THE BLUE BILL

Quarterly Journal of the Kingston Field Naturalists

ISSN 0382-5655

Volume 52, No. 1 March 2005

Contents

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The **Blue Bill** is the Quarterly Bulletin of the **Kingston Field Naturalists**,
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Send submissions to the Editor by the 15th of the month prior to the publication date (March, June, September, December) to the address above, or to the editor via e-mail to: **srance@kingston.net**. Please include contact phone number.

Submissions should be in MS Word format or in "plain text" format (PC or MacIntosh) or in the body of an e-mail.

Canadian Publications Mail Product Sales Agreement #047128

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President's Page

Erwin Batalla

As all of you probably know, there has been an invasion of Great Gray Owls in Ontario this winter. Locally, several have been seen near Enterprise and individuals have been observed within the city limits of Kingston. This is highly unusual, as attested to by Helen Quilliam's notes reprinted in this volume. She indicated that the second local sighting of a Great Gray Owl occurred in 1961, and it took five more years for another to be seen.

An invasion by non-migratory species is caused not only by the abundance of food in our area, but by the lack of it in the birds' usual habitat. A good cone crop here does not result in increased numbers of northern finches if they find sufficient food without moving south. The Great Gray Owl is a resident of the boreal forest and feeds predominantly on voles. In contrast, the Snowy Owl lives on the artic tundra where it feeds on lemmings. Few Snowy Owls have been seen locally, suggesting a sufficient supply of lemmings in the north this year. The lack of voles in the boreal forest has also driven another bird to visit the Amherst Island owl woods: the Boreal Owl. This bird has attracted many birders. On a recent KFN/ OFN field trip, a group of approximately 50 birders observed it hunting in the daytime.

This once-in-a-lifetime invasion is a good reminder that, while many natural phenomena occur at predictable, regular intervals, others are more random but their impact is no less significant. Therefore, recovering but still isolated population groups which appear stable over decades, like the Whooping Crane or the Kirtland's Warbler, are still considered endangered; a once-in-a-lifetime hurricane or forest fire could wipe out the entire species.

The status of the fauna we observe locally is often determined by what happens further north or further south. The preservation of the southern wintering grounds of warblers or hawks is a key factor in the continued health of these species, just as protection of the boreal forest is for the two northern owls visiting us this winter. For now, we enjoy the privilege of observing them and hope that they will return to happy and plentiful hunting grounds in the north.

Erwin Batalla

Great Gray Owl photo courtesy of Ken Newcombe http://www.kennewcombe.com/

The Beaver Dam at Lunch Spot Pond

Terry Fuchs

In March, conditions on the Canadian Shield north of Kingston, Ontario change from week to week, and even from day to day. My Sunday hiking friends and I are not in its woods or on its frozen ponds to witness the daily changes; however, the week before we investigated the breach in the beaver dam at the far eastern tip of Lunch Spot Pond, where it drains into a massive slough of soggy hummocks and channels and embayments of dark and startlingly deep water, it had taken us half our day to walk to the large pond's western end because the solid ice on the skeins of beaver ponds on our route was under four to six inches of water, with a skin of fresh ice over that, all thanks to a thaw and freeze cycle during the previous several days.

The new ice was misleading. Despite flexing underfoot, with every step it felt strong enough to bear our weight. But inevitably first one foot and then the other plunged through. At each ginger step we experienced a surge of hope as we felt the ice stop sagging and tense; then, just as we were ready to lift a foot to its next placement, it punched through to the thick ice underneath. This jerky, splashing, uncertain, frustrating progress only improved on ponds where old, patchy drifted snow was frozen hard into stepping stones and wavering, broken trails.

On one pond the ice sheet had caved in along the edges in midwinter and refrozen. Because the ice around the circumference was lower than at the centre, the pond was surrounded by a moat that would have welled over our high-topped boots. We had to circle the entire pond on land. In the middle dry ice heaved and humped around a beaver lodge, on whose dome freshly peeled sticks gleamed. On that pond we lost the chief advantage of frozen pond-walking, directness of travel, and the giddy novelty of walking where, in most months of the year, it would defy nature.

By contrast, the following Sunday, when my friends and I decided, out of curiosity about what had happened to Lunch Spot Pond's dam, to make a determined, strategic effort to reach it, pond travel was as straightforward as winter can offer.

The slushy water of the week before had refrozen into six inches of cloudy but firm ice and we had completed our examination of the gap in the dam before lunch. Except for its shoulders, which were anchored to tall, steep epaulettes of stone, most of the dam had vanished, presumably washed downstream into the slough when it had blown.

We then moved along the shore, above the flats of exposed, half-frozen mud, to find a place to eat. The logical spot was the base of the reddish cliff where my now-deceased first hiking partner and I had eaten lunch so many times, with our skis stuck up in the snow, our backs against the rock, and our faces to the winter sun, and my friend's dog waiting to scavenge our apple cores. However, in the cold wind blowing, this normally pleasant, scenic spot that had prompted us to name this pond Lunch Spot Pond was today too unprotected. We wound up sitting on talus rock in a bay behind a ridge. Even there we felt the wind, as though it drove from all directions. It chilled our hands and faces and swirled under our jackets, while we chewed contemplatively and stared across the mud flats spiked with beaver-gnawed stumps. Beyond the thread of stream the far shore of rock and spindly trees was mostly bare of snow.

Until the previous Sunday my friends and I had known a long sheet of water and, in the winter, ice for the twenty-plus years we had been visiting Lunch Spot Pond. Tapering at each end, it was hemmed between ridges and hardwood slopes on the north shore and smooth, rounded stone shrubby with juniper, stunted cedar, and gnarled oak on the south. Only in a few notches in the shore and in the severely pinched west end did stumps spear the surface of the water. The predominant patterns on its blue sheen were the wind's silver-trimmed slashes and whorls and the heart-shaped lily pads rocking and flipping. Because we suspended hiking for the hot, buggy summer, we seldom saw the lily flowers' china-like white teacups or yellow bubbles, but during the fall and spring, pods of their broad green leaves congregated along the shore and plastered little coves. In the recent years of droughty summers the water level had dropped, exposing a ribbon of pink, unoxidized rock all around the shore. Despite the insufficient rain, the pond had still flashed a brimming blue and silver glare when we stood among the trees on the ridge above it. On calm winter days the white blankness of ice and snow below the ridge was as still as the snow-shrouded rock. On blustery ones it appeared to drift and dissolve beneath corkscrews and waves of blowing snow. Under sunshine it sparkled like crystals.

