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**Editor:** Warren Drinnan. Work: 361-3543 Home: 652-9618  
**Associate Editors:** Dalia Hull and Pamela Thuringer  
**Contributors:** Bev Glover, Marilyn Lambert  
**Desktop Publishing:** Frances Hunter, 479-1956  
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# Contents

The Western Terrestrial Garter Snake on Vancouver Island By Heather Waye .....	4
Future of Our Natural Areas: VNHS as Consultant By Sheila Mosher .....	6
Birding Observations around Viaduct Flats By Michael A. Carson .....	7
Hat Tricks By Jan Garnett, Bruce Whittington and Jeff Stone .....	16
Welcome to New Members .....	18
Rare Birds Committee By Marilyn Lambert .....	19
Recent Changes in Common and Scientific Names of Birds Occurring in British Columbia By R. Wayne Campbell .....	19
Pacific Octopus By Pamela Thuringer .....	20
Calendar .....	22
Bulletin Board .....	23

## OUR COVER

Staring out from this month's cover is a female Western Terrestrial Garter Snake. The photograph was taken by Heather Waye during her study of this species at the Little Qualicum River estuary. Heather's research was supported, in part, by the Alice M. Hay scholarship from the Victoria Natural History Society. Heather talks about some of her observations in her article starting on page 4.

Readers are also encouraged to read Michael Carson's detailed report, beginning on page 7, on the birds at Viaduct Flats. Michael has written similar articles on Blenkinsop Lake and Rithet's Bog in previous issues of the *Naturalist* (January/February, 1994; November/December, 1995). These articles provide background for Sheila Mosher's request from members (see page 6) for feedback on management options for Rithet's Bog.



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# The Western Terrestrial Garter Snake on Vancouver Island

By Heather Waye

The Western Terrestrial Garter Snake (*Thamnophis elegans*) is one of three garter snake species found on Vancouver Island. For two years (1994 and 1995), I studied a population of these snakes at the mouth of the Little Qualicum River, in a Canadian Wildlife Service wildlife reserve (thanks to Neil Dawe for all of his suggestions and help). The data that I collected (funded in part by the Alice M. Hay scholarship from the Victoria Natural History Society) went to form the basis of the thesis I wrote as part of my Master's degree.

This species can be found from central B.C. south to Arizona and New Mexico, from the coast to south-central Saskatchewan and eastern Colorado. The colouring and pattern can vary both geographically and within a single population. The snakes on my study site all had the familiar zig-zag pattern caused by the spots bordering the stripe down the back but the background colour ranged from pale yellow to bright orange and the spots were light brown to black.

Western Terrestrial Garter Snakes feed on a variety of animals, including fish, amphibians, small mammals and,

occasionally, birds and other snakes. The females in the population at Qualicum seemed to be divided into two groups — one group spent most of the time in grassy fields or shrubby areas and ate mice, while the other group lived by the river and foraged for fish at low tide. I was impressed with how feisty these snakes could be. A startled or cold garter snake can put on quite a show, coiling and flattening the body and repeatedly striking like a rattlesnake. With the large size of some of the females I found, and their spotted pattern, I had to constantly remind myself that rattlesnakes do not occur on Vancouver Island! Still, you have to respect an animal that will fight back when menaced by a creature so many times larger than itself.

Part of my investigation was to determine whether growth rings in the bones of garter snakes could be used to tell how old they are. This technique has special significance in the study of reptiles, as the growth rates of individual snakes can be extremely variable, so it is almost impossible to tell how old a snake is by its size. I was especially interested in testing whether the last few vertebrae in the tail

could be used, so the snake could be released after sampling. I found that rings in the bones in the tail could be used to determine the age of a snake but the technique involves a lot of work.

The largest female Western Terrestrial Garter Snake that I caught was 92 cm in total length (from the tip of her nose to the end of her tail), while the largest male was 79.5 cm, with some of the end of his tail missing. The average length of adult females was about 68 cm and for males was around 57 cm. Females obtain greater lengths and weights than the males, as they have to build up enough resources to reproduce, while males merely have to maintain themselves from year to year and mate with as many females as possible.

All reptiles living in this climate must hibernate for the winter. Basically, they find a place out of sight and somewhat insulated, such as in a pile of rubble or under an old building, and their metabolism slows until they are just barely alive. In Canada, the snakes generally hibernate in groups; whether this is due to a lack of suitable hibernation sites, or whether bunching together is a way to survive the cold, is unknown.

The snakes around here gather near the hibernation sites during October, awaiting the onset of cold weather before starting hibernation.

In spring, when the weather has warmed appropriately, they start to emerge. This occurs around the middle of March in the Victoria area, and a week or so later around Qualicum, with some annual variation. The males emerge first and linger around the hibernation area waiting for the females to come out. As the females emerge, one by one, the males mob her, forming a "mating ball". I was lucky enough to see a mating ball in the spring of '95; this particular ball consisted of seven males all trying to mate with one female. Once the female has mated, she leaves the hibernation area to find food and a suitable spot to bask during pregnancy, while the males search for other females.

During the summer months, I found that I caught many more gravid (pregnant) females than males, juveniles, or non-gravid females. As the embryos develop in the female, she must maintain her body temperature at the optimal level for development. Female snakes rarely feed while they are gravid and spend most of their time basking in the sun, which makes them vulnerable to predation (and capture by herpetologists).

After she reaches a certain point in gestation, you can actually count the number of embryos inside the snake by gently running your finger along her belly. This species has been known to have up to 20 offspring but usually they only have about 10 or 12. Sometime in August the babies are born. Garter snakes have live birth, in contrast to some other snakes, like pythons, which lay eggs. It is very rare to actually witness a snake giving birth; I was not fortunate enough to see any births during the two years of my study.

The babies are born fully capable miniature snakes and, as their bellies are full of yolk, they are thought not to feed at all between birth and their first hibernation. The mortality rate for newborns is high, although very few studies have actually been able to quantify this.

The Western Terrestrial Garter Snake is perfectly at home in the water as well as on land. The best viewing on my site was near the mouth of the river at low tide, especially in the late summer when the females were feeding after giving birth. At low tide, the level of water in that part of the river goes down, exposing steep sandy banks and leaving the weeds along the bottom close to the surface. The large female snakes bask along the bank at the edge of the grass at the top or along the edge of the water, and when warmed up enough, they go into the river and catch fish. I have spent hours just watching them; they swim along the surface, then dive down into the weeds and poke around with their heads. When a fish (usually a sculpin or stickleback) is



Western Terrestrial Garter Snake swallowing a sculpin (*Thamnophis elegans*). Photos: Heather Waye



Mating ball of the Western Terrestrial Garter Snake.

caught, it is brought to shore and swallowed. One snake, with the fish still in her mouth, weighed 120 g; her meal was 17 g, almost 15% of her own weight in one meal. Usually they knew when I was there and, with their bodies anchored in the weeds, they would poke their heads above the surface, like little periscopes.

Although garter snakes feed on a variety of animals, they are not at the top of the food chain. Garter snake predators on Vancouver Island include birds (herons, raptors and any other generalist birds large enough), bullfrogs and fish (especially on newborn snakes), and cats. House cats can have a large impact on snakes as well as songbirds. Few things frustrated me more than walking around in a nature reserve and startling someone's pet cat in the act of stalking a bird or snake.

One day I was wandering down the beach, looking for snakes amongst the logs left above the high tide line. There was a couple walking ahead of me; they turned the corner at the mouth of the river several minutes before I got there. When I did get to that point, anticipating another hour of just watching my favourite group of snakes, they had already passed me heading back down the beach. I found, at the edge of the water, a big beautiful female with her head crushed; she was still pliant and warm from basking. I turned to chase down the people who had just killed this snake but they were out of sight.

While the site is a wildlife reserve (and therefore not open to the public), unfortunately there would not have been any official action that I could have taken if I did catch up to them, other than give them an earful for killing one of my beloved snakes. All snakes are protected under the Wildlife Protection Act but enforcement is difficult, and attitudes towards snakes are hard to change. Hopefully, the more we learn about these fascinating creatures and the more familiar they become, the easier it will be for people to accept them.

HEATHER WAYE has completed her Master's Degree in Biology at the University of Victoria and is currently working on a survey of water shrews on Vancouver Island.

#### Volunteer Needed — Librarian

Librarian for the library at Swan Lake-Christmas Hill Nature Sanctuary. The Victoria Natural History Society collection as well as the Nature Sanctuary books are kept in the library at the

Nature House. The volunteer librarian is responsible for cataloguing new books, shelving books, and maintaining an up to date record of all books. Computer experience is an asset but not mandatory for this position.

