) eventually resumes.

Within this sequence are four significant climatic events which divide the annual cycle into four distinct soil water phases. Specifically, these are when P<Ep and S>0, when P<Ep and D>0, when P>Ep and S>0, and when P>Ep and

Using these events as indicators of seasonal progression, a quick comparison of the soil water budgets will reveal that between 1941 and 1980, the first event (P<Ep, S>0) in the cycle normally occurred first at Victoria about one month ahead of Nanaimo. However, due to the particularly unusual climatic conditions of early 1954, this event occurred at Victoria about two months ahead of Nanaimo. Both Victoria and Nanaimo normally observe their first month of soil drought (P<Ep, D>0) in June, however, and other soil climate events in the cycle (P>Ep, S>0; P>Ep, R>0) in the same months as each other as well. For 1996-97, the soil water budget for Nanaimo (Table 7) shows that while the first event in the cycle occurred in May as usual, nearly twice the normal amount of precipitation fell in March, April and May, delaying the onset of soil drought by one month, from June

Apparently, if this vernal contest between Victoria and Nanaimo becomes a best-of race, in time the preponderance of data will demonstrate undeniably that spring arrives first in Victoria. Regrettably, however, this writer is unaware of the precise first-flowering dates for native plants in Victoria in 1997 and 1998, just as Merilees (1998) was unaware of the weather conditions in 1954, which makes a comparison test of the current hypothesis almost impossible. Consequently, I must join with Merilees (1998) and challenge island botanists to produce the data required to support a definitive statement of the correlation.

ERIC REDEKOP is a director of the Mount Tolmie Conservancy Association in Victoria, and counts historical meteorology among his many interests.

Note: *Official temperature and precipitation data are not available for Nanaimo for September and November 1997. As a result, some values in the soil water budget for 1996-97 (Table 7) are indicated as missing (m), unknown (?), or probable (~).

