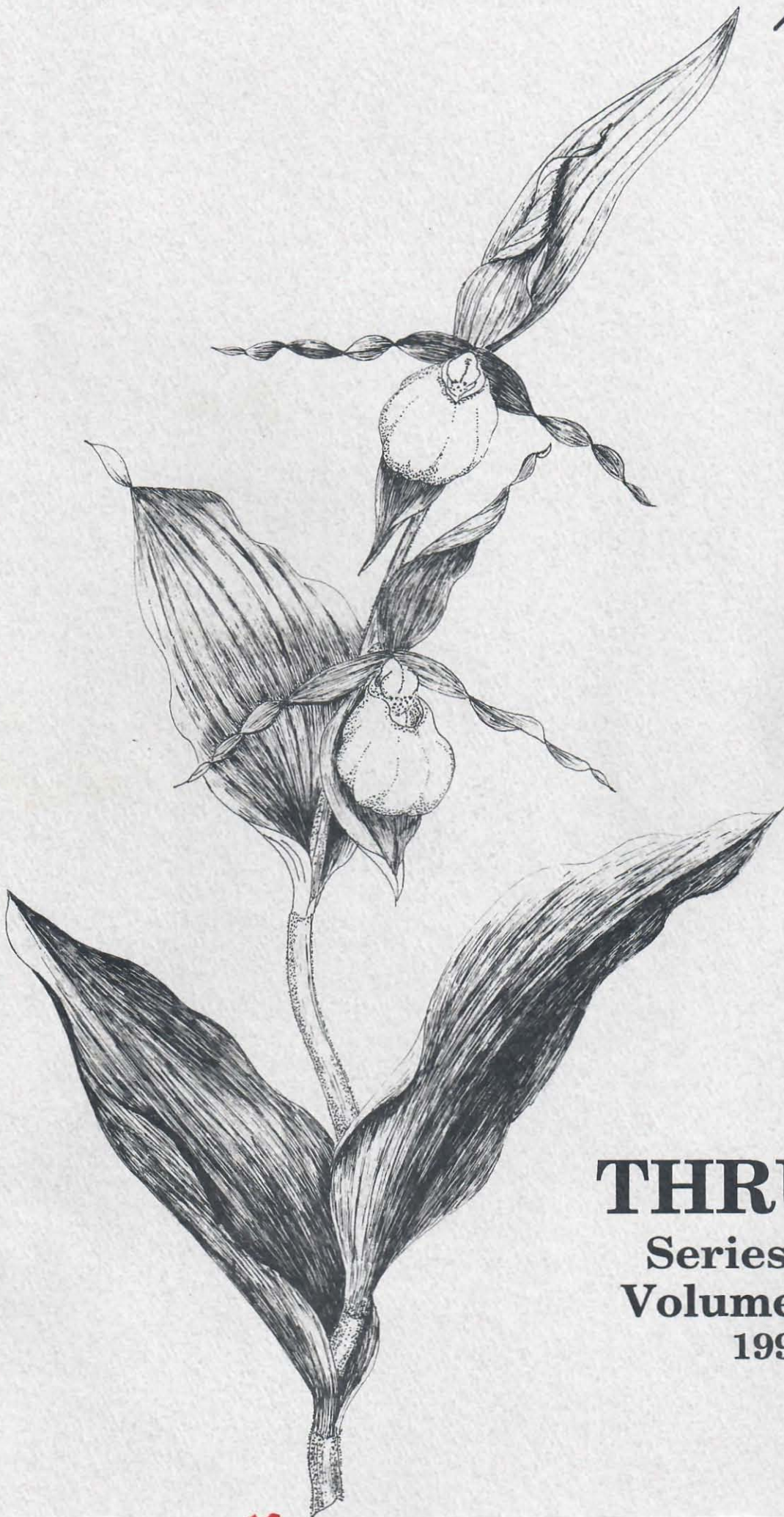


Bull Mexiles



# THRUSH

Series Two  
Volume Four  
1992

# THRUSH

Series 2 Volume 4 - 1992

## TABLE OF CONTENTS

Editor's Message Graham Gillespie .....	1
1992 Nanaimo Field Naturalist Outings Steve Baillie .....	2
1992 Christmas Bird Count Peter van Kerkoerle .....	4
1992 - The Year in Birding in Nanaimo Steve Baillie .....	6
The Arrival Of The Eastern Cottontail Rabbit In Nanaimo Bill Merilees, Ken Langelier and Karen Machin .....	9
Mid-winter Bald Eagle Counts in the Nanaimo Area Don Blood .....	12
Deervetch, Or Birds-foot Trefoil: Only Known In Canada from the Woodley Range, Ladysmith Bill Merilees .....	16
Ash-throated Flycatcher in Nanaimo Graham Gillespie .....	17
Lead Poisoning in Bald Eagles in British Columbia Ken Langelier .....	19
Hearing Magpies In Nanaimo Bill Merilees .....	22
A Not-So-Scientific Bird Feeding Study Steve Baillie .....	24
Aspergillosis Fungal Infection in Steller's Jays Ken Langelier and Karen Machin .....	29
Buttertubs and Jinglepot Marsh Bird Checklists Graham Gillespie .....	30

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Graham Gillespie, Editor



## Editor's Message

by Graham Gillespie

The second series of the Thrush (as an annual, stand-alone publication) was produced between 1981 and 1985, and the seven years since have been a period of increased activity and new pursuits by the Club, punctuated with parallels which illustrate the continued relevance of the role of the Club in the community.

This year's Thrush, like previous volumes, includes reports of significant natural history records in the Nanaimo area, and the results of various projects carried out by members of the club.

I would like to thank all of the contributing authors: Steve Baillie, Don Blood, Dr. Ken Langelier, Karen Machin, Bill Merilees and Peter van Kerkoerke. I would also like to thank Peter for the illustration which appears on the cover of this volume.

When the executive discussed the resurrection of the Thrush, I envisioned an annual report of Club activities, a chronicle of significant natural history records and observations, and also as a platform for written works by the membership. I hope that all of these objectives are met in the digest which is presented.

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"Through no fault of our own, and by dint of no cosmic plan or conscious purpose, we have become, by the power of a glorious evolutionary accident called intelligence, the stewards of life's continuity on earth....If we blow it (quite literally), we will permanently rupture a continuity of eons that dwarfs our own puny history to geological insignificance, but that we nonetheless now control. I can not imagine anything more vulgar, more hateful, than the prospect that a tiny twig with one particular power might decimate a majestic and ancient tree, whose continuity stretches back to the dawn of earth's time, and whose trunk and branches house so many thousand prerequisites to the twig's existence."

Stephen Jay Gould  
*The Flamingo's Smile.*

## 1992 Nanaimo Field Naturalist Outings

by Steve Baillie

The following is a list of the outings that were conducted by the Nanaimo Field Naturalists in 1992, with a comment on the interesting points of each.

The year started off slowly due to a lack of a Social Coordinator, but picked up with Elthea Dale acting in that position until the fall. Highlights of the year include the Pitch-In day at the Jinglepot Marsh, the boat trip to Mitlenatch Island, and the November birding trip to Ladner.

January 12. Eagle Count. The annual count, conducted by Don Blood, totalled 318 Bald Eagles, from Nanoose to Ladysmith. There were 20 participants.

February 16. Birding in Vancouver. Highlights included a Prairie Falcon, Lincoln's Sparrow, and Black-Crowned Night-Heron.

March 15. Birding in the Cowichan Bay area. Highlights included Glaucous Gulls on the baseball field and at the sewage lagoons in Duncan, a Northern Shrike and a very cooperative Virginia Rail on the Cowichan Estuary. There were about 15 participants.

April 25. Nanoose Bluff wildflowers. Conducted by Bill Merilees in conjunction with Malaspina College Community Education.

May 9. Pitch-In Day at Jinglepot Marsh. 15 members of the club braved the rain and picked up 1510 kg of garbage from this significant wetlands.

May 31. Low tide beach seine at the Biological Station. Around 15 club members attended this outing, which showed the diversity of sea life in the nearshore area. Gunnels, crabs, perch and shrimp were caught.

June 28. Mitlenatch Island. One of the highlights of the year. We were able to watch baby Glaucous-winged Gulls (yes, they are actually cute!) and many other species of birds. There were several species of wildflowers in bloom, but we somehow missed the cactus. There were 8 club members on this outing.

July 19. Butterfly World. This popular tourist stop was as interesting as always.

August 2. Chase River estuary. This outing unfortunately lead to the discovery of an extensive plot of Purple Loosestrife, which the club will be planning to eradicate next spring.

August 16. Shorebirding around Cowichan Bay and Clover Point. There were



only 5 club members on this outing, probably due to the early start! There wasn't much in the way of shorebirds, but an enjoyable outing. Lunch at Spinnakers was average (that is to say, superb as usual!).

August 30. Piper's Lagoon and headlands. Most of the birds were blown away by the wind and the weather. 7 of us were out there for a while, though.

September 13. Rowbotham Ridge. Sally Goldes led a small group of club members on a hike to this area. Breathtaking scenery and a beautiful walk.

September 20. Morrell Wildlife Sanctuary. Kathy Jackson led a group through this popular area for an interesting walk.

October 11. Mushrooming with Ted Underhill. Also held at Morrell, this was a disappointing outing due to the lack of mushrooms. There were several club members present, along with numerous members of the general public.

October 25. Big Qualicum Salmon Enhancement Facility. Seven club members went up to see this high profile hatchery. The outing coincided with the facility's annual Open House, which made the visit much more enjoyable.