Call Joan at 479-0211 for more details.

#### Volunteer Needed — Nature House Receptionist

Nature House Receptionists are also needed at the Swan Lake Nature Sanctuary. Positions are available Monday and Friday mornings from 10:00 a.m. to 1:00 p.m. An interest in natural history and birding is helpful. Computer experience is also an asset. Call Joan at 479-0211 for more details.

## Future of Our Natural Areas: VNHS as Consultant?

By Sheila Mosher

Does the Victoria Natural History Society (VNHS) have a clear vision of how our protected natural areas such as Rithet's Bog should be managed? This question arose at the March meeting of the Parks and Conservation Committee as we are being asked by Saanich Parks for our views. How do we determine the answer to this question? First we need enough information about the issues to be able to make intelligent decisions. Secondly we need to be able to determine the consensus of opinion among the membership.

An examination of some of the concerns about the management of Rithet's Bog illustrates the complexity of the problem. The area was chosen for protection partly because it contains a bog. According to An Environmental Overview of Rithet's Bog by Karen Golinski, it is the "last remaining bog ecosystem in the Greater Victoria Area". To protect and restore the bog, Ms. Golinski recommends "a conservative approach to management issues". She opposes any agricultural activities as these would further damage the bog.

Many birders, concerned about maintaining open water for wintering waterfowl, have suggested plowing of the flooded fields to prevent the growth of grasses and bushes<sup>1</sup>. In the past these fields were plowed but only when drainage ditches were dug to lower the water table during the growing season. This practice, however, did damage the bog. Can a way be found to keep the field areas free from infilling by bushes and other vegetation without draining the area? Should any attempts at management take place at all or should natural succession be allowed to occur?

Is there a forum, for the general membership, where these and other environmental issues can be discussed? Perhaps at a regular VNHS meeting we could ask some of our expert birders and botanists to debate these questions. As a society we often lobby governments on environmental issues. When asked for advice we need to be sure that our advice is environmentally sound, and that it reflects the concerns of our membership.

Communicate in writing any ideas you have on this topic to the Parks and Conservation Committee, c/o S. Mosher, 1605 Newton Hts. Saanichton, B.C. V8M 1T6.

SHEILA MOSHER prepared this article on behalf of the VNHS Parks and Conservation Committee

<sup>1</sup>See the article by Mike Carson, *The Victoria Naturalist*, January/February issue, 1995.

## Birding Observations around Viaduct Flats

By Michael A. Carson

### Background

Viaduct Flats has always been a popular place for Victoria birders but its attractions have increased spectacularly in the last few years. A Great Egret visited the marsh in October, 1993 and in the same autumn the water surface was almost covered with migrating waterfowl. A few months later, up to six Swamp Sparrows arrived to spend the winter there.

Much of the recent attraction of the Flats for birdlife appears to have resulted from the fact that a debris dam on the outlet creek (marked as A on attached map) impounded water through the summer and fall of 1993 for the first time in several years. In most summers, the Flats have been cultivated and have then stayed dry until late-autumn rains. The availability of this wetlands habitat at Viaduct Flats during summer and autumn has become particularly important following the draining of many nearby wetlands. The low rainfall of autumn-winter, 1993 provided little alternative habitat on the peninsula for migrating waterfowl which further enhanced the importance of the Flats.

Subsequent monitoring of the outlet creek showed that the debris dam has taken on the appearance of a beaver dam, lined with mud. Though no definitive sighting of the beaver itself is known, stripping of bark on trees (and the gnawing of one poplar) in the vicinity of the dam has become quite conspicuous.

These events of 1993 convinced several people in the Victoria Natural History Society (VNHS) that Viaduct Flats has emerged as a special, indeed unique, wetlands habitat on the Saanich Peninsula. The abundance and diversity of waterfowl using the water in migration, including rafts of more than a dozen Ruddy Ducks, far exceeds anything observed on the only other comparable local wetlands at Swan Lake.

With this perspective, the Parks and Conservation Committee of the VNHS thought it important to provide a 12-month inventory of the wetlands while it was still flooded on a year-round basis. At the same time, a proposal was put forward to the Horticulture Centre of the Pacific (which leases the Flats and surrounding area from BC Lands) to retain the Flats as a permanent wildlife sanctuary. The one-year once-a-week survey began in June, 1994 and continued through until May, 1995. The marshland remained flooded throughout the duration of the survey and, in fact, remains so at the time of writing.

### Scope of the Survey

The survey was not restricted to the lake and surrounding marshland. It also included the woodland on the eastern side of the Flats and the woodland edges on the western side of



Viaduct Flats. Photo: Warren Drinnan.

the marshland. In part, these areas were included because higher sites on these slopes provided additional opportunities to scope the lake and its margins. This is especially true on the eastern side, parts of which are difficult to see from the west shore. The other reason for inclusion of these adjacent areas is that it was felt that such relatively isolated terrain near to the marshland might prove attractive to some passerines that are not common in the more suburbanized parts of the peninsula. The route taken is shown on the accompanying map. Much of it on the east side is now overgrown with blackberry and inaccessible.

Each survey took between 3 and 3.5 hours. Starting time ranged from 7:00 a.m. in summer to 9:00 a.m. in winter. In general, all surveys were done on the weekend under conditions that were comparable from the standpoint of bird observation. Rainy days and windy days were avoided as far as possible.

All counts of waterfowl must be regarded as underestimates. Although all ducks on the open water could be seen and identified by scope, others were hidden in rushes and grasses at the water's edge. Some of these (up to 50 or more) were flushed during the course of the survey but much of the

hidden water's edge on the east side was not covered.

Some species were certainly missed in the study. The only one known to us, however, is an American Bittern that was seen several times during the winter by others.

As part of the regular survey, water levels were monitored on the bridge over the outlet creek (B on map). The fluctuations are shown in Figure 1.

## Monthly Checklist

The 1994-95 survey produced observations of 134 species, six more than in the 92-93 survey of the Blenkinsop Lake area, and 16 more than in the 93-94 survey of the Rithet's Bog area. Table 1 presents a checklist of all the species with a probability of occurrence. The average number of individuals for each species, by month, is presented in Table 2.

The annual total is all the more impressive given that the spring of 1995 was one of excellent weather with no storms conducive to good "fall-outs" of migrants. In addition, lack of time prevented as many extra mid-week surveys during the spring as had been undertaken at Rithet's Bog and around Blenkinsop Lake. The breakdown, by bird groups, was as follows: water-based birds, 29 species; non-perching birds, 42 species; passerines, 63 species.

It had been hoped to bolster the checklist by the examination of records from prior years, as was done for Blenkinsop Lake and Rithet's Bog, but time limitations prevented this work. Thus, the checklist is for the 1994-95 year only, but it should be representative of conditions since the blockage of the outflow creek by the beaver dam. The only other known observations in the last few years which would add to the checklist are those of Hank vanderPol (1996, pers. comm.): Vaux Swifts seen in flight in early May and a breeding record for MacGillivray's Warbler.

## Use of the Area by Wildlife

The large number of species seen during each bird survey is a reflection of the wide variety in habitat found in the northern Glendale Lands: open water, marshland margins, open and dense woodlands, forest edges, bare fields and meadows.