What used to be Lunch Spot Pond is surrounded by ponds. To the north, at ridge height, it is paralleled by an almost equally long pond that drains into it through a steep, rocky stream, as well as some muddy iron seepage down the slope. The stream is the cold, rushing type where, if you wiggle a stone from its bed in April, you are almost certain to see, after a few seconds to let the tiny, almost translucent bodies come into focus on the chunky rock's wet-dark underside, squirming blackfly larvae.

On the west, separated from Lunch Spot by a hundred yards of slopes and wooded draws, a maze of ponds unfolds among the ridges, interleaving them, wrapping around treed, rocky islands, riddling distant low hills. When we approached Lunch Spot from a corner of it on the Sunday we were unable to reach the dam, it was the first time I had been on its ice in years. The ponds spilling away among the upheavals of land were all very intriguing, but their vague strangeness had already made me slightly disoriented before I climbed the humps of rock above Lunch Spot. Standing on the rolling crown waiting for my friends, for a few moments I thought I had wildly misnavigated. Where I had expected a familiar pond, I looked down the length of a valley of ice-crusty mud with a stream snaking among thickets of grey stumps.

To the east is the enormous bog shot with crooked channels and small dead-end impoundments of water. Even though the channels are too deep for the mud on the bottom to warm them in winter, they never freeze trustworthily. More than twenty years ago, in the lead walking the ice, I rounded a bend and stopped with my boot toes at the brink of an open hole through which I could see the flow of deep, clear, green water. Most cold, snowy winters we found a safe ski route across the tufts and channels close to shore, which we then stuck to until the thaw, but once, during a cold though virtually snowless winter, my first hiking partner broke through to his knees. Just last winter I crashed through and was only saved from plunging all the way into five feet of water by my daypack wedging in the hole. Caught there with my legs dangling in the water, I was able to scoot my bum back onto the solid ice and crab-walk into the brittle reeds. One of my friends edged to the hole, where a few icy shards still bobbed, and took a sounding with a long stick. Finally, after more than twenty winters of probing routes through the bog, we decided we would no longer walk it.

Beyond Lunch Spot's southern bank lie a pair of deep, parallel gullies and a high ridge visible for some distance by its long, feathery crest of pines. At the summit of the ridge is another big pond that drains through some smaller, lower ones into the bog. This large pond's south rim abuts a ridge which slopes down to an extensive pond stretching in one direction to join two small lakes separated from one another by only a sedge and rush shallows. In the other it is

bounded by a rocky ledge that drops into more ponds. They themselves drop, through yet more ponds, into a sheer gorge, a major, distinguishing feature of what is a landscape of bare, fractured, frost-split, heat-baked rock. The gorge drains a lake and many ponds at various heights into other ponds, as well as into a few lakes far downstream, including a huge one.

Virtually none of these ponds is an original feature of the country. The lakes were formed during the retreat of the glaciers ten thousand years ago by gigantic spurs of ice breaking off in deep basins in the scoured rock and melting over time. (The vectors of the glaciers' slow travel are sometimes still gouged in the stone, like imitations on an enormous scale of the marks bears claw in tree trunks.) Of course, springs and runoff from the land would have been factors as well, then as now. But the ponds in this part of the Canadian Shield, from the tiniest to the most sprawling and tentacled, are impoundments of water engineered by opportunistic beavers from streams flowing through depressions and faults in the rock. In each a horseshoe dam of sticks and mud and even the occasional stone plugs the outlet. At one or two places we have seen, the beavers have used a feature of the landscape to their labour-saving advantage, conveniently incorporating a tongue of rock outcropping into their dam. Sometimes, where the rising of the contained water causes it to slop over a low shore, they have to build a second dam. In rare instances, on a height of land they will have to dam both ends of a pond.

Beavers seem to have dam-building fever. Frequently they erect series of dams diminishing in height and width downstream of a pond's main dam, and they sometimes dam the most unlikely seepages, almost as if dam construction is a form of play for them. (Apparently, though, their dam-raising instinct is triggered by the volume of the sound of running water.) The smaller dams below the principal dam may be designed to help prevent the main one from bursting completely in case of a breach, by equalizing water pressure on both sides of a breached dam.

My friends and I also speculate whether the small pools created by these lesser dams don't serve an additional security function. Water is the beavers' safest element. They dive and swim—both on the surface and underwater—with nimbleness and grace. Felling trees and trimming them on the ground, however, they are acutely vulnerable. With their fat reserves, especially in the flat, waffled, hairless tail, they make toothsome prey for coyotes and wolves and, I suspect, even fishers. As well as building the succession of dams downstream of the home pond, the beavers have the habit of stopping up even the stingiest trickles above and below it. Such divaricating strings of pools and puddles mean that, except for the short, worn passages over the dams, the beavers can stay swimming until as close to the target tree as possible. They can also float the branches, limbs, and gnawed trunk segments back home without having to drag them all the way overland.

If the beavers in a pond are taken by coyotes or wolves while harvesting trees, or die of disease, or, in the old days, before the price of skins collapsed and before much of this territory was protected by conservation easements, were trapped out, then eventually the untended dam will deteriorate and rupture. The first time I saw the culmination of this long process occurred more than twenty years ago. That winter a favourite route for hiking included a very large pond divided into two lobes by a forested peninsula. Good ice gave us easy walking, as it did on a whole chain of ponds. One weekend we returned to the pond, after crossing it as usual the previous weekend, and found the ice cover buckled and shattered. Giant cakes of blue-green ice angled over other slabs and jutted from the pond's emptied basin, as if the beams supporting a heavy glass roof had failed. When we checked the outlet, the top of the beaver dam was still a weave of branches and sticks. At the bottom, though, was a big hole the size of a main-road culvert, through which the last of the water arched.

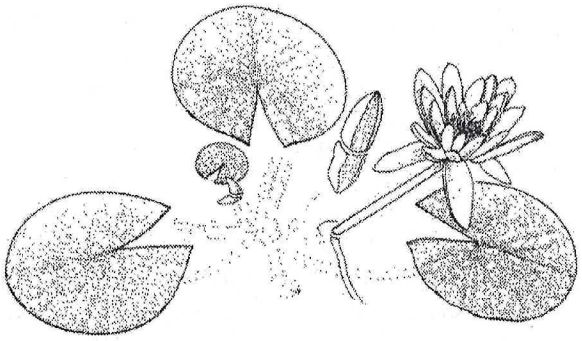
The breach in the dam at Lunch Spot Pond was much larger. Essentially the dam had disappeared, except for its shoulders against the rock. From top to bottom it gaped as widely and as evenly as if a bulldozer had taken a couple of passes through it or it had been chainsawed near both shores. When it had burst, a wave of water bristling with sticks must have inundated the slough below it.