November 15. Birding in Ladner / Riefel. Another highlight outing. Seven members squeezed into my van for a birding tour around the lower mainland. Highlights were 4 Snowy Owls, 2 Great Horned Owls, 2500 Snow Geese, American Tree Sparrows, a Sandhill Crane, but no Ross' Goose.

December 6. Warm-up / Tune-up for the Christmas Bird Count at the Nanaimo River Bridge on Cedar Road. Highlights for this well attended outing include a Peregrine Falcon, Northern Shrike, and a Savannah Sparrow.

December 20. Christmas Bird Count. For a detailed account, see Peter Van Kerkeorle's article.

## 1992 Christmas Bird Count

by Peter van Kerkoerle

Our set date had to be postponed, due to bad weather. So, on December 27th, we all got into our warmest winter wear, and stepped out into a drab day and a good shower of snow, sleet or rain, depending on how far away or how close you were to the ocean. Good thing it only lasted a short time, just long enough to separate the good birders from the others, let's say.

We had quite a few parties in the field, and Frank Stoney with his boat covered the ocean expanse within our count circle. We were fortunate to have Gil Wald, of New Jersey, visiting Nanaimo. He is a great birder, and he loves the ocean. What better place to fit him in than on the boat. I am sure he fitted in well with Frank and Allison.

Due to the dull weather, sparrows did not react to "swishing", and stayed low all day. This cost us a few species. We missed Savannah Sparrow and American Tree Sparrow, which we knew were around. Speciality of the day was a Townsend's Warbler seen by Neil and Jean Bourne, at very close range. It nearly flew into their car. A Golden Eagle at Jack Point was another "good one". Everyone in our party had a good look at a Peregrine Falcon, as it flew through a flock of gulls. We usually see a Marsh Hawk on the estuary flats, but just that day it did not show up. The Short-eared Owl was also absent.

We only needed six more species to make this year's count a record high for us. We finished with 109 species (Table 1), and 114 species in 1977 was our record. The number of individuals was a bit lower than in 1991, and stood at 24,423. So, it was not bad at all, considering the weather was not that great.

Thanks go to everyone who put time and effort into the count. A big thank you to Frank Stoney, for again making his boat available for the count.

**Table 1. 1992 Nanaimo Christmas Bird Count**

Common Loon	61	Pelagic Cormorant	348	Green-winged Teal	38
Pacific Loon	13	Great Blue Heron	35	Eurasian Wigeon	1
Red-necked Grebe	19	Trumpeter Swan	109	American Wigeon	645
Horned Grebe	49	Canada Goose	543	Northern Shoveler	20
Western Grebe	1503	Mallard	756	Ring-necked Duck	73
Pied-billed Grebe	10	Am. Black Duck	16	Greater Scaup	2
Double-crest. Cormorant	211	Gadwall	19	Common Goldeneye	89
Brandt's Cormorant	1984	Northern Pintail	113	Barrow's Goldeneye	655



**Table 1. 1992 Nanaimo Christmas Bird Count**

Bufflehead	261	Dunlin	25	Winter Wren	39
Oldsquaw	3	Glaucous-winged Gull	6411	Bewick's Wren	11
Harlequin	80	Herring Gull	2	Marsh Wren	3
White-winged Scoter	3	Thayer's Gull	1050	American Robin	1764
Surf Scoter	367	Mew Gull	90	Varied Thrush	79
Black Scoter	10	Ring-billed Gull	1	Golden-crown. Kinglet	199
Ruddy Duck	2	Common Murre	59	Ruby-crowned Kinglet	10
Hooded Merganser	97	Pigeon Guillemot	1	Cedar Waxwing	45
Common Merganser	343	Marbled Murrelet	10	Northern Shrike	2
Red-breasted Merganser	114	Rhinoceros Auklet	9	European Starling	2304
Sharp-shinned Hawk	2	Band-tailed Pigeon	51	House Sparrow	27
Cooper's Hawk	2	Rock Dove	284	Western Meadowlark	1
Red-tailed Hawk	9	Barn Owl	1	Red-winged Blackbird	167
Golden Eagle	1	Great Horned Owl	2	Brewer's Blackbird	84
Bald Eagle	232	Anna's Hummingbird	1	Brown-head. Cowbird	1
Peregrine Falcon	1	Belted Kingfisher	22	Evening Grosbeak	17
Merlin	2	Northern Flicker	47	Purple Finch	84
American Kestrel	1	Pileated Woodpecker	9	House Finch	57
Ruffed Grouse	3	Red-br. Sapsucker	2	Pine Siskin	289
California Quail	11	Hairy Woodpecker	5	Townsend's Warbler	1
Ring-necked Pheasant	3	Downy Woodpecker	7	Rufous-sided Towhee	115
Virginia Rail	16	Steller's Jay	126	Dark-eyed Junco	560
American Coot	58	Common Raven	54	White-cr. Sparrow	4
Black Oystercatcher	48	Northwestern Crow	690	Golden-cr. Sparrow	91
Killdeer	15	Chestnut-b. Chick.	167	Fox Sparrow	33
Black-bellied Plover	15	Bushtit	95	Lincoln's Sparrow	1
Surfbird	29	Red-br. Nuthatch	7	Song Sparrow	124
Black Turnstone	25	Brown Creeper	12	Total Species = 109	
Common Snipe	3	American Dipper	3	Total Individuals = 24,423	



## 1992 - The Year in Birding in Nanaimo

by Steve Baillie

1992 was an interesting year for birders in the Nanaimo area. There were three confirmed additions to our checklist from sightings, with a fourth one possible, pending documentation. The old checklist (1985) was outdated and out of print so a new, improved, updated and wonderful checklist is in preparation. The research that was done for it revealed several more species of birds that were recorded here but weren't on the old list and a specimen was found for another species so the total now stands at 251, or maybe 252?

New species observed this year were **RED-NAPED SAPSUCKER**, **PALM WARBLER**, **REDPOLL**, and a possible **BRAMBLING**. An **EASTERN KINGBIRD** specimen was presented to me by Frank Stoney, who received it from a neighbour out at Green Lake. The bird was found dead on their front lawn a couple of years ago. Other species that I have found through research are: **BLACK-FOOTED ALBATROSS**, **SOOTY SHEARWATER**, **MUTE SWAN**, **WHITE-TAILED PTARMIGAN**, **SOLITARY SANDPIPER**, **FRANKLIN'S GULL**, **GLAUCOUS GULL**, **BLACK TERN**, **ANCIENT MURRELET**, **TUFTED PUFFIN**, **NORTHERN HAWK-OWL**, **BURROWING OWL**, **LONG-EARED OWL**, **LEWIS' WOODPECKER**, **HERMIT WARBLER**, and **LAZULI BUNTING**.

The Buttertubs/Jinglepot Marshes bird survey continued weekly until March 1 when the year-long study was completed. This work is now in the writing stage and it is hoped to get it published this year. Over the whole year 116 species of birds were seen, and two of those (Ash-throated Flycatcher and Northern Oriole) were added to the area checklist in 1991. 1993 will see a new study on the birds of the Linley Valley area in North Nanaimo.

A **YELLOW-BILLED LOON** was still found in the Nanaimo Harbour when 1991 rolled into 1992. This bird was first seen by Peter Van Kerkeorle in December of the previous year and was counted in that year's Christmas Bird Count. It was still around in January. The **AMERICAN BITTERN** was seen sporadically at Buttertubs Marsh, including a beautifully clear viewing when the Marsh study was winding up on March 1. In mid-November we were all saddened by the discovery of the destruction of an active **GREAT BLUE HERON** rookery in the 5300 block of Hammond Bay Road. No amount of compensation or retribution can replace lost habitat.

In mid-May Graham Gillespie and I observed a pair of **TRUMPETER SWANS** in the Nanaimo River estuary. Although not unheard of, this was unusually late for these Arctic breeders. On December 24 I observed two **GREATER WHITE-FRONTED GEESE** with about 50 Canada Geese on a field near Michael Lake in Yellow Point. The **AMERICAN BLACK DUCKS** that were released on Michael Lake over ten years ago are beginning to expand their range. In 1991 some moved onto



the pond at the Crow and Gate Public House in Yellow Point and this year they successfully raised a brood at Rick and Katherine Ikona's pond, just down the road. The **EURASIAN WIGEON** is now a regular winter visitor. Neil Bourne found one for the Christmas Bird Count on a pond at the Nanaimo Golf Course. I observed a rare summer sighting of **SURF SCOTERS** in Departure Bay on July 16. Although most of these sea ducks leave in the spring for the inland lakes and ponds, a few stay behind in the Strait of Georgia for the summer.

On September 7 a pair of **SANDHILL CRANES** were seen at Panther Lake in the Nanaimo River watershed. Usually these magnificent birds are observed flying over on their way somewhere else but this pair were at the lake, presumably feeding and resting. Most years there is a strong migration of **BONAPARTE'S GULLS** through the area in late April through early May but I found very few this spring.

The **BARN OWLS** nesting by Quennell Lake fledged 5 this year, with no chicks being rejected out of the nest. Also, I received a call from a farmer on Maxey Road describing another nest. Upon investigation I found **BARN OWLS** nesting on a rocky ledge. This pair fledged one chick. By the look of the size of the pile of pellets under the ledge this site has been occupied for a long time.