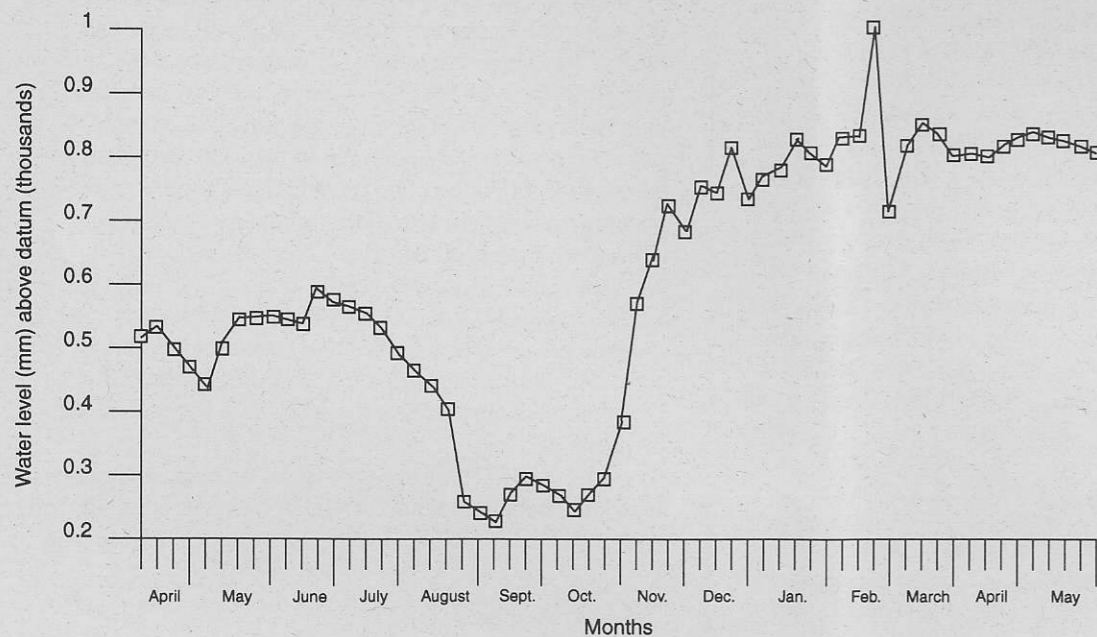
## The Lake

A record of the lake level was maintained through the survey (see Figure 1). The abrupt drop in water level in mid-August was due to destruction of the dam by unknown persons. By the time the breach had been discovered and the dam repaired (10 to 20 hours), the water level had dropped by 10 cm. Winter water levels were much higher than in the previous year, and up to 75 cm higher than the later summer minimum. From December through to the end of the survey, in fact, levels were so high that the bridge over the outlet creek was almost submerged and access to the bridge was difficult even in gum boots. Peak water level occurred on December 26, in response to heavy rains on Christmas Day and Boxing Day, with the water level reaching the top of the bridge over the outlet creek.

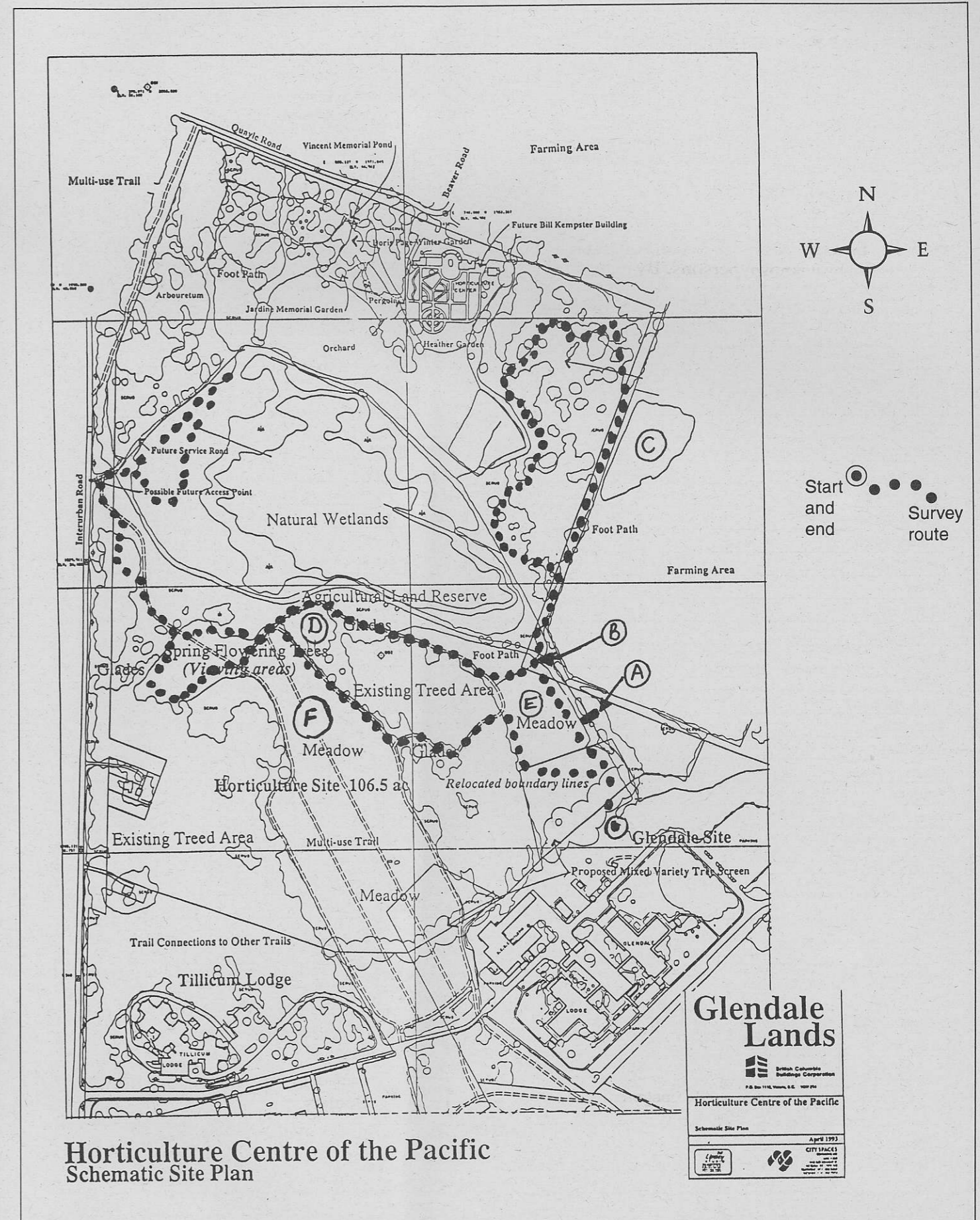
During the summer, the number of waterfowl on the lake was not as impressive as the rest of the year. Most had migrated north to breeding grounds on the mainland. However, the water body attracted a good number of different species, as well as encouraging several to breed.

Apart from the expected Canada Goose and Mallard population, most conspicuous of these breeding waterfowl was the Pied-billed Grebe, with its wonderful mating call. Six adults were frequently seen during June-July and at least three distinct families of young were produced. Young were

Figure 1 LAKE LEVEL AT VIADUCT FLATS, APRIL 1994 - JUNE 1995



Fluctuations in lake level at Viaduct Flats from April 1994 to June 1995 as measured at the bridge over the outlet creek. Water level is indicated relative to an arbitrary datum which is exactly one metre beneath the top surface of the bridge, at channel centre, on the upstream side. Thus a water level of 0.3 m means that the water level is 0.7 m beneath this point on the bridge.



Horticulture Centre of the Pacific  
Schematic Site Plan

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Schematic Site Plan  
April 1993



being fed small fish; adults were occasionally noted to be consuming bull frogs.

Another highlight was the successful breeding of a family of four young Ring-necked Ducks, only the second record for Vancouver Island. A single male was seen on the lake in the first two weeks of June, while the female and her brood appeared on July 3. A pair of Ruddy Ducks was also seen in the first three weeks of June, the female disappearing by June 19, only to reemerge with six ducklings on July 10. This is also an unusual breeding record for the Island. The splendid male Ruddy Duck remained on the lake until the female and young left the nest.

Other dabbling ducks, besides Mallards, were also seen on the lake during late spring and early summer, including Blue-winged Teal, Cinnamon Teal and a hybrid of the two. Most of the time, however, these dabblers (except Mallards) were hidden in the reeds and sloughs and were much less evident than the diving waterfowl. A family of young Cinnamon Teal appears to have been seen on only one occasion as it was flushed from the reeds by a human intruder. A family of Wood Duck also seemed to prefer the cover of the reed margins to the open water of the lake itself.

Returning waterfowl were evident as early as mid-August, with the number of species peaking at 16 on November 20 (a total not reached again until May 13, 1995), and total numbers peaking at a thousand on October 29.

During winter, waterfowl numbers were generally substantially lower and, with water depths generally in excess of two metres, diving ducks tended to dominate. Indeed, at this time of the year, the waterfowl population was generally comparable with that at Swan Lake, the few dabbling ducks tending to be in the shallower grassy margins. Winter numbers could be very variable during the day, however, with large influxes at times from the east (presumably from Elk Lake) of several species, including Canvasbacks and the occasional Redhead.

Water levels in the summer of 1995 were noticeably higher than in 1994 due to continued activity of the beaver. Isolated visits in July showed the level to be 11 cm higher than at the same time in the previous year. No systematic survey was kept of waterfowl during the summer of 1995 but one visit on July 19th indicated 362 ducks (334 Mallards), including two juvenile Wood Ducks and three juvenile Ring-necked Ducks.