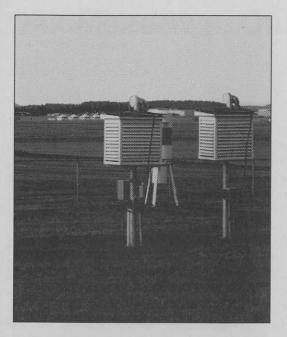


Photo by Glen Moores

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	S	D	E.	Ec	D	110	-
	S	P	Ep	Ea	R	+/-G	D
January	76.2	93.0	9.1	9.1	83.9		
February	76.2	71.4	13.8	13.8	57.6		
March	76.2	44.2	28.1	28.1	16.1		
April	62.0	33.8	48.0	48.0		-14.2	
May	9.1	21.3	74.2	74.2		-52.9	
June		21.3	84.0	30.4		-9.1	53.
July		12.4	106.8	12.4			94.
August	22.0	19.6	97.0	19.6			77.
September	33.0	70.5	33.0				37.:
October		31.1	73.9	42.8	42.8	+31.1	
November	76.2	93.5	22.5	22.5	25.9	+45.1	
December	76.2	107.4	12.2	12.2	95.2		
Table 2: Norma	al Soil Water	Budget, Na	anaimo, 19	941-1970			AND STATE OF THE PARTY OF THE P
	S	P	Ер	Ea	R	+/-G	D
January	76.2	134.9	5.7	5.7	129.2		
February	76.2	115.6	10.3	10.3	105.3		
March	76.2 76.2	85.1 62.2	22.7 44.9	22.7 44.9	62.4		
April Mav	41.6				17.3	216	
June	41.0	41.4 43.7	76.0 91.2	76.0 85.3		-34.6 -41.6	5.9
July		25.1	121.1	25.1		-41.0	96.0
August		36.1	109.5	36.1			73.4
September		45.0	72.4	45.0			27.4
October	68.3	107.2	38.9	38.9		+68.3	
November	76.2	158.0	17.8	17.8	132.3	+7.9	
November							
December	76.2	157.2 Budget, Vi	8.9 ctoria, 195	8.9 51-1980	148.3		
December	76.2			0.11	148.3 R	+/-G	D
December Table 3: Norma	76.2 Al Soil Water S	Budget, Vi	ctoria, 195	5 1-1980 Ea	R	+/-G	D
December Table 3: Norma	76.2 Al Soil Water S 76.2	Budget, Vi	ctoria, 195	51-1980 Ea 9.1	R 101.6	+/-G	D
December Table 3: Norma	76.2 Al Soil Water S	Budget, Vi	etoria, 195 Ep 9.1	5 1-1980 Ea	R	+/-G	D
Table 3: Norma January February	76.2 Al Soil Water S 76.2 76.2	Budget, Vio	Ep 9.1 13.8	51-1980 Ea 9.1 13.8	R 101.6 59.8	+/-G -16.6	D
Table 3: Norma January February March	76.2 S 76.2 76.2 76.2 76.2	P 110.7 73.6 46.9 30.4 19.3	Ep 9.1 13.8 27.7 47.0 72.9	51-1980 Ea 9.1 13.8 27.7 47.0 72.9	R 101.6 59.8	-16.6 -53.6	
Table 3: Norma January February March April May June	76.2 S 76.2 76.2 76.2 76.2 59.6	P 110.7 73.6 46.9 30.4 19.3 20.1	9.1 13.8 27.7 47.0 72.9 82.2	51-1980 Ea 9.1 13.8 27.7 47.0 72.9 26.1	R 101.6 59.8	-16.6	56.
January February March April May June July	76.2 S 76.2 76.2 76.2 76.2 59.6	P 110.7 73.6 46.9 30.4 19.3 20.1 13.4	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8	51-1980 Ea 9,1 13.8 27.7 47.0 72.9 26.1 13.4	R 101.6 59.8	-16.6 -53.6	56.: 91.4
Table 3: Norma January February March April May June July August	76.2 S 76.2 76.2 76.2 76.2 59.6	P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0	R 101.6 59.8	-16.6 -53.6	56.1 91.4 74.1
Table 3: Norma January February March April May June July August September	76.2 76.2 76.2 76.2 76.2 59.6 6.0	P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5	R 101.6 59.8	-16.6 -53.6 -6.0	56.1 91.4 74.1
January February March April May June July August September October	76.2 76.2 76.2 76.2 76.2 59.6 6.0	P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5	R 101.6 59.8 19.2	-16.6 -53.6 -6.0 +20.9	56.1 91.4 74.7
January February March April May June July August September October November	76.2 S 76.2 76.2 76.2 59.6 6.0	P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5	R 101.6 59.8 19.2	-16.6 -53.6 -6.0	56.1 91.4 74.7
January February March April May June July August September October	76.2 76.2 76.2 76.2 76.2 59.6 6.0	P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5	R 101.6 59.8 19.2	-16.6 -53.6 -6.0 +20.9	56.1 91.4 74.7 36.5
January February March April May June July August September October November	76.2 76.2 76.2 76.2 59.6 6.0	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4	R 101.6 59.8 19.2	-16.6 -53.6 -6.0 +20.9	56.1 91.4 74.7
January February March April May June July August September October November December	76.2 76.2 76.2 76.2 59.6 6.0	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4	R 101.6 59.8 19.2	-16.6 -53.6 -6.0 +20.9	56.1 91.4 74.1
January February March April May June July August September October November December	76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep	51-1980 Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 12.4 255 12.4 255 15.7	R 101.6 59.8 19.2	-16.6 -53.6 -6.0 +20.9 +55.3	56 91.4. 74 36
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.4 25.5 12.5 12.5 12.5 12.5 12.5 12.5 12.5	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0	-16.6 -53.6 -6.0 +20.9 +55.3	56 91.4. 74 36
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 51-1980 Ea 5.7 10.7 23.5	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3	56 91.4. 74 36
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio	9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4	51-1980 Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 551-1980 Ea 5.7 10.7 23.5 45.4	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0	-16.6 -53.6 -6.0 +20.9 +55.3	56 91.4. 74 36
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6	51-1980 Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 551-1980 Ea 5.7 10.7 23.5 45.4 76.6	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3 +/-G	56. 91.4 74.: 36.:
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6 60.0 41.9 42.5	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6 92.3	51-1980 Ea 9,1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 51-1980 Ea 5.7 10.7 23.5 45.4 76.6 84.0	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3	56. 91. 74. 36. D
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vid. P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6 60.0 41.9 42.5 24.3	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6 92.3 122.4	51-1980 Ea 9,1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 51-1980 Ea 5.7 10.7 23.5 45.4 76.6 84.0 24.3	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3 +/-G	56. 91.4 74.7 36.5
January February March April May June July August September October November December Table 4: Norma January February March April May June July August	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6 60.0 41.9 42.5 24.3 45.0	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6 92.3 122.4 110.7	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 12.4 251-1980 Ea 5.7 10.7 23.5 45.4 76.6 84.0 24.3 45.0	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3 +/-G	56. 91.4 74.7 36.3 D
January February March April May June July August September October November December Table 4: Norma January February March April May June July August September	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6 60.0 41.9 42.5 24.3 45.0 48.9	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6 92.3 122.4 110.7 73.4	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 12.4 251-1980 Ea 5.7 10.7 23.5 45.4 76.6 84.0 24.3 45.0 48.9	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3 +/-G	56 91.4 74 36 D 8.3 98.1 65.7
January February March April May June July August September October November December Table 4: Norma January February March April May June July August September October Cotober	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Video P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6 60.0 41.9 42.5 24.3 45.0 48.9 106.5	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6 92.3 122.4 110.7 73.4 39.7	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 22.5 12.4 251-1980 Ea 5.7 10.7 23.5 45.4 76.6 84.0 24.3 45.0 48.9 39.7	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1 14.6	-16.6 -53.6 -6.0 +20.9 +55.3 +/-G	56 91.4. 74 36
January February March April May June July August September October November December Table 4: Norma	76.2 76.2 76.2 76.2 76.2 59.6 6.0 20.9 76.2 76.2 76.2 76.2 76.2 76.2 76.2 76.2	Budget, Vio P 110.7 73.6 46.9 30.4 19.3 20.1 13.4 21.0 33.5 63.4 95.7 119.2 Budget, Na P 173.5 122.7 99.6 60.0 41.9 42.5 24.3 45.0 48.9	Ep 9.1 13.8 27.7 47.0 72.9 82.2 104.8 95.7 70.0 42.5 22.5 12.4 Ep 5.7 10.7 23.5 45.4 76.6 92.3 122.4 110.7 73.4	Ea 9.1 13.8 27.7 47.0 72.9 26.1 13.4 21.0 33.5 42.5 12.4 251-1980 Ea 5.7 10.7 23.5 45.4 76.6 84.0 24.3 45.0 48.9	R 101.6 59.8 19.2 17.9 106.8 R 167.8 112.0 76.1	-16.6 -53.6 -6.0 +20.9 +55.3 +/-G	56. 91. 74. 36. D