An **ANNA'S HUMMINGBIRD** showed up at Eleanor and John Routley's in October. One was seen for the Christmas Bird Count. The first **RUFIOUS HUMMINGBIRD** was seen at my In-laws place in Yellow Point on March 13. A **RED-NAPED SAPSUCKER**, normally a resident in the Okanagan, showed up at Peter and Anneke Van Kerkeorle's farm in Cassidy on April 5. This was the first record for Nanaimo. The bird hung around long enough to be photographed by Rick and Katherine Ikona.

This year the club embarked on a nesting program for **PURPLE MARTINS** to enhance the existing population at the Ladysmith harbour. 23 boxes were put up in the Nanaimo River estuary and 4 were put up in Nanoose Bay. Results were encouraging in that two young males were sighted at the boxes in the Nanaimo River. The population in Ladysmith lost the pilings in which they had previously nested, but members of the Victoria Club provided alternate housing by putting up nest boxes on permanent pilings. The first sightings of **TREE SWALLOWS** and **VIOLET-GREEN SWALLOWS** were made by several people in late February.

I didn't receive any reports of **HOUSE WRENS** this year but I am expecting to hear more and more as the years go on. They are becoming very common on Saltspring Island and should be expanding their range as the population increases. A **TOWNSEND'S SOLITAIRE** showed up at Malaspina College this fall and stuck around at least until the end of the year. **SWAINSON'S THRUSHES** arrived at Peter Van Kerkeorle's farm at the beginning of May. The **BOHEMIAN WAXWINGS** that were at Buttertubs Marsh at the end of 1991 stayed around for the month of January. While looking for rare warblers in the Nanaimo River



estuary I spotted a **NORTHERN SHRIKE** on November 28. This bird of prey stayed around at least until the end of the year.

Graham Gillespie, Karen Mullen and I spotted the first **YELLOW-RUMPED WARBLER** of the year on Stephenson Point Road on Marsh 10. Neil Dawe found a **PALM WARBLER** at Nanoose on November 17, then Peter Van Kerkoerle found one at the Nanaimo River estuary on November 24. This is another first record for the Nanaimo Area Checklist. While looking for this bird, I spotted (in addition to the above mentioned shrike) a flock of 13 **WESTERN MEADOWLARKS** at the estuary on November 28. A **REDPOLL** (common race) arrived at a feeder near Green Lake the day after the Christmas Bird Count on December 28. This was the third addition to our checklist for this year. Finally, an unconfirmed **BRAMBLING** was at a feeder on Protection Island at the beginning of November. Although it was only here for 1-2 days, photographs were taken and we are waiting for those before this Asian vagrant can be added to the checklist.

It has been an interesting year for birds and I'm looking forward to 1993. The club has an Okanagan birding excursion and a pelagic trip planned, along with the usual forays to the Cowichan, Victoria and Vancouver.

Happy Birding!

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"The art of seeing well, or of noticing and distinguishing with accuracy the objects which we perceive, is a high faculty of mind, unfolded in a few individuals, and despised by those who can neither acquire it, nor appreciate its results."

Constantine Samuel Rafinesque-Schmaltz  
*Ichthyologia Ohioensis.*



## The Arrival Of The Eastern Cottontail Rabbit In Nanaimo

by Bill Merilees, Ken Langelier and Karen Machin

In 1964/65 Dick Vandemeer released a number of Eastern Cottontail Rabbits in the Metchosin area of greater Victoria (Carl and Guiguet 1972). In 1983 they had arrived at South Wellington and in 1984 residents along Bird Sanctuary Drive reported them at Buttertubs Marsh for the first time. In the spring of 1985 they were common. From a personal perspective, the first Eastern Cottontail arrived in my garden on Granite Park Road on May 29th, 1990.

The purpose of this short article is not so much to report this species' arrival as it is to provide an indication of their increase in numbers, and to present some data from records kept by the Island Veterinary Hospital.

Hospital records report the species admitted by date, the age of the animal (when this can be determined) and a description of why or how the animal came to be admitted. This information, when examined critically, presents an 'interesting' story.

The first cottontail admittances occurred in June of 1987, and the number of admittances per year since then is summarized in Figure 1. This pattern is in keeping with the classic model where a population of a successfully introduced species rises quickly and then 'falls off', eventually to level out. For this type of information, six years data is hardly long enough to draw complete conclusions. It is interesting that it was three years between the first admittances of Eastern Cottontails at the Hospital and the first observations at Buttertubs Marsh.

Timing of admittances to the Hospital is graphed in Figure 2. Ninety-five percent occur between early April and the end of September. Of the 56 animals that were aged (total number recorded 131), 50 were young of the year and only 6 were adult. The distribution of admittances during this six month period is reasonably even. High points from late April through June, when young animals would be emerging, and during September, probably of juvenile animals dispersing, are noteworthy.

The reason for admittance tells a great deal about the problems wild animals have in urban areas. Table 1 lists these, as recorded in the Hospital's records. More than 62% of admittances are attributed to attacks by cats, 9% to automobiles, and another 9% to various human activities. The 'human element' in the abandoned category, eg. where people believe an animal has been abandoned but where this might not be so, cannot be determined. On the basis of this information more than 80% of cottontail admissions relate to clashes with human life style. In other words, it is very tough being a wild animal in an urban environment.

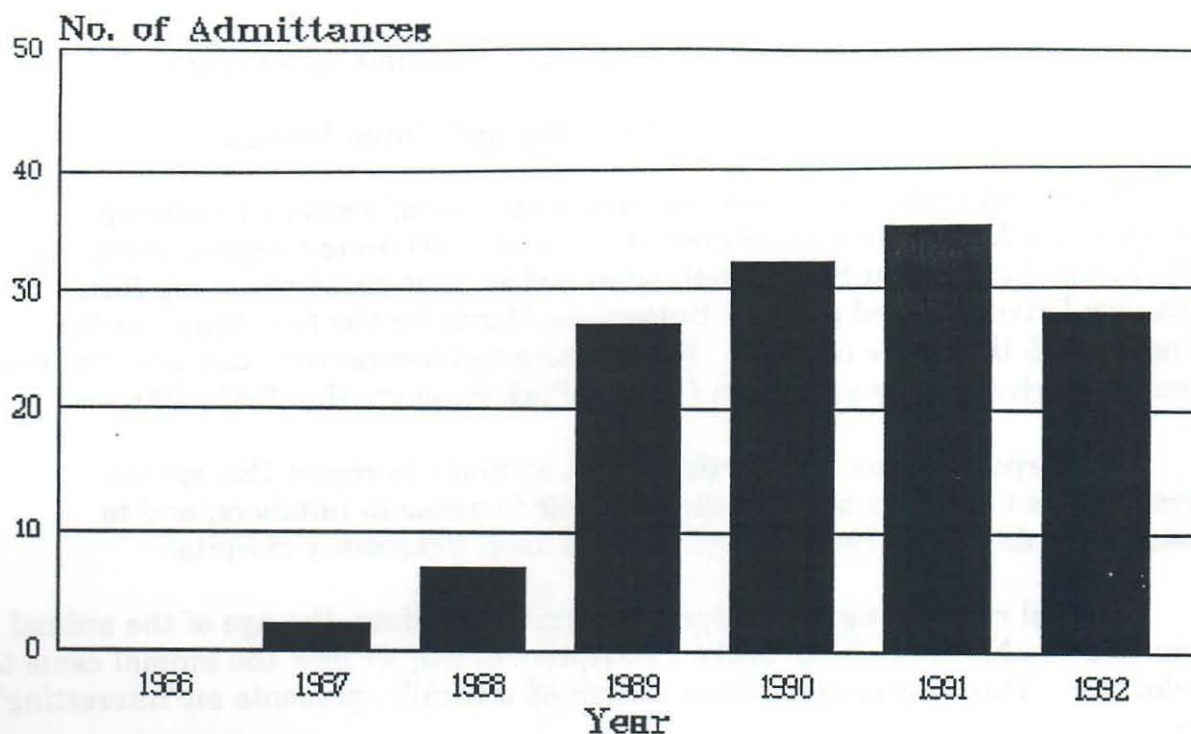


Figure 1. Annual admittances of Eastern Cottontail Rabbits to Island Veterinary Hospital, Nanaimo, B.C., 1987 through 1992.