## The Adjacent Shore

The belt of shore habitat flanking the lake was, most of the time, thin to non-existent because of the high water level. Solitary Sandpipers and both Yellowlegs species were observed in spring, 1994, wading at the north end, prior to the start of the survey but few shorebirds were seen in spring, 1995 because of the much higher water level (25 cm higher in May, 1995 than twelve months earlier).

A larger number of species was seen during autumn, 1994, perhaps because of the slightly lower water level, but shore habitat was still scarce, to the frustration of shorebirds and birders alike. Peeps, Pectoral Sandpiper, both Yellowlegs

and a Long-billed Dowitcher were seen along with Killdeer, but invariably in flight, searching the Flats for somewhere to land. Not infrequently, the brown algal surface was mistaken for mud upon which a shorebird would attempt to alight before realizing at the last minute that something was strangely wrong.

On the ground, shorebirds were more frequently seen in the hilltop pond (C on map), in the hay field south of the woods of the Horticulture Centre, than at Viaduct Flats itself. This irrigation pond seems to attract shorebirds in much the same way as McIntyre Reservoir in the Martindale Valley, though not to the same degree, perhaps because of its steeper sides and greater distance from the coast.

## The Marsh

The broad band of surrounding marsh vegetation of rushes, cattails, sedges and grasses was dominated in early summer by Red-winged Blackbirds and a smaller number of Marsh Wrens. More exciting, however, were the occasional calls and glimpses of both Sora and Virginia Rail. At least eight of the latter were detected in different places around the lake edge, perhaps indicating the number of nesting pairs. Up to three Sora were found in different sites. All margins of the lake appeared to harbour these rails, with perhaps a slight preference for the western side. Most of the rail habitat was flooded by the rise in water level during winter, but an occasional bird was seen during the winter, though not to the same extent as at Rithet's Bog in the previous year's survey. Numbers of Common Snipe were also much reduced in winter compared to autumn, possibly due to the flooding of much of its preferred habitat. Movement of snipe between Viaduct Flats and Quick's Bottom was noticed on several occasions.

During the winter, Marsh Wrens and sparrows (mostly Song Sparrows but occasionally Lincoln and Swamp Sparrows) were the most common birds in the marsh area. Swamp Sparrows are rare on Vancouver Island, normally over-wintering in the eastern United States. On the Christmas Bird Count, an American Bittern was flushed from the reeds, another rare sighting for the Saanich Peninsula.

## The Eastern Woods

The eastern woods comprise dense Douglas-fir forest on the lower slopes and more open areas with some Garry Oak and Ocean Spray on the rocky hilltop. Relatively few birds and bird species were noted in the summer, but the habitat proved more attractive during the autumn migration period. Numbers remained good during the winter, especially in the open areas: ideal habitat for Northern Flicker, Rufous-sided Towhee, Song Sparrow, Fox Sparrow, Dark-eyed Junco and House Finch. A Barred Owl was seen on several occasions in the heavily wooded area during the winter.

## The Western Woodland Edges

A wide variety of passerines was heard or seen along the edges of the woods west of the marshland in summer. These included up to five singing Willow Flycatcher, a pair of

House Wren and about six singing Swainson's Thrush, at least three Northern Orioles, as well as the more usual woodland birds.

Typically, Willow Flycatchers were found on the lower brushy slopes of the western hill or singing in willow bushes on the edge of the marsh. This species is rapidly declining in British Columbia because of the loss of brushy habitat and nest-parasitism by cowbirds. According to Campbell and Harris (1994) the species may be extirpated in the province within a decade at present rates of decline. The use of Viaduct Flats margins by such a (relatively) large number of (presumably) breeding Willow Flycatcher is therefore a point worth emphasizing. The abundance of this species elsewhere in the Greater Victoria area is largely unknown because most birds arrive in late May after the annual spring bird count. Numbers at Viaduct Flats in future years should perhaps be monitored to document the stability of this local population.

Perhaps even more exciting than the abundance of Willow Flycatcher, was the spring arrival of three colourful Northern Orioles, one adult male, one adult female, and one presumed to be a sub-adult male (yellow rather than orange), the three staying together through most of June. The three birds ranged widely over the northern Glendale Lands and a male (presumably one of these three) was reported as far away as West Saanich Road in the last week of June.

Breeding of the orioles is suspected, and a nest was found in late June in a fir tree on the southwest side of the lake (D on map), but although adults were seen close to it, hatching of young was never confirmed. However, since more one than bird with "female" plumage was noted on several occasions near the male, some of these may have been juveniles. A pair of orioles, possibly the same pair, began nesting in the same tree in June, 1995. Northern Orioles have nested in this general area (Viaduct Flats-Quick's Bottom-West Saanich Road) in most years since 1980. Only one or two other records of this species are available each year in the Greater Victoria area.

## The Fields

The wildflower meadow (an overgrown bulb field) south of the lake (marked E on map) attracted the expected species: American Goldfinch and Pine Siskins feeding on thistles in late summer; Savannah Sparrows and Lincoln Sparrows in the fall.

The largely bare bulb field that slopes down to the western side of the lake (marked F on map) was less heavily utilized by birds. American Pipits were seen once in fall migration. During most of the winter, the field was largely devoid of birds, though its margins were frequented by ground-feeding sparrows at all times of the year.

## Birds of Prey

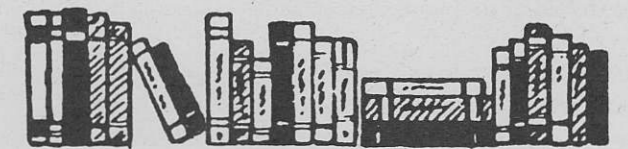
Raptors were not as commonly seen here as in the previous surveys at Blenkinsop Valley and Rithet's Bog. A pair of Red-tailed Hawks nested in the adjacent woods and were resident most of the year, presumably attracted by the

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## the field-naturalist

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availability of Eastern Cottontail as a food supply. Northern Harrier was seen only once, hunting low over the marsh during the autumn. Accipiters were not frequently seen around the lake, though both common species were often noted further south around Glendale Lodge. The only falcon seen during the course of the year was an immature Peregrine Falcon spectacularly stalking a Green-winged Teal on the frozen lake surface.

The infrequent sighting of falcons was a marked contrast to both the Blenkinsop and Rithet's Bog surveys. Presumably this is due to the deeper water at Viaduct Flats and the dominance of diving waterfowl rather than dabblers. Falcons seem to prefer shallow-flooded fields where dabblers are not only "sitting ducks" but also available in much larger quantity. No special owl surveys were undertaken but a Northern Saw-whet Owl was found dead near the marsh during the fall migration, Great Horned Owls responded to calls on the Christmas Bird Count, and, as already noted, a Barred Owl was occasionally seen in the eastern woods.

### Comparison with Other Wetlands

Viaduct Flats is unique on the Saanich Peninsula. The flooded area is about 20 acres in extent and appears to be less than one metre deep in most places in summer and early fall, though no detailed bathymetric survey is available.

The only areas even approximately comparable in terms of habitat are the "Narrows" between Elk and Beaver lakes to the northeast of Viaduct Flats, Blenkinsop Lake and Swan Lake Nature Sanctuary, further into the heart of suburbia. None of these other areas have the diversity and abundance of water-based birds on a year-round basis as found at Viaduct Flats.

The "Narrows" area is larger (about 60 acres) and somewhat deeper (up to 3 metres) than the Viaduct Flats wetlands. The water body margins are heavily wooded and shore area vegetation is typically water lily rather than the grass, rush and sedge of Viaduct Flats. The only waterbird species noted as breeding in the "Narrows" area during 1992 were Canada Goose, Wood Duck, Mallard and Hooded Merganser (Summers and Sterling, 1993). Up to seven other species of waterfowl were noted for the Elk-Beaver Lake complex at other times of the year by the Summers-Sterling report but not all of these appear to have used the "Narrows" area.

Blenkinsop Lake is in some ways a smaller version of the "Narrows", being dominated by water lilies in the summer, a thin fringe of cattails and woodland margins, and of comparable depth. A summary of the 1992 summer (breeding) inventory for water-based birds is given for comparison with Viaduct Flats and Swan Lake in Table 3.