The damage was similar to a gap we had come upon a year ago in a taller, longer dam at the outlet of a pond well to the north. We had stood on the thatch of sticks at the edge of the opening and marveled at its width and regularity. Because of its regularity, in fact, we had debated whether it could even have been manmade somehow. Greedy, lazy trappers used to dynamite lodges and dams so they could clean out all the beavers in a pond, but, in Lunch Spot''s case, we could not imagine a hard-to-reach dam in the midst of an expanse off limits to trapping being destroyed by such means. Earlier this winter we had discovered that the more northerly pond again had a thick ice surface from bank to bank. Beavers had repaired the dam and even renewed the weathered lodge with lashings of freshly stripped branches. The supple new plug was lower than the remnants of the original dam on either side, though with the drought of the last few years the water level had risen back as high as it was going to, at least before the spring thaw.

On the Sunday we hiked to the outlet of Lunch Spot Pond, we saw no evidence of any work to rebuild its dam. In a channel of the slough below the pond, there was an inhabited-looking beaver lodge just off to the side. However, when we hiked back along Lunch Spot's south shore, towards the eponymous eating place, the tall beaver lodge we passed stood high and dry above the mud flats. In tip-of-the-iceberg approximation it was bigger than its bulge above the waterline had suggested. Draped over a slope of rock, its twiggy, formerly underwater skirts were grey with silt and dead, twisted waterweed. The mouths of its entrance and exit tunnels were revealed plainly, long chutes bending upwards. In time, perhaps another beaver pair would recognize the potential of Lunch Spot's reliable stream, its high south shore with the creek from the pond above burbling among the rocks and the tree roots, its rounded-rock north shore, the proximity of slim, succulent trees, and would migrate in from some nearby overpopulated pond. With the dam restored the waters would rise again, drowning the now very wide band of pink rock around the shore and re-submerging the old lodge's dusty skirts and tunnels.

On the other hand, the pond whose last ice covering we had crossed more than twenty winters ago is now an expansive meadow of waving grass around the wooded ridge that almost bisects it. From the shore the grass conceals the creek threading through it.

Even though no longer a pond, Lunch Spot remains a good place to eat on a sunny winter day. The cliff still lifts above the jumble of broken rock at its foot, blocking the north wind. In its shelter the sun feels warm and heat radiates from the ribbed, reddish rock. But until the beavers return and again flood the mud flats and stumps with quivering, lily-dappled water to freeze in the winter, the only ice the snow will sift down on is the frozen ribbon of the creek.



Yearly List of Birds—KFN 2004

Ron D. Weir

There were 280 species of birds seen during 2004 within the circle of 50 km radius centred in MacDonald Park, Kingston, which equals the 24-year average (1980-2003) of 280 and 13 fewer than the record high of 293 during 1993. The distribution over the past 24 years is given in the following table.

Table 1: Annual total bird species for the Kingston area 1980 to 2004

Year	Total Species	Year	Total Species
1980	278	1993	293*
1981	277	1994	283
1982	276	1995	280
1983	282	1996	285
1984	285	1997	283
1985	271	1998	283
1986	277	1999	278
1987	279	2000	282
1988	270	2001	285
1989	273	2002	287
1990	279	2003	282
1991	281	2004	280
1992	281		

* record high

No new species was added during 2004 to the cumulative list, which remains at 367.

Rarities reported during the year included the American White Pelican, Pacific Loon, Snowy Egret, Glossy Ibis, Black Vulture, King Eider, Common Eider, Gyrfalcon, Western Sandpiper, Purple Sandpiper, Red Phalarope, Parasitic Jaeger, Black-headed Gull, Great Gray Owl, Boreal Owl, Rufous Hummingbird, Bicknell's Thrush, Worm-eating Warbler, Nelson's Sharp-tailed Sparrow, and Brewer's Blackbird.

Other good finds among those species not seen every year were Barrow's Goldeneye, Sandhill Crane, Long-billed Dowitcher, Lesser Black-backed Gull, Black-backed Woodpecker, Tufted Titmouse, White-eyed Vireo, Yellow-throated Warbler, and Hooded Warbler.

Not included in the totals are the Painted Bunting, seen just outside the circle at Cherry Valley, Prince Edward on 12 May 2004, and the European Goldfinch seen at Prince Edward Point on 19 May 2004, thought to have been an escape.

In these annual summaries of species totals for Kingston for the past few years, special comments have been made about the numbers of Red-bellied Woodpeckers, Red-headed Woodpeckers and Carolina Wrens. The mild winters we have experienced since the mid-1980s have permitted the Red-bellied Woodpecker and Carolina Wren to expand their ranges and numbers in Ontario as they push northwards from the eastern USA. The Ontario Breeding Bird Atlas 2001-05 is helping us document their spread into the Kingston region and allowing us to make comparisons with the results of the first Ontario Breeding Bird Atlas 1981-85. On the basis of the results from the first four years 2001-04, breeding numbers of the Red-bellied Woodpeckers and Carolina Wrens are greatly increased since the study of 1981-85. However, the numbers of breeding Red-headed Woodpeckers appear to be lower, although there is one more breeding season to complete the documentation for this species.

Among the species missed were Eurasian Wigeon, Harlequin Duck, Willet, Red-necked Phalarope, Acadian Flycatcher. The following list contains the date of first occurrence during 2004 with the observers' initials. Where KFN or NLB appears, three or more observers of the Kingston Field Naturalists or North Leeds Birdwatchers respectively were involved.