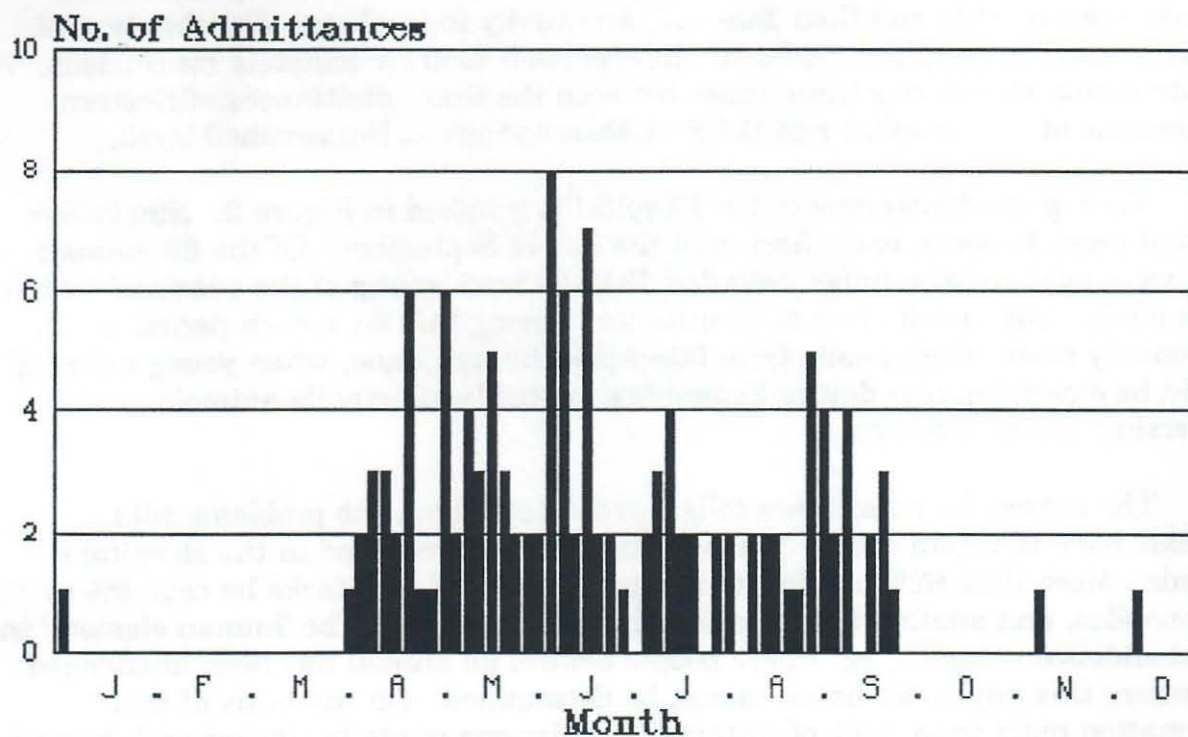


Figure 2. Seasonal admittances of Eastern Cottontail Rabbits to Island Veterinary Hospital, Nanaimo, B.C., 1987 through 1992.



<b>Table 1.</b>		
Cause of Admission	Number	Percent
Domestic cat	72	55%
Found 'abandoned'	15	11%
Human encounter	11	8%
Car accident	10	8%
Trauma	6	5%
Domestic dog	2	2%
'Unknown'	15	11%
Total	131	100%

The Eastern Cottontail is now a permanent member of the Vancouver Island fauna who's range is continuing to expand northward. As it does and its numbers increase subtle changes are likely to occur. Will the Barred and Great-horned Owl numbers also increase? A careful analysis of bird records should indicate this possibility. From photos that have appeared in the Nanaimo news papers during the past ten years, this would appear to be the case. For bird watchers, who have an inordinate liking for owls, the Cottontails arrival might just mean 'Better Birding'!

#### Acknowledgements

We thank the staff of the Island Veterinary Hospital for keeping the records that made this analysis possible.

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# Mid-winter Bald Eagle Counts in the Nanaimo Area

by Don Blood

## Introduction

Mid-winter counts of Bald Eagles have been carried out annually in British Columbia since 1986, usually on the second Sunday in January. This timing was originally selected to coincide with similar surveys in Washington and Oregon; it also coincides with large eagle concentrations at the Squamish and Harrison Rivers on the Lower Mainland. Provincially, survey coverage has varied a lot from year to year, and even the most extensive surveys, such as 1988, omitted the West Coast of Vancouver Island and most of the mainland coast north of Powell River. In 1988, 8,400 eagles were counted and the provincial total was estimated to be 20,000 to 30,000 (Farr and Dunbar 1988).

Counts have been done in the Nanaimo area since 1987 by members of the Nanaimo Field-Naturalists Club. Major objectives were to determine how many Bald Eagles winter in the area, how variable the numbers are from year to year, and how the birds are distributed in the region.

## Methods

Counts have been conducted in eight survey units (Figure 1) from Nanoose to Ladysmith, including Gabriola Island, usually with 1 to 4 observers per unit. Total participation has varied from 15 to 22 people. Surveys were done between daylight and 1 p.m., with emphasis on the coastline and nearby islands, except for the lower Nanaimo River and Haslam Creek where eagles are attracted by rotting salmon. Access was mostly by car to various beach access points which permit scanning in one or both directions, or by walking shoreline trails where other access was not available. Although a boat survey provides better visibility of shoreline eagles, unpredictable weather conditions preclude this approach in January, except for the south side of Gabriola Island which was surveyed by boat on 4 occasions. Although some eagles may be double-counted as they move around, some are missed along shorelines with poor access. I believe the counts are probably conservative.

## Results

Total counts have varied from 233 to 742 (Table 1), however the 1987 total of 233 did not include Gabriola and probably shouldn't be compared with subsequent years. Excluding 1987, the average count was 533 eagles. Variation in abundance is a function of technique (whether or not Gabriola Bluffs were surveyed by boat), food abundance (herring in Northumberland Channel and rotting salmon in the Nanaimo River), and possibly weather. Gabriola counts of 123 in 1992 and 428 in 1993, both done by boat, indicate that numbers there do



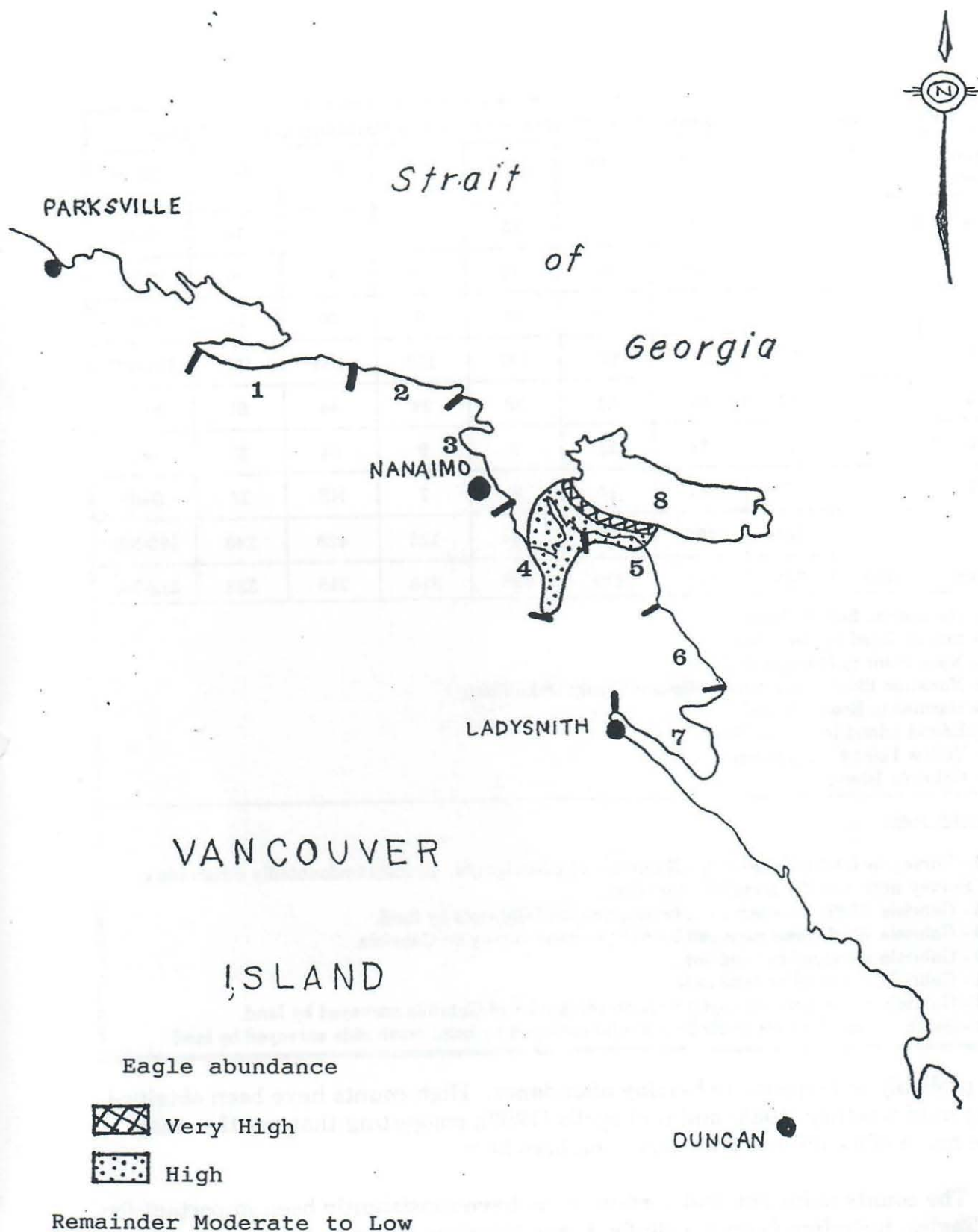


Figure 1. Nanaimo Bald Eagle mid-winter survey units and general abundance.