The Swan Lake area comprises about 23 acres of lake surrounded by another 45 acres of reeds and rushes. The lake is substantially deeper than the water at Viaduct Flats (averaging about 2.5 m in depth with a maximum of 6 m in winter) and is therefore less attractive to dabblers than to diving ducks. A three-year record for water-based birds is given in Table 3, based on weekly observations on the

Table 3.

#### VIADUCT FLATS AND SWAN LAKE: COMPARISON OF OBSERVATIONAL DATA BY MONTH FOR WATER-BASED BIRDS, JUNE-AUGUST 1994

Blenkinsop Lake 1992 data  
 Probability of observation 5 greater than 95%  
 4 65 - 95%  
 3 35 - 65%  
 2 5 - 35%  
 1 less than 5%  
 Blank no observations known

N refers to nesting status: \* confirmed ? suspected

	Viaduct Flats			Swan Lake			Blenkinsop Lk.					
	J	J	A	J	J	A	J	J	A			
Pied-billed Grebe	*	5	5	5		2	4	*	5	4	2	
Double-Cr Cormorant						5	5	5			1	
Great Blue Heron		3	5	5		5	5	5	?	3	5	5
Green Heron			1	1			4		*	2	4	4
Mute Swan											3	
Canada Goose	*	5	5	5	*	5	5	5	?	2	1	5
Wood Duck	*	2	3	2		2			?	3	5	5
Mallard	*	5	5	5	*	5	5	5	*	5	5	5
Northern Pintail				1								
Blue-winged Teal		2	2	1								
Cinnamon Teal	*	4	2	1								
Northern Shoveler				2								
Gadwall		1	1									
American Wigeon				2		2						
Ring-necked Duck	*	3	5	4						1		
Hooded Merganser		1	3									
Common Merganser		2										
Ruddy Duck	*	5	5	5								
Virginia Rail	*	4	5	3						?		
Sora	*	3	5									
American Coot		2	3									

regular Nature Centre birding walks during 1992-94. No breeding records have been found but the observational table seems to indicate that breeding is confined to Mallard and Canada Goose.

Other local wetland areas, such as Rithet's Bog and Quick's Bottom, are virtually overgrown with grasses, rushes and similar vegetation, and provide very limited waterfowl habitat on a year round basis. Other lowland areas such as Martindale Flats, Hastings Flats etc. are flooded in the winter only (Carson, 1994b).

### Viaduct Flats: The Past and the Future

In previous years, without a dam on the outlet creek, the Flats have been essentially winter-flooded fields, farmed for potatoes in summer as the low area dried out. In that period, birding was primarily focused on winter waterfowl and spring shorebirds. Taylor (1990, p.54) describes it as follows:



Viaduct Flats. Photo: Warren Drinnan.

"Dabbling ducks are well-represented with Northern Shoveler, Ring-necked Duck, Eurasian Wigeon and migrant Blue-winged and Cinnamon Teal. As the fields begin to dry in May, they harbour migrating shorebirds. Semipalmated Plover, Lesser and Greater Yellowlegs, Pectoral Sandpipers, Western and Least Sandpipers and both Dowitchers. Spotted Sandpipers nest along the ditches."

The new all-year lake has modified this bird regime somewhat. As previously noted, waterfowl are dominant in autumn rather than winter. The higher water levels in winter and spring now restrict dabblers to the reed areas while the open water is dominated by diving species. In addition, the high spring water level leaves little exposed area for shorebirds, and some of the few noted in this study were seen around the reservoir in the field to the southeast of the Flats rather than around the lake itself. The new hydrologic regime has thus created a new bird regime.

The major contribution of the beaver dam has been the creation of a staging area for waterfowl during autumn migration: a major asset given the scarcity of suitable habitat elsewhere on the Saanich Peninsula at that time of year. It would be useful, however, if water levels could be controlled by a weir on the outlet creek. This would allow drawdown to expose shorebird habitat in the spring, as well as additional drawdown in the winter time to provide for a more balanced mix of dabbling and diving waterbirds.

The possibility of such a weir, as part of a management plan to protect the wetlands as wildlife habitat, has been discussed with BC Lands, the Horticulture Centre of the Pacific, and Ducks Unlimited, but at this time no firm commitment has been established from all the relevant parties. On the contrary, there is also discussion about making the area a Saanich Municipal Park, presumably much like Rithet's Bog. In the event that the land is taken

over by Saanich, it can only be hoped that trails are kept well away from the lake. Increased usage of the trail around Rithet's Bog has produced significant disturbance of birdlife there, with several incidents of mauling of waterfowl and herons by dogs being reported. Hopefully a better fate awaits the distinctive water-based birdlife of Viaduct Flats.

### Conclusions

At a time when scarce wetland habitat is being continually lost through drainage and changes in land use, it is unusual to come across the creation of new wetland habitat. The lake at Viaduct Flats, created by a beaver dam, has become a splendid addition to the wetlands habitat of Greater Victoria. It affords good-to-excellent birding throughout the year, a breeding area for waterfowl species that only rarely breed on southern Vancouver Island and, above all, a major staging area for waterfowl during the southward autumn migration at a time when most similar shallow bodies of water on the Peninsula have dried up. It is hoped that the authorities responsible for the management of Viaduct Flats will recognize this and take steps to preserve the wetland habitat of this area and the margins around it which act, so importantly, as a buffer from the rest of suburbia.

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### Acknowledgements

The surveys described here were in almost all cases undertaken by two of us. Assisting on a regular basis were Tom Gillespie, Gordon Hart and Ellen Tremblay. Also helping out on occasion were David Allinson, Jerry Anderson, Dannie Carsen, Aziza Cooper, Claudia and Darren Copley, Mike McGrenere and Graham Ruxton. Data for Swan Lake were kindly provided by staff of the Swan Lake Nature Sanctuary based on the regular twice-weekly surveys. Hank vanderPol is thanked for his review of an earlier draft of the report. Finally, thanks are also due to the Horticulture Centre of the Pacific for their cooperation in the undertaking of this survey.



# Hat Tricks

By Jan Garnett, Bruce Whittington and Jeff Stone

The VNHS Habitat Acquisition Trust Foundation is continuing to grow, both on paper and in spirit. Congratulations and sincere thanks to Marilyn Lambert for her expert organization and execution of the Arizona Birding trip that took place in April/May. Marilyn managed to provide an extremely enjoyable experience for the tour participants as well as raising approximately \$4,000 to swell the HAT coffers. This was in part possible because, although the trip was priced below similar commercially operated tours, the three leaders donated their services and Marilyn knows how to stretch a travel dollar like an elastic band. We hope this was just the first of an annual HAT fundraising trip, with destinations like Texas, Costa Rica, the Okanagan and Southern Alberta having already been suggested. Meanwhile, much appreciation is extended to Marilyn, David Stirling and Bruce Whittington for a memorable first tour event for HAT.

On a more mundane but absolutely essential front, Jeff Stone has been continuing to work on drafting the proposed constitution for HAT, which is currently being established as

a Foundation affiliated with the Victoria Natural History Society (VNHS). This affiliation is appropriate because of the overlapping and, in some cases, identical goals of the two. The trick is to work out this relationship on paper, and to keep the relationship flexible and fluid to allow for future adjustments and opportunities. The HAT Constitution should be drafted in such a way as to define the purpose of the Foundation but leave the methods of achieving that purpose open to permit inclusion of as yet unforeseen legal mechanisms for conservation. There is also the need to maintain controls, if problems arise, and to keep the dealings of the VNHS and HAT related, but legally separate, as far as assets and liabilities are concerned.

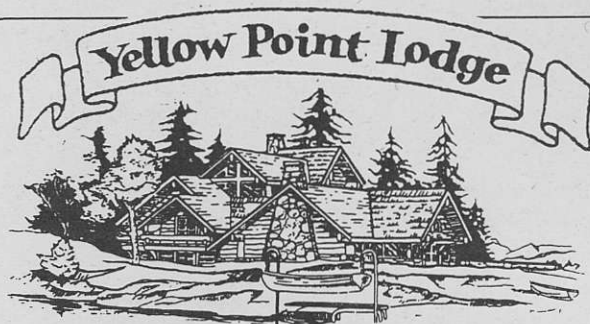
Until the VNHS Habitat Acquisition Trust Foundation (the official name) is a legally registered entity, the fund is still within the VNHS and being managed by the Treasurer. Donations and fund-raising proceeds are being placed into a special HAT account within the VNHS.