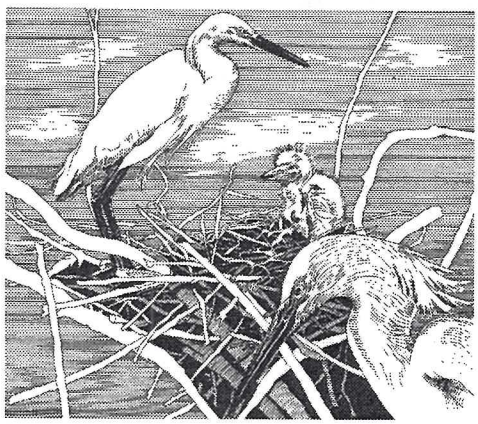


Table 2: Tabulation of bird species seen in the Kingston area during 2004 with date of first sighting and associated observers

Red-throated Loon	Jan 11	JHE, RDW
Pacific Loon	Nov 7	KFN
Common Loon	Jan 1	SD, KH
Pied-billed Grebe	Jan 11	JHE, RDW
Horned Grebe	Jan 11	JHE, RDW
Red-necked Grebe	Jan 11	JHE, RDW
American White Pelican	Jul 5	EC
Great Cormorant	May 20	DO
Double-crested Cormorant	Jan 1	JHE, VPM
American Bittern	Apr 17	BAW, RDW
Least Bittern	May 22	KFN
Great Blue Heron	Mar 17	NLB
Great Egret	Aug 19	J Smith
Snowy Egret	May 24	KH, BRp
Cattle Egret	Aug 4	PD
Green Heron	Apr 20	*fide* RTS
Black-crowned Night-Heron	Apr 30	DO
Glossy Ibis	Oct 30	ET
Black Vulture	Jan 17	*fide* RTS
Turkey Vulture	Jan 4	JHE, RDW
Snow Goose	Mar 6	HWB
Canada Goose	Jan 4	KFN
Brant	Apr 10	JHE
Mute Swan	Jan 11	KFN
Trumpeter Swan	Jan 7	JHE, VPM
Tundra Swan	Jan 1	KFN
Wood Duck	Mar 31	NLB
Gadwall	Jan 1	JHE, VPM
American Wigeon	Jan 1	JHE, VPM
American Black Duck	Jan 1	JHE, VPM
Mallard	Jan 1	JHE, VPM
Blue-winged Teal	Apr 8	*fide* RTS
Northern Shoveler	Mar 26	KFN
Northern Pintail	Jan 8	KFN
Green-winged Teal	Jan 11	JHE, RDW
Canvasback	Jan 4	JHE, RDW
Redhead	Jan 4	KFN
Ring-necked Duck	Jan 1	SD, KH
Greater Scaup	Jan 1	JHE, VPM
Lesser Scaup	Jan 4	JHE, RDW
King Eider	Feb 29	KFN
Common Eider	Feb 17	*fide* RTS
Harlequin Duck	Apr 14	NL
Surf Scoter	Mar 30	RS, ES
White-winged Scoter	Jan 1	KFN
Black Scoter	Jan 11	JHE, RDW
Long-tailed Duck	Jan 4	JHE, RDW
Bufflehead	Jan 1	JHE, VPM
Common Goldeneye	Jan 1	JHE, VPM
Barrow's Goldeneye	Jan 20	JHE, BR
Hooded Merganser	Jan 4	JHE, RDW
Common Merganser	Jan 1	JHE, VPM
Red-breasted Merganser	Jan 1	SD, KH
Ruddy Duck	Apr 12	BRp
Osprey	Mar 1	WSA
Bald Eagle	Jan 1	RS
Northern Harrier	Jan 1	KFN
Sharp-shinned Hawk	Jan 1	PRR
Cooper's Hawk	Jan 29	PJG
Northern Goshawk	Jan 25	PJG
Red-shouldered Hawk	Mar 26	ST
Broad-winged Hawk	Apr 11	GP
Red-tailed Hawk	Jan 1	KFN
Rough-legged Hawk	Jan 1	KFN
Golden Eagle	Apr 7	M&J Jaques
American Kestrel	Jan 1	KFN
Merlin	Apr 20	*fide* RTS
Peregrine Falcon	Jan 1	GP
Gyrfalcon	Jan 25	HE
Gray Partridge	Jan 1	B&MW
Ring-necked Pheasant	Feb 9	SD, KH
Ruffed Grouse	Jan 1	PJG
Wild Turkey	Jan 1	GP, SP
Virginia Rail	Apr 16	ST
Sora	Apr 24	*fide* RTS
Common Moorhen	May 22	KFN
American Coot	Jan 1	JHE, VPM
Sandhill Crane	Mar 28	CG
Black-bellied Plover	May 20	JHE, BR
American Golden-Plover	Sep 8	BMD
Semipalmated Plover	May 4	KFN
Killdeer	Mar 7	KFN
Greater Yellowlegs	Mar 27	JHE, BR
Lesser Yellowlegs	May 1	KFN
Solitary Sandpiper	May 1	KFN
Spotted Sandpiper	Apr 25	KFN
Upland Sandpiper	Apr 26	*fide* RTS
Whimbrel	May 21	*fide* RTS
Hudsonian Godwit	Oct 20	BR
Ruddy Turnstone	May 4	KFN
Red Knot	May 22	KFN
Sanderling	May 20	JHE, BR
Semipalmated Sandpiper	May 22	KFN
Western Sandpiper	Aug 15	JHE, RDW
Least Sandpiper	May 4	KFN
White-rumped Sandpiper	May 20	JHE, BR
Baird's Sandpiper	Aug 3	JHE, PJG
Pectoral Sandpiper	Aug 22	JHE, RDW
Purple Sandpiper	Nov 7	BMD, RDW
Dunlin	Apr 11	BMD
Stilt Sandpiper	Aug 31	KFN
Buff-breasted Sandpiper	Aug 20	JHE, RDW
Short-billed Dowitcher	May 16	*fide* RTS
Long-billed Dowitcher	Sep 27	BRp