Table 1. Results of mid-winter Bald Eagle counts in the Nanaimo area 1987-1993.									
Survey Area	1987	1988	1989	1990	1991	1992	1993	Mean	Range
1		10	20	26	15	17	8	16	8-26
2		9	16	32	32	14	18	20	9-32
3		6	10	32	11	9	30	16	6-32
4		101	187	121	140	110	163	137	101-187
5		81	91	61	78	29	44	64	29-91
6		19	31	21	9	9	24	19	9-31
7		7	33	14	6	7	NS	13	6-33
8		509	155	142	134	123	428	248	123-509
Total	(233)	742	543	449	425	318	715	533	318-742
* 1 = Nanoose to Schook Road 2 = Schook Road to Neck Point 3 = Neck Point to Petroglyph Park 4 = Nanaimo River and estuary; Haslam Creek; Duke Point 5 = Harmac to Round Island 6 = Round Island to Yellow Point 7 = Yellow Point to Ladysmith 8 = Gabriola Island									
<u>Notes on years</u>  1987 - Survey by land only, with small number of participants. Results undoubtedly conservative. Survey units not the same as later years. 1988 - Gabriola Bluffs area surveyed by boat; most of Gabriola by land. 1989 - Gabriola Bluffs area surveyed by boat; no land survey on Gabriola. 1990 - Gabriola surveyed by land only. 1991 - Gabriola surveyed by land only. 1992 - Gabriola Bluffs area surveyed by boat; remainder of Gabriola surveyed by land. 1993 - South side of Gabriola (including Bluffs) surveyed by boat; north side surveyed by land.									

vary, probably in response to herring abundance. High counts have been obtained during mild weather (1988) and cold spells (1993), suggesting that weather may not be much of an influence on eagle numbers here.

The counts point out that certain areas have consistently been important for Bald Eagles, including Gabriola Bluffs, lower Nanaimo River and estuary, and Harmac to Dodds Narrows (Figure 1). These are important mid-winter feeding and roosting areas, with significance for wildlife viewing, and tourism (particularly Gabriola Bluffs). It is important that roosting trees in these areas be preserved (Blood and Anweiler 1991). Other survey units have had consistently low counts,

probably because forage resources are more scattered.

The percentage of immature eagles among those classified as immature or adult has varied from 31 to 41, with an average of 37%. This is virtually identical to provincial figures, and suggests that our area is not favoured by one age group more than another.

#### Acknowledgements

I extend my sincere thanks to the many club members and various recruits who have taken part in the eagle surveys over the years. Without you it could not have been done.

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"Is it not, indeed, an absurd and almost a sacrilegious belief that the more a man studies Nature the less he reveres it?....The truth is, that those who have never entered upon scientific pursuits know not a tithe of the poetry by which they are surrounded. Whoever has not in youth collected plants and insects, knows not half the halo of interest which lanes and hedgerows can assume. Whoever has not sought for fossils, has little idea of the poetical associations that surround the places where imbedded treasures were found....Sad, indeed, is it to see how men occupy themselves with trivialities, and are indifferent of the grandest phenomena - care not to understand the architecture of the Heavens, but are deeply interested in some contemptible controversy about the intrigues of Mary Queen of Scots!"

Herbert Spencer  
*Education: Intellectual, Moral and Physical.*



Deervetch, Or Birds-foot Trefoil: Only Known In Canada  
From The Woodley Range, Ladysmith

by Bill Merilees

Botanists and Nanaimo naturalists can rejoice in the fact that the only known location of *Lotus pinnatus* in all of Canada is found along a small intermittent trickle near the summit of the Woodley Range, near Ladysmith. Although this species ranges south through Washington and Oregon and into California it reaches its very northern limit on Vancouver Island, right at our doorstep.

Common names for this species pose an interesting question. "The Vascular Plants of British Columbia - Part 2" provides Bog Birds-foot Trefoil. What a mouthful! American references use Meadow or Bog Deervetch. Personal preference would be Meadow Deervetch, which is much easier to say.

Due simply to the presence of *Lotus pinnatus*, the portion of Woodley Range where this species occurs is proposed for Ecological Reserve status. When this will eventuate will depend on many factors especially the willingness of the parties involved. Once established, constant vigilance will be required to ensure the area remains natural and undisturbed.

This species cannot easily be confused with any other member of the pea family in our area. Its bicoloured yellow and white flowers, pinnate leaves and its generally sprawling form are unique.



## Ash-throated Flycatcher in Nanaimo

by Graham Gillespie

Most birders are familiar with the thrill of seeing a species for the first time, or 'ticking a lifer'. As life lists for the area near one's home become full, and more species are seen during travel, the expectation for personally notable sightings decrease. Remember, though, that the amount of time spent observing in the field increases the opportunity for a significant encounter (just ask Peter). Also remember, sightings of rare birds may not add to your life list, but may be a significant addition to the Club checklist (just ask Steve).

On June 23, 1991, during the Buttertubs Marsh survey last year, Shayne MacLellan and I were fortunate to record the first Ash-throated Flycatcher (*Myiarchus cinerascens*) for Nanaimo. We were finishing our walk through the Buttertubs segment, when we encountered this large species of flycatcher in the brushy area behind the row of poplars on the northeast end of the marsh.

We first saw the bird as it flew away from us, over some bushes. We relocated the bird on the other side of the bushes, and it sat watching us for at least three minutes, while we compared it to field guide descriptions.

The bird was notably larger than the Willow Flycatchers seen earlier in the day, and its orange-red tail was conspicuous. The tail was very brightly coloured (perhaps suggesting a juvenile bird?) and did not have any white in the outer feathers.

The flycatcher perched about 15 feet away, and we were able to observe it in three-quarters frontal view as it perched in a typically upright flycatcher pose. It had a shaggy brown-grey crest, which was semi-erect throughout our observations. The facial area was gray, distinctly lighter than the crest, and distinctly darker than the white throat and breast. The facial area was divided from the breast by a distinct line, and did not fade into the other area. The belly and undertail coverts were washed with light yellow, not as bright as in the Western Kingbird. The wings were dark grey, with distinct wing bars and an orange red wash on the primaries. This orange area did not run the entire length of the primaries, but began and ended in the middle portion of the feather. The bill was black, and may have been (in hindsight) relatively short compared to other familiar flycatchers.

The bird was (regrettably, though perhaps predictably) silent during our observations, and no unusual calls were heard during the period near the encounter. No photographs were obtained. We passed the news on to other birders, but none were able to relocate the bird.



Ash-throated Flycatchers normally breed from southwestern Oregon (rarely in eastern Washington), southern Idaho, southwestern Wyoming, Colorado, and northern and central Texas south to Guerrero, Mexico, and southern Baja California. They are casual visitants to British Columbia, Ontario and Quebec (Godfrey 1986).

This is the first record of the Ash-throated Flycatcher for Nanaimo, and at least the second positive sighting for southern Vancouver Island. There are also three records for the west coast of Vancouver Island (Taylor 1990).

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"Our planet is not fragile at its own time scale, and we, pitiful latecomers in the last microsecond of our planetary year, are stewards of nothing in the long run. Yet no political movement is more vital and timely than modern environmentalism - because we must save ourselves (and our neighbour species) from our own immediate folly.....No one has ever improved upon the golden rule. If we execute such a compact with our planet, pledging to cherish the earth as we would wish to be treated ourselves, she may relent and allow us to muddle through. Such a limited goal may strike some readers as cynical or blinkered. But remember that, to an evolutionary biologist, persistence is the ultimate reward. And human brainpower, for reasons quite unrelated to its evolutionary origin, has the damndest capacity to discover the most fascinating things, and think the most peculiar thoughts. So why not keep this interesting experiment around, at least for another planetary second or two?"

Stephen Jay Gould.

Bully for Brontosaurus: Reflections in Natural History.



## Lead Poisoning in Bald Eagles in British Columbia

by Ken Langelier

In areas with concentrations of waterfowl, ducks and geese are often the primary food source for Bald Eagles. This is especially evident during winter, when dead and crippled waterfowl are available as a result of hunting. Studies have shown that crippling rates with lead shot are as high as 39% (Nieman et al. 1987). Other studies have shown that approximately 30% of healthy ducks carry lead pellets (U.S. Fish and Wildlife Service 1986). This results in a large population of crippled/unretrieved ducks and healthy ducks as reservoirs of lead pellets available to predators and scavengers.

In the United States the high incidence of Bald Eagles dying of lead poisoning was the primary reason for a complete ban on the use lead shot for waterfowl hunting. To date, all bans of lead shot for waterfowl hunting in Canada have been implemented because of the effects on waterfowl.

In a recent joint study between the Canadian Wildlife Service and the Island Veterinary Hospital, 294 Bald Eagles were examined for lead exposure (Elliott et al. 1992). Of the birds tested, 24/65 exhibited significant lead exposure with 14% classified as lead poisoned. The report concluded that "lead poisoning is an important cause of death for Bald Eagles in British Columbia."

Bald Eagle wildlife management efforts should be directed to increasing survival of eagles, especially adults, already in the population. Loss of adult Bald Eagles has a more serious impact on their population than disruption of nesting efforts (Grier 1980).

Although adult female Bald Eagles account for approximately 25% of the population, 47% of Bald Eagles reported to have died of lead poisoning have been adult females. This is because the adult females are larger and have honed their hunting skills so they are capable of killing ducks. Most deaths occur in late winter or early spring, just prior to or during the breeding season (U.S. Fish and Wildlife Service 1986). This represents a considerable loss of reproductive potential for this species since a breeding age female has already overcome strong selective pressures to live to maturity. Normal survival rates for Bald Eagles are estimated to be 21.5% to 50% for the first year of life, with less than 10% survival to adulthood at 5 years of age (Stalmaster 1987).

Although some of the Bald Eagle wintering areas are presently steel shot zones, 4 out of 9 of the lead poisoned eagles in the study came from outside of these steel shot zones. "Hot spots" include northeastern Vancouver Island and the Sunshine Coast.

In previous communications with the Canadian Wildlife Service



considerations for bans on the use of lead shot based on Bald Eagles was not given because the species was not considered to be threatened (Bob Baillie, pers. commun.). The public has a high regard for the Bald Eagle, however, ranking it as the 8th most preferred animal and the top animal they would like to see protected (U.S. Fish and Wildlife Service 1986). Hunting adversely affecting Bald Eagles would also further erode the public perception of the hunting community. Animal welfare societies are also strongly opposed to the inhumane deaths of animals affected by lead poisoning and are lobbying for bans based on all the species it affects.