	S	P	Ep	Ea	R	+/-G	D
July		14.7	106.1	14.7			91.4
August		6.4	102.0	6.4			95.6
September	51.1	73.4	51.1	22.3			
October	13.9	58.7	44.8	44.8		+13.9	
November	62.3	76.5	28.1	28.1		+48.4	
December	76.2	184.7	15.4	15.4	155.4	+13.9	
January	76.2	190.2	5.5	5.5	184.7		
February	76.2	120.9	14.6	14.6	106.3		
March	65.0	13.2	24.4	24.4		-11.2	
April	54.2	30.5	41.3	41.3		-10.8	
May		5.1	74.8	59.3		-54.2	15.5
June		21.1	77.5	21.1			56.4
July		10.2	96.6	10.2			86.4
August		51.8	90.1	51.8			38.3
September	14.7	68.5	14.7				53.8
October	6.6	47.5	40.9	40.9		+6.6	
November	76.2	151.6	29.3	29.3	52.7	+69.6	
December	76.2	70.6	13.6	13.6	57.0		

Table 6: Actual Soil Water Budget, Nanaimo, July 1953-December 1954

	S	P	Ep	Ea	R	+/-G	D
July		17.0	118.5	17.0			101.5
August		42.2	109.1	42.2			66.9
September	6.0	80.0	74.0	74.0		+6.0	
October	34.1	69.3	41.2	41.2		+28.1	
November	76.2	225.0	23.5	23.5	159.4	+42.1	
December	76.2	174.5	10.9	10.9	163.6		
January	76.2	324.6	2.0	2.0	322.6		
February	76.2	201.4	11.6	11.6	189.8		
March	76.2	45.2	19.2	19.2	26.0		
April	76.2	47.8	37.7	37.7	10.1		
May	21.1	21.3	76.4	76.4		-55.1	
June		33.3	79.3	54.4		-21.1	24.9
July		30.5	107.5	30.5			77.0
August		54.1	102.0	54.1			47.9
September		47.0	70.0	47.0			23.0
October	33.5	70.4	36.9	36.9		+33.5	
November	76.2	305.6	25.0	25.0	237.9	+42.7	
December	76.2	145.3	9.7	9.7	134.6		