Common Snipe	Mar 30	PJG
American Woodcock	Mar 30	PJG
Wilson's Phalarope	May 20	JHE, BR
Red Phalarope	Oct 27	BD
Parasitic Jaeger	Sep 10	*fide* RTS
Little Gull	Apr 11	BMD
Black-headed Gull	Jan 2	KH
Bonaparte's Gull	Jan 1	KFN
Ring-billed Gull	Jan 1	JHE, VPM
Herring Gull	Jan 1	JHE, RDW
Iceland Gull	Jan 1	JHE, VPM
Lesser Black-backed Gull	Jan 4	JHE, RDW
Glaucous Gull	Jan 2	GG
Great Black-backed Gull	Jan 1	JHE, VPM
Caspian Tern	Apr 7	RDW
Common Tern	May 22	KFN
Black Tern	May 4	KFN
Rock Pigeon	Jan 1	VPM
Mourning Dove	Jan 1	JHE, VPM
Black-billed Cuckoo	May 17	KFN
Yellow-billed Cuckoo	May 17	KFN
Eastern Screech Owl	Jan 1	PJG
Great Horned Owl	Feb 4	BMD
Snowy Owl	Jan 1	KFN
Barred Owl	Jan 7	JHE, VPM
Great Gray Owl	Nov 14	C. Robinson
Long-eared Owl	Jan 1	KFN
Short-eared Owl	Jan 1	GP, RS
Boreal Owl	Nov 22	BRp
Northern Saw-whet Owl	Jan 1	KFN
Common Nighthawk	May 22	KFN
Whip-poor-will	May 15	RTS
Chimney Swift	Apr 16	RDW
Ruby-throated Hummingbird	May 15	PJG
Rufous Hummingbird	Jan 1	Yeandt family
Belted Kingfisher	Apr 29	KFN
Red-headed Woodpecker	May 13	JHE
Red-bellied Woodpecker	Jan 4	JHE
Yellow-bellied Sapsucker	Feb 29	RDW
Downy Woodpecker	Jan 1	KFN
Hairy Woodpecker	Jan 1	KFN
Black-backed Woodpecker	Feb 29	RDW
Northern Flicker	Jan 6	VPM, BR
Pileated Woodpecker	Jan 16	PJG
Olive-sided Flycatcher	May 20	DO
Eastern Wood-Pewee	May 22	KFN
Yellow-bellied Flycatcher	May 11	GP
Alder Flycatcher	May 22	KFN
Willow Flycatcher	May 22	KFN
Least Flycatcher	May 1	KFN
Eastern Phoebe	Mar 27	CM
Great-crested Flycatcher	Apr 29	DO
Eastern Kingbird	Apr 30	LP
Northern Shrike	Jan 1	KFN
Loggerhead Shrike	Mar 21	MR
White-eyed Vireo	May 1	PJG
Blue-headed Vireo	Apr 17	KFN
Yellow-throated Vireo	Apr 30	BMD
Warbling Vireo	Apr 29	JHE, RDW
Philadelphia Vireo	May 22	KFN
Red-eyed Vireo	May 22	KFN
Blue Jay	Jan 1	KFN
American Crow	Jan 1	JHE, VPM
Common Raven	Jan 18	KFN
Horned Lark	Jan 1	GP
Purple Martin	Apr 25	KFN
Tree Swallow	Mar 27	KFN
Northern Rough-winged Swallow	Apr 11	BMD
Bank Swallow	May 22	KFN
Barn Swallow	Apr 15	JHE, BR
Cliff Swallow	Apr 17	KFN
Black-capped Chickadee	Jan 1	JHE, VPM
Tufted Titmouse	Jan 20	JHE, BR
Red-breasted Nuthatch	Jan 25	RTS
White-breasted Nuthatch	Jan 1	JHE, VPM
Brown Creeper	Feb 8	RDW
Carolina Wren	Jan 1	RS
House Wren	Apr 23	RS
Winter Wren	Mar 25	BAW, RDW
Sedge Wren	Jun 24	RDW
Marsh Wren	May 22	KFN
Golden-crowned Kinglet	Feb 28	BMD
Ruby-crowned Kinglet	Apr 18	RDW
Blue-gray Gnatcatcher	Apr 19	*fide* RTS
Eastern Bluebird	Jan 6	VPM, BR
Veery	Apr 30	DO
Gray-cheeked Thrush	May 20	*fide* RTS
Bicknell's Thrush	Sep 27	DO
Swainson's Thrush	May 22	KFN
Hermit Thrush	Apr 22	KK
Wood Thrush	Apr 30	BMD, DO
American Robin	Jan 6	VPM, BR
Varied Thrush	Dec 27	*fide* PJG
Gray Catbird	Apr 30	RS
Northern Mockingbird	May 4	KFN
Brown Thrasher	Apr 17	KFN
European Starling	Jan 1	VPM
American Pipit	May 1	VPM
Bohemian Waxwing	Feb 29	KFN
Cedar Waxwing	Jan 6	VPM, BR
Blue-winged Warbler	Apr 22	DO
Golden-winged Warbler	Apr 30	BMD
Tennessee Warbler	May 2	GP
Orange-crowned Warbler	May 4	KFN
Nashville Warbler	Apr 22	KK
Northern Parula	May 1	KFN
Yellow Warbler	Apr 29	JHE, RDW
Chestnut-sided Warbler	Apr 22	DO
Magnolia Warbler	Apr 22	DO
Cape May Warbler	May 16	DO
Black-throated Blue Warbler	May 1	KFN

Yellow-rumped Warbler	Jan 1	SD, JHE
Black-throated Green Warbler	Apr 27	JHE, RDW
Blackburnian Warbler	May 4	KFN
Yellow-throated Warbler	Apr 19	VPM, BR
Pine Warbler	Apr 20	AA, TB
Prairie Warbler	May 7	*fide* RTS
Palm Warbler	Apr 18	*fide* RTS
Bay-breasted Warbler	May 4	*fide* RTS
Blackpoll Warbler	May 16	*fide* RTS
Cerulean Warbler	May 18	*fide* RTS
Black-and-white Warbler	Apr 22	DO
American Redstart	Apr 22	DO
Worm-eating Warbler	May 17	EB, VPM
Ovenbird	Apr 22	DO
Northern Waterthrush	Apr 30	BMD, RS
Louisiana Waterthrush	Apr 30	BMD
Mourning Warbler	May 18	*fide* RTS
Connecticut Warbler	Sep 8	*fide* RTS
Common Yellowthroat	Apr 30	LP
Hooded Warbler	May 15	*fide* RTS
Wilson''s Warbler	May 1	PJG
Canada Warbler	May 16	KFN
Summer Tanager	May 14	DO
Scarlet Tanager	May 2	DO
Eastern Towhee	Apr 22	KK
American Tree Sparrow	Jan 1	JHE, VPM
Chipping Sparrow	Mar 11	ST
Clay-colored Sparrow	May 2	DO
Field Sparrow	Mar 30	ES, RS
Vesper Sparrow	Apr 6	KFN
Savannah Sparrow	Apr 11	VPM
Grasshopper Sparrow	May	KFN
Henslow's Sparrow	May 7	NL
Nelson's Sharp-tailed Sparrow	Oct 1	KFN
Fox Sparrow	Mar 28	SD
Song Sparrow	Jan 1	RS
Lincoln's Sparrow	Apr 22	KK
Swamp Sparrow	Jan 10	BMD
White-throated Sparrow	Jan 1	SD, KH
White-crowned Sparrow	Jan 6	VPM, BR
Dark-eyed Junco	Jan 1	PJG
Lapland Longspur	Jan 8	KFN
Snow Bunting	Jan 1	GP
Northern Cardinal	Jan 1	JHE, VPM
Rose-breasted Grosbeak	Apr 30	LP
Indigo Bunting	May 22	KFN
Bobolink	May 1	VPM
Red-winged Blackbird	Jan 14	CG
Eastern Meadowlark	Mar 11	ST
Rusty Blackbird	Jan 20	KFN
Brewer's Blackbird	Oct 17	JHE, RDW
Common Grackle	Mar 1	BAW
Brown-headed Cowbird	Jan 10	BMD
Orchard Oriole	Apr 30	LP
Baltimore Oriole	Apr 29	PJG
Pine Grosbeak	Jul 7	GFV
Purple Finch	Jan 20	KFN
House Finch	Jan 1	JHE, VPM
Red Crossbill	Aug 21	BAW, RDW
Common Redpoll	Jan 1	KFN
Hoary Redpoll	Jan 1	KFN
Pine Siskin	Jan 1	PJG
American Goldfinch	Jan 1	JHE, VPM
Evening Grosbeak	Jan 18	KFN
House Sparrow	Jan 1	VPM