There have been questions about the need for a separate Foundation rather than keeping HAT within the VNHS. Individuals making decisions about HAT should have legal responsibility (i.e., be Directors), with the decision-making autonomy that accompanies that responsibility. In addition, the VNHS Directors have many other duties which would detract from the time available to be diligently also working as HAT Directors. The VNHS constitution would also have to be revised for some business items regarding property dealings. The HAT Foundation will need to have such ability to enable it to act quickly, if needed, to secure critical habitat. The Bylaws of HAT will, among other things, deal with the details of the interrelationship between it and the VNHS, and may be adjusted as time goes on, and as needs and procedures evolve. While we are custom-designing this to some extent, we are fortunate to have several other successful models to refer to.

As has been written before, the HAT will be working in close co-operation with other local conservation groups to achieve similar goals and share volunteer resources, as well as with different levels of government and larger conservancies.

The slate of eight interim HAT Directors has been appointed and will only hold office for a period of nine months or so while the initial design phase continues. Following that, there will be a process of appointing longer-term Directors to serve for staggered terms of office. The hope is that there will be a good mix of expertise and experience on the HAT Board at all times. The VNHS Board will nominate all HAT Board members, and will have the right to ask for the resignation of any Director should the need arise. Consequently, the VNHS will retain a large measure of control over HAT.

Please take the time to read the proposed HAT Constitution, which will be passed in the early autumn, and phone any of the VNHS Board Directors if you have questions or concerns.



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## Proposed VNHS Habitat Acquisition Trust Foundation CONSTITUTION

1. The name of the society is the VNHS HABITAT ACQUISITION TRUST FOUNDATION
2. The purposes of the Society are:
  - (a) to promote the preservation of the natural environment through
    - (i) the conservation of habitats by acquisition, by conservation covenants, or by other legal mechanisms,
    - (ii) the promotion of habitat stewardship, education, and research;
  - (b) to solicit donations of money, land, improvements thereon, interests in land, and other property to be used to advance the purposes of the Society;
  - (c) to receive bequests, trusts, funds, land, improvements thereon, and interests in land, and to hold, invest, administer and distribute such funds and property to finance the programs and further the purposes of the Society as presently set out and for such other organizations as are "qualified donees" under the provision of the Income Tax Act and for such other purposes and activities which are authorized for registered charities under the provisions of the Income Tax Act. The directors in their sole and absolute discretion may refuse to accept any bequests, trusts, funds, or property;
  - (d) to work with other societies and like bodies having interests in common with this Society, within and beyond the Province of British Columbia; and
  - (e) to do all such other things as are incidental, ancillary, or conducive to the attainment of the purposes and the exercise of the powers of the Society.
3. The operations of the Society are to be chiefly carried out in the region of Southern Vancouver Island.
4. The Society shall have perpetual succession and power to acquire by purchase, gift, devise, bequest, trust agreement, contract or otherwise, real and personal property within and without British Columbia and may hold, sell, dispose of, exchange, mortgage, lease, let, improve and develop any such property, and without restricting the generality of the foregoing, may acquire in any way or ways real and personal property for the purpose of funding the purposes of the Society and deal with any and all such property as empowered by this Section.
5. The activities of the Society shall be carried on without purpose of gain for its members and any income, profits, or other accretions to the Society shall be used in promoting the purposes of the Society.
6. Upon winding-up or dissolution of the Society, the assets remaining after the payment of all costs, charges, and expenses properly incurred in the winding-up, including the remuneration of a liquidator, and after payment to employees of the Society of any arrears of salaries, or wages, and after the payment of any debts of the Society, shall be distributed to the Victoria Natural History Society. If that shall not be possible the assets shall be distributed to such charities, registered under the provisions of the Income Tax Act, as shall be designated by the directors. Any of such assets remaining which had originally been provided for specific purposes, shall, wherever possible, be distributed to charities registered under the provisions of the Income Tax Act carrying on work with similar nature to such specific purposes.
7. Paragraphs 4, 5, 6, and 7 are unalterable.

## Why Land Trusts?

The following quotes are extracted from an article written by Calvin Sandborn, a Victoria environmental lawyer and expert on the land trust movement. It was originally printed in the Times-Colonist editorial pages on June 5, 1996. If anyone missed this article and is interested in reading the entire text, copies are available at The Field-Naturalist.

"They say the 'good news' stories never get reported. Maybe that's why you've never heard of community land trusts.

Land trusts are the fastest-growing part of the North American conservation movement. They have saved millions of hectares of land for conservation and farm purposes. And at the same time they have demonstrated that altruism is alive and well in these final days of the 20th century.

A land trust is simply a private, charitable organization that works to conserve land in the community. Using donations, bequests and volunteer labor, trusts typically acquire land or development rights and then preserve the land..."

The author goes on to describe the sense of community created through working and fundraising for such projects as Medicine Beach on Pender Island, Jedediah Island, and MacDonald Wood Park Society in Comox.

"And now land trusts are being established in Abbotsford, Victoria, and elsewhere around the province.

Yet British Columbians have only scratched the surface of the potential for land trusts:

- One-third of the protected natural terrain in the Netherlands is protected by a land trust
- The United Kingdom's National Trust now owns 780 kilometres of coastline
- In the U.S., local land trusts have protected more than 1.6 million hectares of land, with national groups

like the Nature Conservancy protecting an additional 3 million hectares.

- During the years 1988-92, land trusts protected 32,000 hectares of open space in the San Francisco Bay region — far more than all governments in the area combined.

However, there are a few critical steps that need to be taken by government to ensure that land trusts live up to their potential:

**A public awareness campaign.** We should ensure that every person making out a will is aware of the possibility of writing a "Will for Wildlife" that leaves the proceeds of their house for habitat.... If B.C. land trusts can capture just 1 per cent of the bequeathed assets over the next 25 years, that will total a billion dollars.

**Provide help to fledgling land trusts.**  
**Eliminate the capital gain tax on lands donated to trusts....** Ottawa should follow the American and English lead and eliminate capital gains taxes on donated land.

**A matching grant program.** Government should provide a regular program of "challenge grants" for land trusts, matching each privately raised dollar with a set amount...

...Government alone cannot do the entire conservation job. It is time to tap the rich resource of altruism, generosity and community spirit that runs through our society. It is time to build a strong land trust movement in British Columbia."

The usefulness of locally-focussed land trusts such as HAT is that they are entirely regional in context. This allows much more to be accomplished for local priorities, and using local volunteers and vision, while at the same time working closely and co-operatively with larger conservancy groups such as The Nature Conservancy of Canada and The Nature Trust of British Columbia.

## Welcome to New Members

### APRIL

**Bonnie Derrien and family** of Sidney interests include birding, environmental issues and marine life.

**Lloyd Milburn** of Clare Street.

### MAY

**Barbara and R.J. Armstrong** of Tolmie Avenue are interested in birding, biology and botany.

**Shelagh and Victor Murray** of Windsor Road include conservation and natural plants among their interests.

### Elizabeth and Tony Greaves

of Songhees Road enjoy birds, flowers, shrubs, hiking, kayaking and field trips.

### Rhonda Koral and Eric Lofroth

of Brentwood Bay interests include birding, wildlife, biology and botany.

### Carol Maiello

of Seaforth Street.

### Jacqueline Cameron

of High Street is interested in wildlife, habitat protection, conservation and preservation.

### Genie Wright

of Interurban Road is a birder.

## Rare Birds Committee

By Marilyn Lambert

The Victoria Checklist Area continues to produce new birds at an incredible rate.

The Rare Birds Committee met on March 13 to decide whether to accept five new species for the checklist area. The new species being considered were Yellow Wagtail, Clay-coloured Sparrow, Loggerhead Shrike, Dusky Flycatcher and Mourning Warbler. The Yellow Wagtail and Clay-coloured Sparrow records were accepted as new species for the checklist area on the basis of the excellent, detailed descriptions that were submitted by observers and the Loggerhead Shrike record was accepted on the basis of excellent descriptions and a brilliant photograph.

The Dusky Flycatcher and Mourning Warbler were caught in the nets at the Rocky Point Bird Banding Project. These records were not considered at this time as more detailed notes must be submitted.

The committee also accepted records of Ash-throated

Flycatcher as the fifth record for the area and White-breasted Nuthatch as the fourth record for the area.

Since that meeting, three more records have come in for review. A Hooded Oriole turned up in a backyard near the airport and was seen by many birders. Not only was this a first for our area but also a first for British Columbia. An American Avocet appeared at Rithet's Bog and was also seen by many birders. This is the fourth record of this species for the checklist area. A fantastic description of a bird believed to be a Black-vented Shearwater was submitted and is currently being reviewed by committee members.