Table 7: Actual Soil Water Budget, Nanaimo, July 1996-December 1997

	S	P	Ep	Ea	R	+/-G	D
July		19.6	131.3	19.6			111.7
August		10.4	114.5	10.4			104.1
September		70.7	67.0	67.0		+3.7	
October		173.5	36.6	36.6	64.4	+72.5	
November		154.1	13.7	13.7	140.4		
December		325.3	2.1	2.1	323.2		
January	76.2	170.8	6.4	6.4	164.4		
February	76.2	49.7	11.7	11.7	38.0		
March	76.2	203.1	23.1	23.1	180.0		
April	76.2	99.4	43.9	43.9	55.5		
May	69.6	77.4	84.0	84.0		-6.6	
June	53.8	72.4	88.2	88.2		-15.8	
July		36.6	120.4	90.4		-53.8	30.0
August		36.0	120.7	36.0			84.7
September		m	m	?	~0	~0	~25.0
October	76.2	185.7	39.3	39.3	70.2	+76.2	
November	76.2	m	m	?	?		
December	76.2	121.2	10.5	10.5	110.7		

Spring

Pear blossoms in virginal white tremble as they await the caress of their lover the honey bee.

ROBERT C. KENSETT

The Silent Highway

Lined with ferns the path gently curves between the evergreens until it disappears from view.

What stories it could tell--of soft eyed deer tiptoeing across to their run -of raccoons and skunks waddling busily -of moccassined feet quietly, softly, walking in ancestral footsteps toward the lake ahead

ROBERT C. KENSETT

Oak Meadows, Our California Connection

By Yorke Edwards

we people in Victoria know that our city's climate is much like balmy California's. Proof is in the natural vegetation in both places, both having grasslands with scattered oaks. Like every natural vegetation, our oak meadows reflect the history of Victoria's climate, all major species in it being survivors through a very long residence.

Oldest parts of Victoria were built in a climate that once grew large grassy meadows. Our grassland connection with California is a similar grassy landscape that stretches southward from around Comox, down through Washington and Oregon to deep into California. All the way down it is inland from the coast, long and narrow, following valleys and their low flatlands. In places the grassland breaks into isolated patches where climatic changes have favoured forest invasions, or where flooded valleys, or cities have destroyed the grassland habitat.

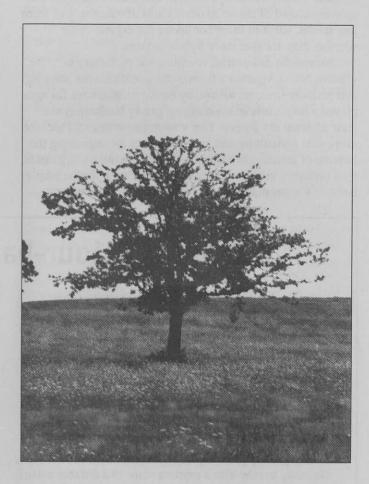
Our patches of grassy meadows are in the foundation of Victoria's earliest history. In 1843 when James Douglas selected the place to build the Hudson Bay Company's Fort Victoria, he was impressed by the two nearby harbours, but the clincher was probably the region's grasslands. Other company centres to the south were in similar grassy landscapes: Fort Nisqually on Puget Sound, and Fort Vancouver, the company's regional headquarters on the estuary of the Columbia River. There was also some farming near Fort Nisqually where vegetables grew poorly but raising livestock was successful.

What a contrast those grasslands by the sea must have been to the first European sailors who had seen most of our shores as foaming waves pounding black shores under dark walls of gloomy forest. In high contrast, the meadows of grassland beckoned because they were open and sunny. They were almost like home.

Many people are puzzled by Victoria's dry climate. They wonder why, on the Pacific Coast, there are not long rains favouring rainforest. In contrast, people on the same grassland south of us through Washington and Oregon and deeply into California know that they live in the east side of mountains which dry the west winds. It is dry winds that make dry climates for grasslands.