Because of the large seasonal ranges of Bald Eagles, the potential for waterfowl to carry lead pellets throughout their flyways in Canada and the United States, and the susceptibility of eagles to lead poisoning, a ban on the use of lead shot for waterfowl hunting throughout North America is necessary to eliminate this source of toxicity for Bald Eagles. The best option is a complete ban on the use of lead shot for waterfowl hunting on a national scale.

Ducks that winter in the same wintering areas as Bald Eagles arrive from the B.C. interior, Alberta, Alaska, Yukon and Northwest Territories (McKelvey and Smith 1990). With only steel being used in Alaska, and hunting pressures on waterfowl being low in the Yukon and Northwest Territories, it leaves Alberta and the B.C. interior as the only significant reservoirs of lead shot in migrant waterfowl. A ban in Alberta and the B.C. interior and in Bald Eagle wintering areas would virtually eliminate the source of lead poisoning in Bald Eagles.

A ban on the use of lead shot for waterfowl hunting in areas where Bald Eagles winter only is also an option. The availability of waterfowl cripples and unretrieved ducks in Bald Eagle wintering areas is the greatest contributor to lead poisoning. If the use of lead shot for waterfowl hunting in Bald Eagle wintering areas was banned, we would see a dramatic decrease in the number of lead poisoned eagles.

As an absolute minimum we should extend the ban on lead shot for waterfowl hunting to all of Vancouver Island and the Sunshine Coast. Lead poisoning in Bald Eagles appears to be a problem especially in northeastern Vancouver Island and the Sunshine Coast.

In summary, studies clearly indicate Bald Eagles are dying of lead poisoning, and are continuing to do so despite the present bans on the use of lead shot. Further bans, or a complete ban, are necessary to prevent or minimize losses. I would urge all concerned citizens to voice their concerns on the lead shot issue to their MP, the Provincial Minister of Environment, Lands and Parks, and to the Canadian Wildlife Service.



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"If life on earth were to survive, not a single man, plant, bird or animal must be allowed to lose its life except through some great necessity of life itself. And in the losing all men should join in with every plant and animal and bird to praise it and mourn its passing as that of something infinitely precious that had given life the service for which it had been conceived and rendered itself well."

Laurens van der Post.  
A Far Off Place.



## Hearing Magpies In Nanaimo

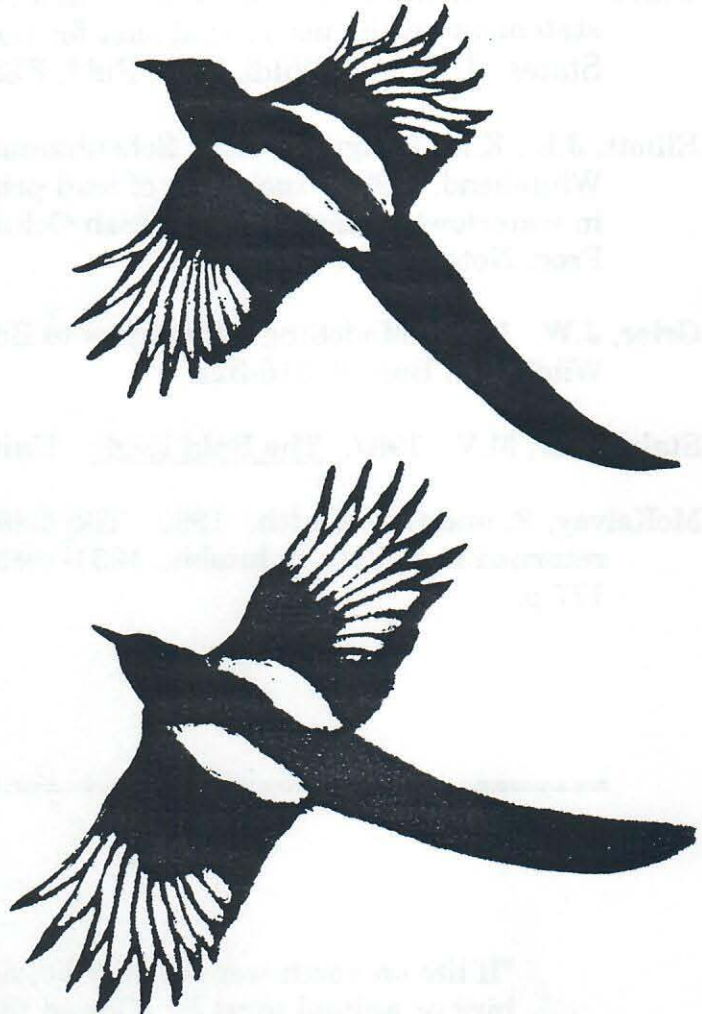
by Bill Merilees

Prairie folk and those from cattle country will certainly be familiar with the call of the Black-billed Magpie. Those who may not know the magpie's call will certainly remember the striking visual impression of these long-tailed members of the jay and crow family. Collectively known as 'corvids' perhaps it is the Black-billed Magpie with its flashes of white flight feathers that make this species the most distinctive Canadian member of the 'clan'. Like our Steller's Jay, magpies DO NOT go unnoticed!

Nanaimo is certainly not within the normal 'range' of magpies. However, on April 23rd, 1991, when stepping out to replenish the seed in a bird feeder, the distinctive call of a magpie startled my acoustic sense. Mesmerized, my mind set immediately flashed to typical habitats and previous encounters. Magpies in Nanaimo? This possibility seemed hard to accept. Starlings perhaps? - Steller's Jay? - both accomplished mimics - were they imitating magpie calls?

The calls persisted, allowing a careful search of the garden. Indeed, perched quietly in an Arbutus some 50 metres out, was the long sleek black and white form. No doubt about it - a Black-billed Magpie. A hastily taken photo captured this 'first' for our garden.

But was this truly a 'first'? Quick enquiries to those birders more knowledgeable revealed interesting possibilities. Most certainly this bird was an escaped aviary bird, as a number of reports had been recorded in various parts of





the City in recent years. Efforts to track down specifics has not been very productive however some good information came to light.

Veterinarian Ken Langelier provided a rather humorous report which started with the S.P.C.A. On May 12th 1987 a 'weaver finch like bird' had been brought in captured in a dumpster! Examination by the Island Veterinary Hospital provided the correct I.D., a Black-billed Magpie. It was later determined that this bird had been a gift to a local paper boy by an aviarist on Howard Avenue. Efforts to locate the aviarist then drew a blank. However, this gentleman was quite proud of his magpie breeding program with birds apparently purchased from a source in Edmonton, Alberta.

In the hopes of preventing further escapes and possible ecological damage the Ministry of Environment was notified. However, since magpies were not protected under the Provincial Wildlife Act, "nothing could be done to prevent their importation or breeding", in these circumstances.

As a number of observations of Black-billed Magpies are available in the greater Nanaimo area during the past five years it appears that either a single bird or possibly a number of birds are involved. It seems reasonable to assume that one or all these birds either escaped or were released quite likely from the same source.

The quandary this observation leaves is "Do we add the Black-billed Magpie on our garden 'list'? Whatever we decide, the magpie's presence did provided a most pleasant rekindling of prairie nostalgia.

#### Acknowledgements

A special thanks to Dr. Ken Langelier and his staff not only for the information supplied but for having the uncommon understanding to keep records. The value in recording things like 'weaver finch-like birds' allows naturalists and others access to data that is all too often lost. To Steve Baillie and Graham Gillespie, who also know the value of good records, many thanks.

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"Don't keep forever on a public road....following one after the other like a flock of sheep. Leave the beaten track occasionally and dive into the woods. Every time you do you will be certain to find something that you have never seen before."

Alexander Graham Bell



## A Not-So-Scientific Bird Feeding Study

by Steve Baillie

As a birdwatcher, I seek different methods of attracting birds to my backyard. Although getting out to Buttertubs Marsh or the Nanaimo River Estuary for a morning of birding is an enjoyable outing, I find that there are jobs that need doing around the house and I cannot get out as often as I would like. In order to satisfy both my passion and my guilt I try to make my yard as attractive as possible to birds so I can enjoy my hobby and still cut the grass, weed the garden, and so on.

There are many methods that are used to attract birds. They can be broadly divided into 3 groups - water, food, and shelter. Water is an overlooked resource that is probably the most effective attraction that you can use. Most yards do not have a natural source of water and by providing a bird bath, or a shallow pond you will find many birds come in to drink and bath. My backyard does have a creek and a pond so that I wouldn't gain much by providing water. I therefore turned my attention to the other two attractions.

Food and shelter are often used to attract birds to backyards. Indeed I have noticed that various retail stores are devoting more and more of their shelf space to this consumer demand in order to take advantage of what was once considered to be a vocation of social deviants. Perhaps they have discovered that social deviants such as birdwatchers seem to have lots of disposable income.

Bird houses have also come a long way since the days of weekend projects for young children to practice on until the real work of building forts is allowed. You can now buy bird houses that look like they have been designed by architects.

The study that I will be describing is just my own observations of the birds at my feeders around my house. It is in no way a scientific study, but interesting none the less.