Remember, if you see a rare bird please make careful, detailed notes and submit your report to the Rare Birds Committee.

MARILYN LAMBERT is the Secretary of the Rare Birds Committee

## Recent Changes in Common and Scientific Names of Birds Occurring in British Columbia

By R. Wayne Campbell

Every few years a group of professional ornithologists, comprising the Committee on Classification and Nomenclature, review scientific studies of birds in North America. Their findings, which consider differences in morphology, vocalizations, habitat preferences, interbreeding and migration patterns, result in updates to the official list of North American birds published by the American Ornithologists' Union known as the *Check-List of North American Birds*. This large book lists changes in scientific names of birds in North America because of generic allocation, changes in common names to conform with international standards, newly described species, changes resulting from splitting from extralimital forms and corrects spelling for birds.

The last major check-list (sixth edition) appeared in 1983 and the seventh edition is scheduled for publication in 1997. Meanwhile "supplements" are issued frequently to keep us informed of recent changes. As of 1995, the changes that affect birds in British Columbia include the following nine species:

FORMER NAME	NEW NAME
Great Egret ( <i>Casmerodius albus</i> )	Great Egret ( <i>Ardea alba</i> )
American Golden Plover ( <i>Pluvialis dominica</i> )	American Golden-Plover ( <i>Pluvialis dominicus</i> )
Rufous-necked Stint ( <i>Calidris ruficollis</i> )	Red-necked Stint ( <i>Calidris ruficollis</i> )
Common Black-headed Gull ( <i>Larus ridibundus</i> )	Black-headed Gull ( <i>Larus ridibundus</i> )
Eurasian Skylark ( <i>Alauda arvensis</i> )	Sky Lark ( <i>Alauda arvensis</i> )
Scrub Jay ( <i>Aphelocoma coerulescens</i> )	Western Scrub-Jay ( <i>Aphelocoma californica</i> )
Rufous-sided Towhee ( <i>Pipilo erythrophthalmus</i> )	Spotted Towhee ( <i>Pipilo maculatus</i> )
Sharp-tailed Sparrow ( <i>Ammodramus caudacutus</i> )	Nelson's Sharp-tailed Sparrow ( <i>Ammodramus nelsoni</i> )
Northern Oriole ( <i>Icterus galbula</i> )	Baltimore Oriole (NE B.C.) ( <i>Icterus galbula</i> )
	Bullock's Oriole (S B.C.) ( <i>Icterus bullockii</i> )

# Pacific Octopus

By Pamela Thuringer

The summer is upon us and with it comes the best low tides of the year — daytime low tides that is. Intertidlers of coastal B.C. once again have the opportunity to don their gum boots and meander around the intertidal viewing the invertebrates and marine vegetation most often covered by higher water. During the first week in June, the tide height in Victoria was as low as +0.13 metres relative to chart datum (0 m = lowest normal tide), an excellent height to observe the diversity of biota that occupy niches in the lower intertidal zone.

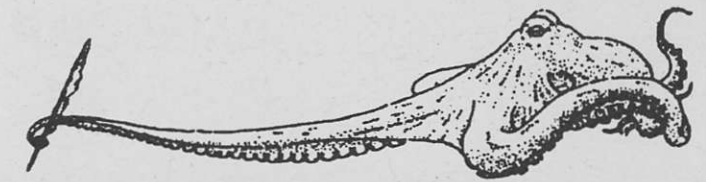
During the low tide cycle in early June, I had the pleasure of instructing field techniques for foreshore habitat assessment and mapping to environmental technology students from Camosun College. Detailed information on the biophysical aspects of intertidal zonation was collected from two different habitats, a semi-exposed pebble beach shoreline of the western section of Ross Bay, and the protected mudflats of the Selkirk Water and Upper Harbour.

Although much of the upper and mid-intertidal in the western section of Ross Bay is depauperate of marine organisms (due in large part to the beach replenishment

project currently underway), a large area of vegetated boulders exists starting from a tidal height of +0.5 m, making this area very accessible for exploration. The diversity of marine algae within this vegetated boulder area would prove interesting for the botanist and junior intertidler alike. Several of the large bladed brown algae, including *Cymathere triplicata* (with 3-5 prominent folds running the length of the blade), *Laminaria saccharina* and *Alaria marginata* (with a prominent midrib), have densely colonized these boulders, clinging on by their holdfasts during the frequent wind-driven wave poundings. Two very different species of the acidic brown algae *Desmarestia* occur in this area, one filamentous (threadlike blades) and the other foliose (leaf-like blades). The dramatic Feather Boa algae, *Egregia menziesii* is also quite abundant, which is no surprise as this algae typically grows in fairly wave-exposed areas. The iridescent red algae, *Iridea*, is also very common and at first glance may appear to be covered with an oily film. This dense cover of vegetation provides shelter and food for a variety of nearshore fishes including juvenile salmon, surf perch, gunnels, sculpins and pipefish.



Camosun environmental technology students at the pocket beach below Point Ellice House.



The mudflats of the inner harbour waters of Victoria were a surprise to many of the students since, during first inspection, intertidal life seemed absent. However, a closer look at the hard substrate, coupled with some digging in the softer mud, revealed a plethora of smaller invertebrates. Most boulders/cobble were colonized by an abundance of barnacles with the addition of mussels, limpets, snails, oysters and chitons, to name a few. Chances of missing some of these invertebrates are likely, as life on a mudflat means continual cover by a mud film, left during periods of desiccation when the tide is out. It may be difficult to pick out a limpet but if you look close enough on a boulder that is covered with an encrusting green algae, you will see the path left by the limpet as it grazes along, using a rasping tongue-like structure called a radula to remove the algae for food. Carefully lifting the boulders and cobble on the mudflats (replacing them in their original positions afterwards) reveals an abundance of shore crabs, *Hemigrapsus* spp. and the polychaete worm, *Nereis*. Also present are both the native and Japanese oysters, which can be found on the beach below the Point Ellice house. Japanese oysters were

introduced in B.C. in 1912 or 1913 and have since out-competed the smaller native oyster in most areas of the B.C. coast.

A trip to the west coast of Vancouver Island during a low tide cycle this summer would offer a different variety of marine intertidal inhabitants. For example, Botanical Beach is famous for species adapted to high wave-exposure such as the Sea Palm, *Postelsia palmaeformis*, and the Goose Neck Barnacle, *Pollicipes polymerus*.

Regardless of the intertidal habitat visited, it is very important to keep in mind that although many of these invertebrates do not appear alive, they most certainly are, and while they are able to withstand the intertidal conditions of water inundation and desiccation, I am certain survival from human impact is not possible. Do take care while visiting the intertidal beaches, whether it be hoping from barnacle encrusted boulder to boulder, or walking through areas colonized by algae or marsh vegetation.

PAMELA THURINGER is a marine biologist working with a local environmental consulting firm.



Photos: Pamela Thuringer

## 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. **Birders' Night:** the fourth Wednesday of each month. **Marine Night:** the last Monday of each month. Locations are given in the calendar listings. Telephone the VNHS Events Tape at 479-2054 for further information and updates. **NOTE:** The monthly **Natural History Presentations, Botany Night, Birders' Night, Marine Night** and the **Board of Directors** meetings are not held during July and August; they will begin again in September.

### JULY EVENTS

#### **Tuesday - Thursday, July 2-4**

##### ***Broom Bash at Mount Tolmie Park.***

Bring your own gloves, loppers, and water. Runs from 9:00 a.m. to 3:00 p.m. For more information call 595-7270. Sponsor: Mount Tolmie Conservancy Association.

#### **Saturday, July 13**

##### ***The Meadows of Hurricane Ridge***

Join David Pearce for Pelagic Birding between Victoria and Port Angeles and Botany on Hurricane Ridge. Meet at the Coho Ferry Terminal at 10:00 a.m. for the 10:30 a.m. sailing. We will be returning on the 5:15 p.m. sailing arriving back in Victoria at 6:45 p.m. Cost of ferry plus bus will be about \$38. Please make reservations with David (658-0295) by July 10 as bus seats are limited.

#### **Sunday, July 14**

##### ***Broom Bash at Mount Tolmie Park.***

Bring your own gloves, loppers, and water. Runs from 9:00 a.m. to 3:00 p.m. For more information, call 595-7270. Sponsor: Mount Tolmie Conservancy Association.