There should be no mystery about it. Our city is not on the west coast; it is inland beside valleys flooded by sea water that makes the Strait of Georgia and Juan de Fuca Strait. Just like people to the south of us, we have mountains and hills to the west of us that dry our westerly winds. Our grassland patches are in the rainshadow of hills and mountains to the west on both Vancouver Island and the Olympic Peninsula. The Olympic Mountains are not just south of us, they also curve around to the west of us.

How do mountains dry out our winds? Our weather



systems come from the west, their air laden with moisture picked up from the ocean. The first mountains encountered force the winds to rise. Rising air is cooling air, and cooling air loses its ability to carry water, so heavy rains result near the sea. Rainforests grow on those seaward slopes. Then the dried air falls down the east side of the moutains, warming in as it falls, and so becomes thirsty air. The result? It picks up water as it falls. Forests down those slopes and nearby flatlands are the dry kind. Where it is too dry for forests, grassland takes over.

It is perhaps a surprise to label Victoria a dry place, but two facts help to understand how it happens. First, strange as it may seem, the annual rainfall on the west side of the Saanich Peninsula is about twice as much as on the east side: and second, Victoria often does have rain around the year, but summer weeks of drought are normal, and wild plants not able to survive through those droughty weeks or months are eliminated from the local wild vegetation.

Many species other than grasses thrive in dry climates, and our Garry oak (Quercus garryana) is one of them. Grasslands seldom grow only grasses. Other herbaceous

plants of many kinds are usually resident, and sometimes scattered trees too. Oaks are part of the landscape in our grassland landscape that stretches from Comox south into Mexico. Our species of oak is the only one decorating the grassy lowland south through Washington and half way down Oregon. Through southern Oregon into California it joins a growing crowd of about 20 other kinds of oak, many of them just shrubs, some of them confusing the experts about whether they are species or hybrid crosses.

Numerous discoveries revealing the prehistory of western North America's forests and grasslands are showing that periodic fires, set aflame by native people, have for ages played a major role in maintaining grassy landscapes and their adjacent dry forests. Fire was an environmental tool for aboriginal agriculture and in some places for improving the hunting of animals. Within what is now Victoria's city limits, fires probably sustained the grassland farming for the edible bulbs of Camas plants. Fire was not necessarily frequent.

Intervals of several years were enough to remove unwanted young shrubs and trees, and perhaps to thin out grasses too. Scattered old oaks, their acorns another grassland food source, had thick bark that was almost fire proof, but few young trees with their thin bark were lucky enough to grow old. From California to British Columbia, oaks in grassland supplied harvests of acorns, which were inedible from most kinds of oaks until soaking them in water removed the tannin.

Not much of the oak grassland has survived in Greater Victoria. Ancient oaks are almost everywhere in gardens in parts of Oak Bay. Government House is saving a large grassland area. Beacon Hill Park still has some grassy oak patches, and Uplands Park has acres of grass and oaks.

Whenever I ramble in these special places, I wonder if they need careful fires. If periodic fires made what we have now, is burning necessary to preserve the grasslands as they are?

Watch for Colour-banded Cooper's Hawks

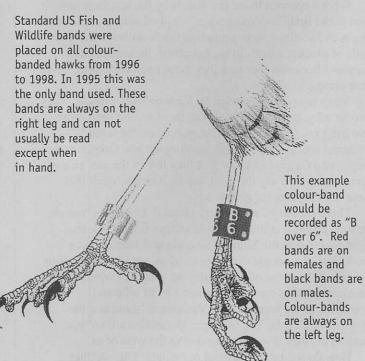
During the 1998 nesting season over 90 nestling Cooper's hawks were banded in the Greater Victoria area. This is the 3rd year of this colour-banding program and is part of a study on the breeding ecology of the Cooper's Hawk in an urban environment on southern Vancouver Island. Naturalists in this area and surrounding region are encouraged to watch for and report sightings of these marked hawks.

Colour-bands are uniquely coded with 2 vertical alphanumeric characters (i.e. number over number, letter over number etc.) and were placed on the left leg (see illustration). These codes are repeated 3 times around the band to provide good visibility from all directions. Band codes can easily be read with a spotting scope to a distance of about 75 m or with binoculars if within 20 m of the hawk. If you observe one of these marked hawks, please record and report the band code and colour, the time and date, and an accurate location. If you are unable to read the code, please note and record the band colour and other particulars as this information is still useful. Red bands signify that the hawk is a female and black signifies that it is a male. All colourbanded hawks were also fitted with a standard aluminum US Fish and Wildlife band on the right leg. Cooper's Hawks observed with only a standard aluminum band on the right (no colour-band on the left leg) were banded in 1995 and should also be reported.