### Methods

The feeders that were used were of homemade design and construction. The millet feeder was a platform 25 cm by 40 cm with an 1" edge to keep the seed from falling off and a rigid plastic roof to keep the seed dry. It was mounted on a horizontal board, which was hinged to the corner post of the sundeck of the house. This design allowed easy access when the feeder needed filling. The board was latched so that it wouldn't swing in the breeze, or when a large, heavy bird landed on it. This feeder was about 5 meters off the ground. To refill, the board is unlatched, the platform is swung in to the railing and more seed is dumped on. There are large trees (Cascara, Big-leaf Maple) within 2 meters, and the house was 1.5 meters away.



The safflower feeder was also a simple platform about 35 cm square, with an edge and a wood roof. It was located on a fence post 2 meters off the ground. This feeder was out in the open, with Willow and Cedar trees 10 meters away. There is also a brush pile 2 meters away. The house was about 25 meters away.

The oil sunflower feeder was a hopper type feeder, capacity about 5 kg. This feeder has a small platform (3 cm by 30 cm) and a lid large enough to cover the feeding area. This feeder is mounted on a fencepost about 2.3 meter off the ground. It is located within the branches of a Douglas-fir tree, and is 8 meters from the house.

The suet feeder was a wire mesh bent to form a pocket, and stapled to the sunflower feeder fencepost. The wire was quarter-inch mesh, with some wires cut out for easier access. The suet was put out whole, not melted and mixed with seeds. A 100 gm piece is cut off and placed into the wire mesh. The feeder was kept supplied for all but the summer months.

The sugar-water was supplied in a 32 oz. commercial hummingbird feeder, hung from the millet feeder. It was mixed in a 1:4 solution of white sugar to water.

Whole, unshelled peanuts were placed either on top of the lid or on the platform of the oil sunflower feeder.

Observations were not made in any regular fashion. All feeders were in direct viewing from my house, so observations could be made at any time during daylight hours. Notes were made of which species fed at the different feeders, and I had a general idea of abundance. Record keeping started in October 1991 and generally the feeders have kept going since then.

## Results

Table 1 shows the results of observations at the various feeding stations. The letter A indicates a strong preference whenever the seed was available. The letter B indicates that the bird would show up occasionally and feed and the letter C indicates that the bird showed up rarely to eat the seed. A blank space indicates that the species was not observed feeding on that particular seed. Please note that these are subjective observations.

## Discussion

As can be seen from Table 1 the different species exhibited different preferences for the offered seeds. Oil sunflower had the greatest attention paid to it, with millet being popular also. Safflower was the least popular of the three seeds. In addition, suet and sugar water attracted only single species, and peanuts had Steller's Jays and Red Squirrels taking them.



Table 1.			
	Millet	Oil Sunflower	Safflower
Northern Flicker	B		
Steller's Jay	A	A	B
Chestnut-backed Chickadee		A	B
Red-breasted Nuthatch		A	
Varied Thrush	B		
Rufous-sided Towhee	B	B	
Song Sparrow	B	B	C
Dark-eyed Junco	A	B	
Red-winged Blackbird	C		
Purple Finch	B	A	A
Pine Siskin		A	A
American Goldfinch		B	
Evening Grosbeak		A	A
Red Squirrel		A	
Other foods			
Suet - Chestnut-backed Chickadee			
Sugar Water - Rufous Hummingbird			
Peanuts (whole and unshelled) - Steller's Jay, Red Squirrel			

Oil sunflower seeds were popular with just about every species that feasted at the feeders. The only species that didn't feed on these were the Varied Thrush, Red-winged Blackbird and Northern Flicker. The thrush and flicker definitely showed a preference for the millet, and were never observed at the other feeders. The blackbirds only showed up once, and only at the millet. After two days they were never seen again in the immediate area.

This seed was so popular that I found it hard to keep up with filling the feeder. I have also found that a lot of seed was wasted, spilled onto the ground up to a depth of 10 cm in a circle of 1 m. Although some of this seed was eaten by ground feeding birds (juncos, towhees) most of it spoiled.

Steller's Jays would swallow seed after seed until the bird was presumably



full, then fly off to digest, horde or whatever. Chickadees and nuthatches would fly in, grab one seed, and fly to a nearby branch to husk the seed and eat the kernel. Everyone else would sit on the feeder, husk and eat seeds until they were full or displaced by other birds.

The only species that were attracted to millet that didn't come to the oil sunflower seeds were the Varied Thrush, Red-winged Blackbird and Northern Flicker. As to feeding behaviour the same behaviours seen at the sunflower seeds were present here. Very little seed is spilled though, perhaps because there is not as much available. The flicker would use its tongue to draw the seeds into its mouth, much like eating ants. The thrush and blackbird would swallow individual seeds.

The safflower was not touched at all for several months. The pile of seed that was put out was getting old, mouldy, dusty and I had decided to throw it out when the Evening Grosbeaks discovered it. They had just cleaned out the oil sunflower feeder (again) and were looking around for another feeder to rape and pillage. After the Grosbeaks found it and started in on it, the Purple Finches and Pine Siskins followed soon after. By the end of that day five species had showed up at the safflower.

Most books would have you believe that suet is the answer to attracting woodpeckers to your backyard. There are plenty of Hairy, Downy, Pileated Woodpeckers and Northern Flickers around the backyard, but only Chestnut-backed Chickadees came to the suet. Rick Ikona reports a Downy Woodpecker does come to his suet, but only after several years of chickadees. My sister-in-law, Brenda Yoshida, also had Downy Woodpeckers come to solid suet.

The Chickadees would fly to the feeder and perch onto the wire, and peck at the suet. There was one memorable time when a weary adult was working over the suet while three whining youngsters waited impatiently in the nearby tree.

Sugar-water is a speciality food for hummingbirds, although Purple Finches and Northern Orioles will also feed at the feeders if they can get a grip on the perches. There were never many hummingbirds in the area, but if there were more than two then the fireworks would erupt. Obviously only one could feed at a time. The hummingbirds would feed sporadically throughout the day, but at dawn and dusk they would sit and 'tank-up'.

The peanuts that were offered were whole and unshelled, which limited which birds could feed on them. The Steller's Jays would swallow them whole and then presumably stash them somewhere. It was a concern at first that these birds might choke or get a peanut stuck within their system, but the same numbers kept coming back so they must have been unaffected by the size of these nuts.



## Conclusions

While some species of birds eat different types of food, it would be safe to conclude that they would have a preference as to which type they would choose. So what would a bird do if it flew onto a feeder with several types of seed available? It would probably eat the type it likes the best. What would it do if it can't see any of it's favourite? I think it flicks away the unwanted seed until it finds it's preferred type. This would lead to wasted seed. I have observed this behaviour at one of my feeders. There was spilled seed at the oil sunflower feeder where the peanuts were also offered. The Steller's Jays would flick the seed out to get more peanuts, even though the oil sunflower seeds were eaten when there had been no peanuts available.

This leads me to conclude that a feeder should only have one type of seed to avoid wastage and spillage. Which type? This limited study showed that oil sunflower was the most popular, though the other types certainly attracted good numbers of birds. I'm also going to put 5 cm wire mesh around the oil sunflower feeder, which would still allow everyone to feed, but would keep the jays from flicking seed everywhere.

For more information, here are a few selected references that will give you some ideas on what, where and how to feed birds.

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## Aspergillosis Fungal Infection in Steller's Jays

by Ken Langelier and Karen Machin

During the months of September and October 1992 a considerable increase in the local populations of Steller's Jays was noticed by many people with bird feeders. During this same period twenty-seven Steller's Jays were presented to the Island Veterinary Hospital. Although normally crafty and able to elude house cats, many were presented with cat attack injuries. Others were presented extremely thin and were having difficulty breathing. These birds also showed signs of hypothermia and dehydration and were very lethargic.

Blood test indicated the birds were fighting a severe infection and had substantial damage to the kidneys, liver and muscles. X-rays revealed thickening of the lungs and airways. Of the birds that died, post mortem examination of the lung revealed long-standing infection and fungal filaments. Cultures of this fungus revealed *Aspergillus fumigatus*. A total of nine of the twenty-seven Steller's Jays presented were diagnosed as having Aspergillosis.

The *Aspergillus* fungus is common in the environment and is often associated with mouldy food such as the cereal grains found in bird feeders. Birds feeding at the feeders inhale the spores and may develop the disease. The fungus grows and takes over body tissues, most commonly the lungs and airways. The bird is weakened and less likely to find food so that it becomes very thin.

In the chronic form of the disease the bird slowly becomes debilitated, and may not be able to elude capture from a cat. Cats commonly carry the bacteria *Pasturella multocida*. Birds that are not killed, but escape from a cat with a bite can then succumb to this bacteria.

For people who put out feed in the winter, it is important to prevent the food from getting mouldy. Keep the bird feeder in a sheltered area, away from direct rain. Drainage holes in the bottom of the feed pan help prevent water from pooling around the seeds. Discard any seed which has become wet and regularly clean out the entire bird feeder.

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"Man did not weave the web of life; he is merely a strand in it. The white man must treat the beasts of this land as his brothers....What is man without the beasts? If all the beasts were gone, man would die from a great loneliness of spirit. Whatever happens to the beasts, soon happens to man. All things are connected."

Chief Seattle, 1854



# Buttertubs and Jinglepot Marsh Bird Checklists

by Graham Gillespie

## Introduction

Between the dates of March 3, 1991 and March 1, 1992, members of the Nanaimo Field Naturalist Club conducted a quantitative survey of the Buttertubs and Jinglepot Marsh area in Nanaimo. Buttertubs Marsh is a well-known nature sanctuary situated roughly between Bowen Road, Wakesiah Avenue, and Jinglepot Road, bordering on the Pryde Vista golf course. Jinglepot Marsh is roughly bordered by Jinglepot Road, Derby Road, Addison Road and the Nanaimo District Secondary School.