#### **Saturday, July 20**

##### ***Birding on Mandarte and Sidney Islands***

Join David Allinson on a specially chartered boat to cruise around Mandarte Island to see the largest seabird colony in Georgia Strait. The spectacular cliff face on the south side of the island is covered with nesting cormorants, gulls and guillemots. An elusive pair of Tufted Puffins also nest on the island. Then on to Sidney Island where early migrant shorebirds congregate on the tidal flats. Bring lunch, drinks and \$10 ferry fare. Meet at the ferry dock at the foot of Beacon Avenue in Sidney at 8:15 a.m. Space on the boat is limited so please reserve your place with David Allinson at 478-0457.

#### **Sunday, July 21**

##### ***Broom Bash at Mount Tolmie Park***

See July 14 for details.

#### **Sunday, July 28**

##### ***Broom Bash at Mount Tolmie Park***

See July 14 for details.

### AUGUST EVENTS

#### **Saturday, August 3**

##### ***Shorebird Migration Trip to Iona Regional Park***

From late July to September, thousands of shorebirds stop to feed and congregate in the Iona lagoons at the mouth of the Fraser River. The leader will be David Allinson (478-0457). Meet at the Town and Country Mall Parking lot at 6:45 a.m. to carpool or meet in the forward lounge on the 8:00 a.m. ferry.

#### **Thursday, August 15**

##### ***Broom Bash at Mount Tolmie Park***

See July 14 for details.

#### **Saturday, August 17**

##### ***Birding at Cowichan Bay***

Join Derek Marvin to see the southern migration of shorebirds and the breeding success of the purple martins. Meet at the Helmcken Park'n'Ride at 8:15 a.m. or the Cowichan Bay Dock Road at 9:00 a.m.

#### **Thursday, August 22**

##### ***Broom Bash at Mount Tolmie Park***

See July 14 for details.

#### **Thursday, August 29**

##### ***Broom Bash at Mount Tolmie Park***

See July 14 for details.

#### **Saturday, August 31**

##### ***Birding on Sidney Island***

Our second trip to see migrating shorebirds on Sidney Spit and songbirds on Sidney Island. Meet at the foot of Beacon Avenue in Sidney in time to catch the 9:00 a.m. sailing. Bring ferry fare (\$6 return) and a snack or lunch. Leader to be announced.

## BULLETIN BOARD

### **Volunteer Needed — Librarian**

Librarian for the library at Swan Lake-Christmas Hill Nature Sanctuary. The Victoria Natural History Society collection as well as the Nature Sanctuary books are kept in the library at the Nature House. The volunteer librarian is responsible for cataloguing new books, shelving books, and maintaining an up to date record of all books. Computer experience is an asset but not mandatory for this position. Call Joan at 479-0211 for more details.

### **Volunteer Needed — Nature House Receptionist**

Nature House Receptionists are also needed at the Swan Lake Nature Sanctuary. Positions are available Monday and Friday mornings from 10:00 a.m. to 1:00 p.m. An interest in natural history and birding is helpful. Computer experience is also an asset. Call Joan at 479-0211 for more details.

### **Gorge Waterway Action Society**

The Gorge Waterway Action Society is a non-profit society dedicated to the preservation and enhancement of the Gorge Waterway, a unique and priceless geographic feature of natural beauty. Help us to ensure the water quality and wildlife habitat of the Gorge is preserved and that the Waterway is developed as a scenic area for the use and pleasure of everyone. New members are welcome. For membership information, a copy of our March newsletter, or for details of our Annual General Meeting on May 4th at Sawmill Point please contact Norman Clark at 383-7190.

### **VNHS Conservation Volunteers Wanted**

Are you concerned about the future of Greater Victoria's natural heritage? Want to do something to help? The VNHS Parks and Conservation Committee would like to know about your concerns. We are also interested in members who would like to be involved with the VNHS Parks and Conservation Committee or to Volunteer time on specific projects. To voice your concerns or to volunteer your time (even a single hour is helpful), please contact Jeff Stone at 370-2449.

### **Volunteer Needed**

The Parks and Conservation Society has a small project for a willing volunteer. Someone is needed to gather information and fill out an application for a grant proposal for money to complete work on projects such as our inventory of Sensitive Areas. If this interests you, contact Tony Embleton at 595-6812.

### **Reminder!**

The Swan Lake Nature Centre holds birding walks regularly on Wednesdays and Sundays at 8:00 a.m. Everyone is welcome to join in.

### **Marine Ecology Station**

Explore British Columbia's marine bio-diversity at the Cowichan Bay Maritime Centre. Life exhibits of B.C. sea life can be seen under microscopes and in live video displays. There are also programs available for schools, camps, naturalists and educators. The Centre is located on the water at 1761 Cowichan Bay Road. For more information phone **Dr. Bill Austin** at 746-4955.

### **Announcement!**

BEN — Botanical Electronic News — is an electronic botanical newsletter distributed on Internet by Adolf Ceska in about bi-weekly intervals. To subscribe to BEN send a message to: <aceska@freenet.victoria.bc.ca>.

### **For Sale**

National Geographic's *Field Guide to Birds*; the *Naturalist Guide to the Victoria Region*; *Birds of Victoria*; the Victoria Area Bird Checklist; and, the Victoria Natural History Society's Window Decals are for sale, contact Lyndis Davis at 744-5750.

### **Back Issues of the Victoria Naturalist**

Copies of back issues and indices of the *Victoria Naturalist* are available from **Tom Gillespie** (361-1694).

### **Garry Oak Meadow Society Membership**

The Garry Oak Meadow Society aims to promote, conserve and restore our native oak meadow lands. You can help them to preserve our rarest Canadian habitat by joining the Society or through donations to any branch of Pacific Coast Savings Credit Union. For further information contact **Tom Gillespie** at 361-1694.

### **Washington State & B.C. Birding E-Mail**

**Dan Victor** (<dvector@u.washington.edu>) sends this paper message. There is a Washington State (plus B.C.) birding email group called tweeters. This group currently is comprised of 130+ subscribers mostly from around Washington State but also extending into Oregon, British Columbia and as far east as Chicago. A number of interesting discussions have taken place on this forum. Gene Hunn posts the Washington State birding hotline weekly. If you have Internet access send email to listproc@u.washington.edu with the following test line "information tweeters". This will give more details on the list and how to subscribe.



expire: 31-12-96

Bev Bullen  
1701 Cedar Hill X Road # 506  
VICTORIA BC V8P 2P9

## CRD Parks Summer Program 1996

### JULY

- 6 **Sunrise Seekers Canoeing** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 10 **Giants of Another Age** — Island View Beach Regional Park — 10:00 a.m.
- 11 **50+ hike** — Francis/King and Thetis Lake Regional Parks  
*Cost is \$8.00 per person, pre-registration required*
- 13 **The Sea: Our Bounty** — Albert Head Lagoon Regional Park — 11:00 a.m.
- 13 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 14 **Ravens in the Summer** — Mount Work Regional Park — 10:00 a.m.
- 20 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 21 **Witty's Way Back When** — Witty's Lagoon Regional Park — 1:30 p.m.
- 27 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 28 **For the Sake of the Lake** — Elk/Beaver Lake Regional Park — 1:30 p.m.
- 28 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*

### AUGUST

- 3 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 4 **Beginners' Birding** — Elk/Beaver Lake Regional Park — 9:30 a.m.
- 7 **Woodpecker Whittlings** — Elk/Beaver Lake Regional Park — 1:30 p.m.
- 8 **50+ Hike** — East Sooke Regional Park  
*Cost is \$8.00 per person, pre-registration required*
- 10 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 10 **Mysteries of the Midden** — Witty's Lagoon Regional Park — 11:00 a.m.
- 11 **Introducing the Great Blue Heron** — Witty's Lagoon Regional Park — 1:30 p.m.
- 11 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 18 **Nature's Buffet** — Francis/King Regional Park — 1:30 p.m.  
*Cost is \$5.00 per person, pre-registration required*
- 21 **Introducing the Great Blue Heron** — Witty's Lagoon Regional Park — 1:30 p.m.
- 24 **Hiking the Coast Trail** — East Sooke Regional Park — 10:00 a.m.  
*Cost is \$8.00 per person, pre-registration required*
- 24 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*
- 25 **Shorebirds on the Move** — Island View Beach Regional Park — 8:00 a.m.
- 31 **Sunrise Seekers** — Elk/Beaver Lake Regional Park  
*Cost does apply, call CRD Parks for more information*

For more information or to register for an event please call CRD Parks at 478-3344