Since 1995 nearly 350 nestlings have been banded in the study area and over 150 banded hawk sightings have been reported to date. Most observations were made in the Greater Victoria area, but several came from as far away as Nanaimo on Vancouver Island and from the Boundary Bay area on the mainland coast. We have also received band returns from more distant wanderers, including the states of Washington and Nevada. Although the Cooper's Hawk is the most abundant year-round bird of prey in the Greater Victoria area, it is highly secretive in its behaviour and easily overlooked. The

vast majority of sightings to date have been reported in residential areas, frequently near backyard bird feeders.

Please report banded Cooper's Hawks to: Andy Stewart Ministry of Environment, Lands and Parks PO Box 9344, Stn. Prov. Govt. Victoria, B.C. V8W 9M1 Phone: (250) 387-9780 or Fax: (250) 387-2733 E-mail: astewart@fwhdept.env.gov.bc.ca



Internet Birding Hotspots

Birds—A Virtual Exhibition http://www.chin.gc.ca/birds/index.html

A virtual exhibition on Canadian birds produced by the Canadian Heritage Information Network. This site has been developed for birders, students and high-flying surfers. It provides an insight into the wealth of knowledge in Canadian museums about the world of birds. Links include the Royal BC Museum's Grace Bell Exhibit which features exepts from "Birds of BC" written by Wayne Campbell. Well worth a bookmark!

Tweeters Birding Email (covering BC and Washington State) http://weber.u.washington.edu/~dvictor/

Subscribe the Tweeters Digest listserver and join in on a popular birding forum for our region. As a member of Tweeters, you can receive local and regional RBA transcripts, a number of good trip reports, field identification tips, and you can join in on any number of ongoing discussions and birding topics. Tweeters is a very active list and many of the top birders can be found here.

Where do you want to go Birding Today? http://www.camacdonald.com/birding/birding.htm

For those "Virtual Birders" interested in the Victoria Rare Bird Alert, you can find a listing of recent RBA transcripts

Welcome to New Members

JUNE

Rilla Ballantyne of Menzies Street is interested in Wildflowers, Birds, Butterflies & Old Growth Forests. Stephen and Anna Young of Yates Street are interested in Birding, Conservation and Environmental Management.

JULY

Loucas Raptisof Simcoe Street
Michael Mascall of Island Road likes Birding &
Lectures

located on the Birding in British Columbia website. Latest reports are posted on the website as the are received.

On the same note, thanks go out to Virginia Jessop of Victoria. Virginia has been diligently transcribing the Victoria RBA since May 98 and has offered to continue for a while as she is enjoying the work.

Those wishing to "volunteer for a month" in the future to transcribe the VNHS recorded tape message please contact boom@islandnet.com.

The Virtual Birding Experience West Coast Rain Forest Preview Exhibit www.islandnet.com/~boom/birding/virtual/

There's a new feature of the Birding in BC website, The Virtual Birding Experience. This new exhibit is an attempt push the limits of our current Internet technology to create the closest experience to Real Birding. Come "BIRD" the preview of this web exhibit by viewing the first scene in the coming Rain Forest series. Through support and contributions, more sceneswill be created. Contributions are requested.

Kevin Slagboom publishes "Birding in British Columbia," a website that offers birding and tourist information for our province. Feature areas include Birding Victoria, Birding Nanaimo, and Birding Prince George plus many other birding resources.

Homepage: www.islandnet.com/~boom/birding/bc-home.htm

The Birch Tree

Nov

My skin hangs in tattered shreds, fluttering in the breeze like small ripped flags.

Once:

Capable, loving hands fashioned me into a handsome craft and I danced on the mighty waters.

ROBERT C. KENSETT

The Victoria Naturalist Vol. 55.2 (1998) 21

CALENDAR OF EVENTS

REGULAR MEETINGS are generally held on the following days. Board of Directors: the first Tuesday of each month; Natural History Presentations (formally known as the General Members Meeting); the second Tuesday of each month; Botany Night; the third Tuesday of each Month; Parks and Conservation Committee Meeting: the third Wednesday of each month; Birders' Night: the fourth Wednesday of each month; Marine Night: the last Monday of each month. Locations are given in the calender listings. Telephone the VNHS Events Tape at 479-2054 for further information and updates.