Contributors:

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B&M Wood
KFN= Kingston Field Naturalists (3+ observers)
NLB= North Leeds Birdwatchers (3+ observers)

Report on the
Report on Little Cataraqui Creek Wetland, West Side, Front Road to Bath Road

Sharon Critchley

Completion of Report

The Report is published! Copies may be obtained from Sharon Critchley (634-5475)—paper copies are available for $20 and a PDF file on CD for $5.

The Kingston Field Naturalists (KFN) funded the report. KFN members on the advisory team, Carolyn Bonta, Sharon Critchley, Adele Crowder, Robert (Bob) Stewart, and Ron Weir, wrote sections of the report and also reviewed and commented on the various drafts. Other KFN members contributed. David Bree, Susan Grigg and Bruce Ripley conducted field work and/or reviewed literature for their sections. The late Tom Marsh searched out papers on wetland buffers. Gary Ure provided data on mammals. Gail Gault pulled all the contributions together and formatted the final copy for printing.

David J. White, a private consultant and expert botanist, was contracted to write the vegetation and flora section based on field survey work. Another private consultant, Mary Alice Snetsinger, Ecological Services, donated her expertise on fish for a section of the report.

A number of agencies—Cataraqui Region Conservation Authority, City of Kingston, Correctional Service of Canada, Frontenac Institution, Environment Canada and Ministry of Natural Resources—contributed in various ways. Ducks Unlimited also provided information.

Recommendations regarding the Southern Extension of Centennial Drive

Based on the data presented in Kingston Field Naturalists 2004 *Report on Little Cataraqui Creek Wetland, West Side, Front Road to Bath Road*, the Kingston Field Naturalists has made recommendations to City of Kingston Planning staff for the new Official Plan. The recommendations are consistent with the Kingston Transportation Master Plan, which includes a realigned Gardiners Road/Days Road but excludes the extension of Centennial Drive south from Bath Road. They are also consistent with the Kingston Urban Growth Strategy which indicates that "buffer areas will be required adjacent to this Provincially Significant Wetland" and questions "whether there is a slightly lower threshold of development which can be achieved without triggering the need for all of these costly road network expansions."

The Kingston Field Naturalists recommends that:

- the proposed extension of Centennial Drive from Front Road to Bath Road be removed from all maps in the new Official Plan for the City of Kingston.
- if the federal property becomes available for development, there be no prior decisions regarding transportation routes or infrastructure corridors.
- decisions for transportation routes and infrastructure corridors be based on studies covering natural habitat assessment, traffic needs and infrastructure routes conducted if the federal property becomes available.
- buffers of sufficient width and native plant diversity be required to protect the species and habitats identified in the Kingston Field Naturalists 2004 *Report on Little Cataraqui Creek Wetland, West Side, Front Road to Bath Road* and that words reflecting this be included in the new Official Plan.

A map relevant to these recommendations is found in the Interim Report No. 2, *Evaluating the Growth Alternatives*, City of Kingston, Urban Growth Strategy, Revised July, 2004. Appendix 3, Transportation Input, includes a map for Urban Growth Strategy Alternative 1a, the lands currently occupied by Correctional Service of Canada. This map shows a revised route for the Centennial Drive extension and an eastern extension of Henderson Blvd. to link with Centennial Drive. To review this City of Kingston Report, ask for it at the Information Desk of the Central Branch or the Turner Branch of the Kingston Frontenac Public Library. You may borrow (sign out) a copy from the City of Kingston Planning Division, 1425 Midland Ave., Kingston.

On the following page is the Summary extracted from the Report.

Report on Little Cataraqui Creek Wetland, West Side, Front Road to Bath Road
Kingston Field Naturalists, 2004

Summary

The Little Cataraqui Creek coastal marsh is a Provincially Significant Wetland in the City of Kingston. Near the creek mouth, the wetland is currently bounded on the west side by federally-owned agricultural land. Should this land be sold in the future, the Official Plan for the former Kingston Township proposes that Centennial Drive, a major roadway, be extended across the property and over part of the wetland. The Kingston Field Naturalists are concerned about potential negative impacts of an additional road (e.g., decreased water quality, increased road mortality of wildlife, loss of habitat connectivity, diminished nest success for breeding waterfowl) on the health and habitat of the Little Cataraqui Creek.

The Study Area for this report is the west side of the Little Cataraqui Creek wetland, between Front Road and Bath Road. This report begins by describing the physical and chemical background of the wetland and its adjacent upland. A discussion of land use history, from pre-settlement times to current activities, shows that human impacts on the wetland have been both negative (e.g., development, deforestation) and positive (e.g., wetland enhancement and conservation).

Inventories of biota within the Study Area through the 2004 field season were conducted and supplemented with reports from the literature. Nine vegetation zones were identified, including open water, marsh, and swamp wetland components. The Study Area was found to contain 292 species of plants, from 72 families. Thirteen species of mammal (three of which are wetland-dependent) were present on and near the Study Area. Sixty-four species of birds were found to nest on the Study Area, and an additional 35 species are migrants. At least nineteen fish species have been recorded in the Little Cataraqui Creek, and 15 herptile (reptile and amphibian) species, 12 of which are wetland-dependent, were present in and around the Study Area. Little Cataraqui Creek was recently (2003/04) found to have a relatively good diversity of aquatic macroinvertebrates in its lower reaches. Thirteen species of odonates (dragonflies and damselflies) were present on the Study Area in 2004. A flight season butterfly survey of the Study Area identified nine species, one of which is a wetland obligate.