## Methods

Teams were led by Steve Baillie, Rick Ikona, or myself. Buttertubs Marsh, and the surrounding area, was divided into eight count areas, based on habitat type. Jinglepot Marsh was counted separately. The initial design called for a team of birders to walk through the marshes, recording all individuals and species observed, assigning counts to the appropriate count areas. We hoped to get one count each week of the year.

## Results

We completed 45 counts over the year, with a final tally of 117 species and over 24,000 individual birds recorded (Table 1). Species recorded during the survey are marked 'Yes' in the 91/92 column in the table. Records kept by Steve Baillie, Karen Fry (in litt., November 21, 1984), Rick Ikona, Shayne MacLellan and myself from earlier trips through Buttertubs Marsh, extending back to 1977, allowed the inclusion of 22 additional species on the master list.

This list is a result of a preliminary work-up of the data collected during the 1991-92 surveys. More analyses will be carried out, and other information from these data will be presented in the future.

## Acknowledgements

As in any survey, data summaries of this type are misleading. A five page table seriously misrepresents the enormous amount of effort and dedication required to collect information of this quality and quantity. I wish to extend my sincere appreciation to the other survey leaders: Steve Baillie and Rick Ikona, and to our companions on the survey: Katherine Ikona, Shayne MacLellan, Karen Mullen, Peter and Anneke van Kerkeorle, Kathy Rutherford and Elthea Dale.

Table 1. Master list of birds recorded from Buttertubs and Jinglepot Marshes, Nanaimo, B.C.

Legend:	A - abundant	F - fall (Jul-Nov)	Y - year-round		
	C - common	W - winter (Sep-Mar)	M - spring/fall		
	U - uncommon	Sp - spring (Mar-Jun)	migrant		
	R - rare	Su - summer (May-Sep)			
Species		Code	Status		91/92
Pied-billed Grebe		PBGR	C	Y	Yes
Red-necked Grebe		RNGR	R		
Double-crested Cormorant		DCCO	U U	Sp F	Yes
American Bittern		AMBI	U	Y	Yes
Green-backed Heron		GRHE	U	Su	Yes
Great Blue Heron		GBHE	C	Y	Yes
Trumpeter Swan		TRUS	U	W	Yes
Greater White-fronted Goose		GWFG	R		
Snow Goose		SNGO	R		
Canada Goose		CAGO	A	Y	Yes
Mallard		MALL	A	Y	Yes
American Black Duck		ABDU	R		Yes
Gadwall		GADW	C	W	Yes
Green-winged Teal		GWTE	C U	M Y	Yes
Eurasian Wigeon		EUWI	R		Yes
American Wigeon		AMWI	C	W	Yes
Northern Pintail		NOPI	R		
Northern Shoveler		NOSL	C	W	Yes
Blue-winged Teal		BWTE	U	Su	Yes
Cinnamon Teal		CITE	U	Su	Yes
Ruddy Duck		RUDU	U	M	Yes
Wood Duck		WODU	C	F	Yes
Canvasback		CANV	R		Yes
Redhead		REDH	R		Yes



Species	Code	Status		91/92
Ring-necked Duck	RNDU	C	W	Yes
Lesser Scaup	LESC	U	W	Yes
Common Goldeneye	COGO	U	Sp	Yes
Bufflehead	BUFF	C	W	Yes
Common Merganser	COME	C	W	Yes
Red-breasted Merganser	RBME	R		Yes
Hooded Merganser	HOME	C	W	Yes
Turkey Vulture	TUVU	U	Su	Yes
Osprey	OSPR	U	Su	Yes
Bald Eagle	BAEA	U	Y	Yes
Northern Harrier	NOHA	U	F	Yes
Sharp-shinned Hawk	SSHA	U	F	Yes
Cooper's Hawk	COHA	U	W	Yes
Red-tailed Hawk	RTHA	U	Y	Yes
American Kestrel	AMKE	R		
Merlin	MERL	U	Y	Yes
Peregrine Falcon	PEFA	R		Yes
Ring-necked Pheasant	RNPH	C	Y	Yes
California Quail	CAQU	R		Yes
Virginia Rail	VIRA	C	Y	Yes
Sora	SORA	U	Su	Yes
American Coot	AMCO	C	Y	Yes
Killdeer	KILL	U C	Y Su	Yes
Greater Yellowlegs	GRYE	R		Yes
Lesser Yellowlegs	LEYE	U	W	Yes
Spotted Sandpiper	SDSA	R		
Western Sandpiper	WESA	U	Su	Yes
Least Sandpiper	LESA	R		
Baird's Sandpiper	BASA	R		
Pectoral Sandpiper	PESA	R		
Long-billed Dowitcher	LBDO	U	F	Yes

Species	Code	Status		91/92
Common Snipe	COSN	U	Y	Yes
Mew Gull	MEGU	R		Yes
California Gull	CAGU	R		Yes
Herring Gull	HEGU	R		
Thayer's Gull	THGU	R		Yes
Glaucous-winged Gull	GWGU	C	Y	Yes
Rock Dove	RODO	A	Y	Yes
Band-tailed Pigeon	BTPI	C	F	Yes
Mourning Dove	MODO	R		Yes
Short-eared Owl	SEOW	R		
Common Nighthawk	CONI	U	Su	Yes
Black Swift	BLSW	R		
Rufous Hummingbird	RUHU	C	Su	Yes
Belted Kingfisher	BEKI	C	Y	Yes
Red-breasted Sapsucker	RBSA	R		Yes
Downy Woodpecker	DOWO	U	Y	Yes
Hairy Woodpecker	HAWO	R		Yes
Northern Flicker	NOFL	C	Y	Yes
Pileated Woodpecker	PIWO	R		Yes
Olive-sided Flycatcher	OSFL	R		Yes
Willow Flycatcher	WIFL	C	Su	Yes
Pacific-slope Flycatcher	PSFL	U	Su	Yes
Ash-throated Flycatcher	ATFL	R		Yes
Western Kingbird	WEKI	R		
Tree Swallow	TRSW	A C	Sp Su	Yes
Violet-green Swallow	VGSW	A C	Sp Su	Yes
Purple Martin	PUMA	R		Yes
Northern Rough-winged Swallow	NRWS	C U	Sp Su	Yes
Cliff Swallow	CLSW	C U	Sp Su	Yes
Barn Swallow	BASW	C	Su	Yes



Species	Code	Status		91/92
Steller's Jay	STJA	C U	M W	Yes
Northwestern Crow	NOCR	C	Y	Yes
Common Raven	CORA	U	Y	Yes
Chestnut-backed Chickadee	CBCH	A C	W Y	Yes
Bushtit	BUSH	C	Y	Yes
Red-breasted Nuthatch	RBNU	R		Yes
Brown Creeper	BRCR	U	Y	Yes
Bewick's Wren	BEWR	C	Y	Yes
Winter Wren	WIWR	U	W	Yes
Marsh Wren	MAWR	A C	Su Y	Yes
Golden-crowned Kinglet	GCKI	U	W	Yes
Ruby-crowned Kinglet	RCKI	U	Su	Yes
Swainson's Thrush	SWTH	U	Su	Yes
American Robin	AMRO	A C	W Y	Yes
Varied Thrush	VATH	U	W	Yes
American Pipit	AMPI	R		
Bohemian Waxwing	BOWA	U	M	Yes
Cedar Waxwing	CEWA	C U	Su W	Yes
Northern Shrike	NOSH	R		Yes
European Starling	EUST	C	Y	Yes
Solitary Vireo	SOVI	R		
Hutton's Vireo	HUVI	R		
Warbling Vireo	WAVI	R		
Red-eyed Vireo	REVI	R		
Orange-crowned Warbler	OCWA	C	Su	Yes
Yellow Warbler	YEWA	C	Su	Yes
Yellow-rumped Warbler	YRWA	A C	Sp Su	Yes
Black-throated Gray Warbler	BTGW	R		Yes

Species	Code	Status	91/92
MacGillivray's Warbler	MGWA	R	Yes
Common Yellowthroat	COYE	C C U	Sp Su F
Wilson's Warbler	WIWA	R	
Black-headed Grosbeak	BHGR	R	
Rufous-sided Towhee	RSTO	C	Y
Chipping Sparrow	CHSP	U	Su
Savannah Sparrow	SAVS	C	Su
Fox Sparrow	FOSP	C	Su
Song Sparrow	SOSP	C	Y
Lincoln's Sparrow	LISP	U	F
Golden-crowned Sparrow	GCSP	C	W
White-crowned Sparrow	WCSP	U	Su
Dark-eyed Junco	DEJU	C	W
Red-winged Blackbird	RWBL	A A C	Sp Su Y
Western Meadowlark	WEME	R	
Rusty Blackbird	RUBL	R	
Brewer's Blackbird	BRBL	U	Su
Brown-headed Cowbird	BHCO	U	Su
Northern Oriole	NOOR	R	
Purple Finch	PUFI	C	Y
House Finch	HOFI	C	Y
Red Crossbill	RECR	R	
Pine Siskin	PISI	U	Y
American Goldfinch	AMGO	C U	Su W
Evening Grosbeak	EVGR	U	F
House Sparrow	HOSP	U	Su