NOTICE: We would like to encourage everyone to attend those meetings which are of interest to them but especially the Natural History Presentations. The volunteers and speakers at these meetings work hard to provide an entertaining and informative evening and we should all show our appreciation by coming to as many as possible.

SEPTEMBER EVENTS

Tuesday, September 1

Board of Directors Meeting

Note that the monthly board meeting has been moved to Swan Lake Nature Sanctuary, 7:30 p.m.

Tuesday, September 8

The Becher Bay Headlands Hawkwatch

This month's Natural History Presentation is by VNHS Past President David Allinson, who has put in more hours than anyone watching the fall movement of hawks, eagles, and vultures over East Sooke. David's slide-illustrated coverage of this recently discovered avian event is an excellent precursor to his field trip later in the month. 7:30 p.m. in room 159 (the Fraser Auditorium) of the Begbie Building at Uvic. Bring coffee mug and binoculars for migrating hawks.

Saturday, September 12

Birding at Cuthbert Holmes Park

Jeff Gaskin leads this search for migrant songbirds through a variety of habitats in this park which he birds regularly. Meet at the Pearkes Arena end of the Tillicum Mall parking lot at 8:30 a.m.

Tuesday, September 15

"Don't be afraid of grasses"

An introduction to the erminology and the most common species of grasses of the Victoria area. Swan Lake Nature House, 7:30 p.m. Adolf Ceska.

Sunday, September 19

Birding Witty's Lagoon

Leader to be announced. A chance to combine birding in the forest, on the mudflats, and on the beach, all in one day. Meet at the parking lot opposite the golf course on Metchosin Road at 8:30 a.m.

Wednesday, September 23

Birders Night

At press time a speaker had not been finalized. Room 159, Begbie Building, University of Victoria, 7:30 p.m. Bring a friend and your coffee cup.

Sunday, September 27

Don't Sit Still for Too Long

Hundreds of Turkey Vultures are joined by a dozen other raptor species in the annual southbound migration over East Sooke Park. Meet leader David Allinson at the Aylard Farm parking lot of East Sooke Regional Park, off Becher Bay Road, at 10.00 a.m., or carpool at Helmcken Park and Ride at 9:20. Coffee and lunch are a good

idea. To get better prepared, don't miss David's hawk talk at the Natural History Presentation, September 8.

Sunday, September 27

Mini-pelagic Trip

Hank Van der Pol is again leading several of these trips aboard the M.V. Coho on a sailing across the Strait of Juan de Fuca and back. These are the best opportunities to see bird species usually found further out to sea. Meet at the Black Ball ferry terminal on Belleville Street for the 10:30 a.m. sailing. The return sailing leaves Port Angeles at 12:45 p.m. Fares may be paid in Canadian dollars and will be about \$20.00 CDN return. Call Hank at 658-3482 if you have any questions.

Monday, September 28

Marine Night

Dr. Brian Harvey of World Fisheries Trust will describe the work of this organization in trying to preserve genetic diversity of fish populations. His talk, "From the Fraser to the Amazon: Saving Fish Biodiversity" will be presented at Swan Lake Nature Centre. 7:30 p.m.

OCTOBER EVENTS

Saturday, October 3

Birding Whiffin Spit

Leader: Bob Chappell. In 1997, Lapland Longspurs, a Sharp-tailed Sandpiper, and a Ruff stopped at this migrant trap in Sooke. What will 1998 bring? Meet at 9:00 a.m. in the parking lot at the foot of Whiffen Spit Road.

Tuesday, October 6

Board of Directors Meeting

7:30 p.m., Swan Lake Nature Sanctuary.

Sunday, October 11

Migrants on Jocelyn Hill

Rick Schortinghuis shares his knowledge of the Gowlland Range on this walk in search of migrating songbirds and raptors. Wear sturdy footwear, and bring water and a snack or lunch. For more information, call Rick at 391-1776.