Three locally rare native plant species were identified on the Study Area. Five of Ontario's Species at Risk—Least Bittern (Threatened), Black Tern (Special Concern), Short-eared Owl (Special Concern), Northern Map Turtle (Special Concern) and Monarch (Threatened)—were also observed. One species of dragonfly, the Black Saddlebags, is a rare southern migrant and possible breeder on the Study Area. A comprehensive review of planning policies and legislation, as they relate to Provincially Significant Wetlands and their adjacent lands, and a discussion of Great Lakes coastal wetlands follow. Finally there is a literature review on wetland buffers, which relates buffer width to the organisms which need protection. For waterfowl, a 300 m buffer is recommended. This report will further contribute to our understanding of the significance of the Little Cataraqui Creek wetland's function and value on the landscape.

The Case Against Misguided Sentiment

Terry Sprague

Based on my own observations, this has been about an average winter for hawks in eastern Ontario. Red-tailed Hawks could be seen perching in trees throughout the area this winter, and it wasn't a bad year either for Rough-legged Hawks, residents of more northern regions that often migrate to the Quinte area in search of better feeding grounds. Of course, with every winter, comes an increased presence of certain hawk species at our bird feeders, primarily members of the Accipiter family—the Sharp-shinned Hawk and Cooper's Hawk, and on occasion, the much larger Northern Goshawk. All three are known for their fondness for birds in their diets.

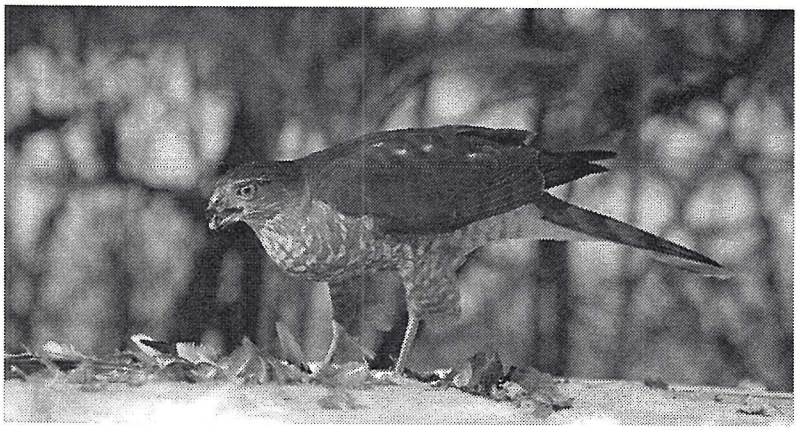
Our own feeder had a Sharp-shinned Hawk for a few days which eventually moved on, but last winter, a Cooper's Hawk helped himself to an average of one Mourning Dove every two days. The Mourning Dove flock was strong, about 50 in total, so the loss of one every other day appeared insignificant. The question is, should we interfere and become judge and jury about who we want at our feeders and take measures to prevent birds of prey from doing what Nature has dictated they should do? Hawks provide a natural control to bird populations, taking those from our feeding areas that tend to be weaker, older, or less wary. Should we interfere by diluting the gene pool of Mourning Doves that can avoid the attacks by accipiters? By madly flailing our arms and rapping the windows whenever we see a Cooper's Hawk, are we really helping the Mourning Doves in the greater scheme of things?

Ross James asks this same question concerning cowbirds. In an article published a while back in OFO News, official publication of the Ontario Field Ornithologists, he takes issue with well-meaning people who routinely destroy the eggs of cowbirds whenever they come upon them in the nests of more "desirable" species.

All of us are familiar with cowbird habits. They don't build a nest or raise their own young. Instead, they prefer depositing their eggs in the nest of other birds for them to raise. As most host species are those much smaller than the cowbird, the interloper grows faster, demands more food, and it isn't long before the rightful occupants either starve or are crowded out of the nest. Meanwhile, the host birds work diligently at keeping up with the demands of the cowbird's appetite.

By destroying any foreign eggs we see in the nests of smaller birds, presumably we are giving Nature a helping hand. "But are we helping?" asks Ross James, who gives an example of a Song Sparrow's nest he found. The Song Sparrow constructed its nest in such a fashion as to be obvious to the female cowbird, who quickly deposited her egg. Had Ross removed the egg, and the young Song Sparrows survived, he says, genetically, all would be probably like the parents, unable to foil the efforts of cowbirds. Thus the success of the parasitic way of life would be assured and enhanced for another generation. Had Ross removed the foreign egg, he might have helped one pair of Song Sparrows raise their young successfully, but at the same time perpetuated the genes of birds that allow the parasitic way of life.

And let's face it. Exactly how much help are we giving any species by removing cowbird eggs? There is no possible way, except in extremely rare species, that we can find enough nests of any species to make a dent in their reproductive success by routinely removing cowbird eggs. If any species is to overcome the parasitic effects of cowbirds, then they must develop strategies on



Sharp-shinned Hawk eating Mourning Dove—courtesy of Richard Kitchen

their own. And over time, many species have done just that. Some birds immediately recognize the strange egg and promptly kick it out of the nest. The Yellow Warbler abandons the clutch she has laid when it see the foreign egg in her nest. But rather than go to the trouble of seeking out a new location and struggling with the construction of a whole new nest, she cleverly builds a new floor above the abandoned eggs, and lays another clutch of eggs. I have seen such nests with as many three tiers above the original clutch of eggs. A three-time loser perhaps, but at least she has devised a way of coping with the problem rather than raising the cowbird at the expense of her own offspring.

Ross James has a good point. Sometimes our bumbling efforts to offer well-meaning assistance do more harm than good in the long run. It's a good point to remember too the next time a hawk grabs a guest from our feeders. Nature may seem unkind, but she is still the best judge of how to maintain populations. We must remember, it isn't Nature who causes certain species to decline. It is us.

Terry Sprague is a naturalist, freelance writer and KFN member who lives in Prince Edward County.

Winter Season, 1 December 2004 to 28 February 2005

Ron D. Weir

The weather remained relatively warm until the third week of December, when intense cold took hold. By the waterfowl count on January 9, ice had formed on inner Lake Ontario and driven waterfowl in search of open areas. Once the water froze more completely that week, the ice remained until the end of the period, which is the norm. The view from the air in mid-February showed ice extending a long way out into Lake Ontario off the islands of Wolfe and Amherst. Snowfall accumulation was not a problem for hunting by hawks and owls on Wolfe and Amherst Islands, but the shortage of voles proved to be the limitation there. The large numbers of Great Gray Owls that wintered on the mainland here were seen often to capture rodents and the birds seemed to be in good health.