Tuesday, October 13

Natural History Presentation

Conservation in the Capital Region. The VNHS Habitat Acquisition Trust Foundation has established itself as a leader in conservation work in the Capital Region. Andrew MacDonald, coordinator of HAT's new Land Stewardship Office, will provide an illustrated overview of HAT's projects, how they affect you, and how you can become involved. 7:30 p.m. in Room 159 (the Fraser Auditorium) of the Begbie Building at Uvic. Bring a coffee mug.

Saturday, October 17

Owling in the Highlands

Darren Copley leads an evening search for owls, with special emphasis on the declining Western Screech-owl. Take Willis Point Road from Wallace Drive, and turn left on Durrance Road to meet at the Mount Work parking lot at 9:00 p.m. Limit 20 participants: call Darren at 479-6622 to sign up. Wear quiet clothing and dress

Tuesday, October 20

Botnany Night with Jenifer Penny

"Rare native plants of British Columbia and the Conservation Data Centre." Swan Lake Nature House, 7:30 p.m.

Sunday, October 24

Mini-pelagic Trip

See September 27 for details. Please note that the return sailing on this trip leaves Port Angeles at 2:00 p.m.

Monday, October 26

Marine Night

At press time a speaker had not been finalized. Please phone the VNHS events tape (479-2054) for speaker and title.

Wednesday, October 28

Birders Night

At press time a speaker had not been finalized. Room 159, Begbie Building, University of Victoria, 7:30 p.m. Bring a friend and your coffee cup.

Saturday, October 31

Birding the Pumpkin Patch

Leader to be announced. Late migrants, winter arrivals, and raptors should make Martindale as good as it usually is. Meet at the farm market, corner of the Pat Bay Highway and Island View Road at 8:30 a.m. Gumboots are highly recommended.

NOVEMBER EVENTS

Tuesday, November 17

Botany Night

A joint action of the UVIC students (VIPIRG), VNHS & NPSBC. The lecture on "Plants of Greece" by Terry & Rosemary Taylor. location Elliot 168 (the place of the spring native plant symposia) starting at 7:30 p.m. and the admission wil be \$3.00. "advanced tickets" at the Field-Naturalist & Dig This (Bastion Square),

BULLETIN BOARD

For Sale

Brand new Nikon 10 x 25 binoculars, New \$329,00 Asking \$275.00. Call 598-7409

Volunteer Opportunities at Swan Lake Christmas Hill **Nature Sanctuary**

Volunteers are needed to help with school programs on site starting late September. An interest in natural history and an ability to work with children, ages 6 to 12 is all that is required. Training and ongoing staff support is provided.

There are also a few opening for volunteer nature house receptionists to work a 3 hour shift weekdays. This position involves some cash handling. Typing skills are also an asset. For more information on both positions, call Joan Cowely at the Nature House, 479-0211.

Birding at Swan Lake

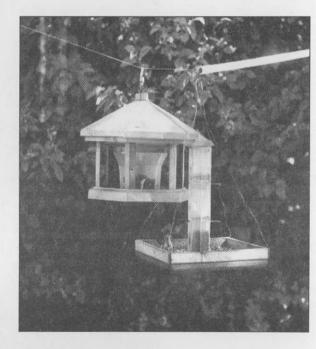
Join Geoff Barnard for an informative bird walk around Swan Lake. Beginning birders are welcome. Meet in the parking lot by the Nature House, 9:00 a.m. Wednesdays and Sundays.

Broom Bash

Cowichan Valley Naturalists are having a Broom Bash at the Mt. Tsouhalem Eco-reserve on Saturday, October 3rd, 1998. Meet at the Cowichan Community Centre, under the Hockey Stick at 9:30 a.m. Bring your pruners and work gloves and dress appropriately for the weather. The wildflowers that the Eco-reserve was established to protect are being smothered.

Mount Tolmie Park Broom Bash

Sunday, October 11, 9:00 a.m.-3:00 p.m. Sunday, October 18, 9:00 a.m.-3:00 p.m.



Wanted: articles, pictures, drawings, book reviews for future issues of your Victoria Naturalist. The November-December theme is backyard environment, birdfeeds, squirrel guards, nature gardens.



P.O. Box 5220, Stn. B., Victoria, B.C., V8R 6N4 Publications Mail Reg. 6428

VNHS

expires: Dec-98

Philip & Marilyn Lambert 1868 Penshurst Road VICTORIA BC V8N 2P3