Winter finches, Snowy Owls and overwintering songbirds were present, but in low numbers throughout the period. The irruption of Great Gray Owls into our area was very strong with at least 93 birds spending January and most of February. Other good finds included the King Eider, Lesser Black-backed Gull, Boreal Owl, Tufted Titmouse, and Varied Thrush.

Species Account:

Red-throated Loon—Dec 5 (1) PEPt, BRp, JRp, Jan 9 (1) PEPt, JHE, RDW

Common Loon—to Jan 9, Kingston, KFN

Horned Grebe—to Jan 9 (1) PEPt, KFN

Red-necked Grebe—to Jan 9 (1) Kingston, KFN

Tundra Swan—peaks Dec 19 (352), Jan 9 (354), 16(41) Kingston, KFN

Gadwall—peak Dec 19 (515) Kingston, KFN

Black Duck—peak Jan 11 (2650) Kingston, KFN

Redhead—peak Jan 9 (5034) Kingston, KFN

King Eider—Feb 13 (1) PEPt, KFN

Long-tailed Duck—peak Jan 11 (11,600) PEPt, KFN

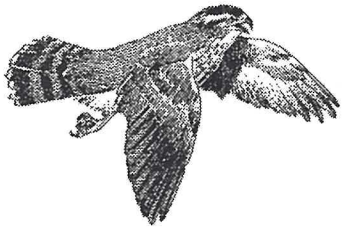
Ruddy Duck—to Jan 9 (2) Kingston, KFN

Bald Eagle—Dec (45 records), Jan 11 (57 records), Feb (40 records) Kingston area, KFN

Northern Harrier—peak Dec 14 (45) Wolfe I. KFN

Cooper's Hawk—several overwintered, Kingston, KFN

Northern Goshawk—only record Dec 19 (1) Kingston, KFN



Red-shouldered Hawk—Jan 16 (1) Charleston Lake, JHE, RDW

Golden Eagle—Dec 19 (1 im) Wolfe I., KFN; Jan 26 (1) Buck Lake, NLB; Feb 26 (1) Amherst I., BMD

Merlin—Dec to Feb (3) overwintering, Kingston, KFN.

Peregrine Falcon—Dec 19 (10) Kingston, KFN; Dec 22 (1) Lyndhurst, NLB

Gyrfalcon—Dec 5 (1), Kingston, BRp, JRp; Feb 12 (1 pale) Wolfe I., R Bell

Iceland Gull—Dec 19 to Feb 13 (11 in all), Kingston and Napanee, latest Feb 13 (1) Ivy Lea, BD

Lesser Black-backed Gull—Feb 13 (1) Ivy Lea, BD

Glaucous Gull—Dec 18 to Feb 7 (6 in all) Kingston and Napanee, KFN

Snowy Owl—Dec 1 to Feb 28 (12 records) shared between Wolfe I. and Amherst I., KFN

Great Gray Owl:

There was a strong irruption of these owls from the boreal forests into the Kingston area, where 93 are known to have overwintered. The first bird was reported Nov 14 from the Charleston Lake area, followed by a few more up to Dec 31. The main influx appeared in early January with rising numbers until the peak was reached by the end of that month. By the end of February with the longer hours of daylight, their numbers began to fall as they presumably began their retreat northwards.

Their pattern of occurrence indicated that greatest numbers were northwest of the City of Kingston. They probably arrived by moving from the northwest to the southeast. Known casualties were low here, but some were injured and were taken to local clinics where they were assessed for rehabilitation. In the following summary of the numbers, the sightings are grouped by location. Those found in Prince Edward County are not listed here nor are those farther north at Mountain Grove, where they were also present in the double-digit numbers.

A. West and northwest of Kingston:

Within 50 km of the city: Enterprise, Moscow, Tamworth, Napanee

- Jan 1 to Feb 28, 45 owls on territories

Within (50-80) km of the City: Forest Mills, Parham, Stoco, Tweed

- Jan 8 to Feb 17, 25 owls on territories

B. North of Kingston:

Within 50 km of the city: Sydenham, Godfrey, Buck Lake, Westport

- Jan 14 to Feb 20, 15 owls on territories

C. Northeast and east of the city:

Within 50 km of the city: Joyceville, Seeley's Bay, Morton:

- Dec 18 to Feb 15, 5 owls

D. City of Kingston and Amherst Island

- Dec 28 to Feb 7, 3 owls.

Long-eared Owl—Dec 5 to Feb 28 (13) Amherst I., KFN; Dec 19 (2) Wolfe I., KFN; Dec 27 (2) Ivy Lea, KFN

Short-eared Owl—Dec 5 to Feb 11 (17) Amherst I., KFN; Feb 11 (1) Howe I., SD; Dec 19 (3) Wolfe I., KFN

Boreal Owl—Dec 13 to 31 (1) Amherst I., BR, BRp et al, Jan1 to Feb 24 (2) Amherst I., KFN

Northern Saw-whet Owl—Dec 13 to 28 (1) Amherst I., BR, BRp; Feb 7 (1) Bath, BRp, JRp

Ruby-throated Hummingbird—late birds to Nov 4 (1) Kingston feeder, J. van Tenbrugenkamp

Tufted Titmouse—Dec 1 to Feb 28 (1) Kingston feeder, RS

Carolina Wren—Dec 19-30 (5) Kingston feeders, KFN; Jan 6(1) Forest Mills, RTS

Varied Thrush—Dec 22 to Feb 14 (1) Moscow feeder, N & D Drew

Gray Catbird—Dec 19 to 31 (1) Amherst I., KFN

Brown Thrasher—Dec 19 (1) Wolfe I., Dec 28 to Feb 24 (1), Amherst I., KFN

Bohemian Waxwing—Dec 18 (2) PEPt, JHE, RDW; Jan 2 (1) Kingston, RKE

White-crowned Sparrow—Dec 19 (1) Wolfe I., GFV, RDW

Pine Grosbeak—Jan 1 to Feb 7 (60 in all) north of the city of Kingston, KFN

Purple Finch—present but scarce

Common Redpoll—common with flocks to 200 after Dec 9

Hoary Redpoll—scarce, only records Jan 25 (2) Moscow, OW; Feb 28 (1) Camden East, PJG

Pine Siskin—Dec (300), Jan (30), Feb (nil) Kingston, KFN. Presumably the birds passed through.

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North Leeds Birdwatchers
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J Ripley (JRp)
B Rowe (BR)
R Sachs (RS)
R.T. Sprague
GFVance
O.Weir
R.D. Weir

Teen Trip: In Search of Bald Eagles

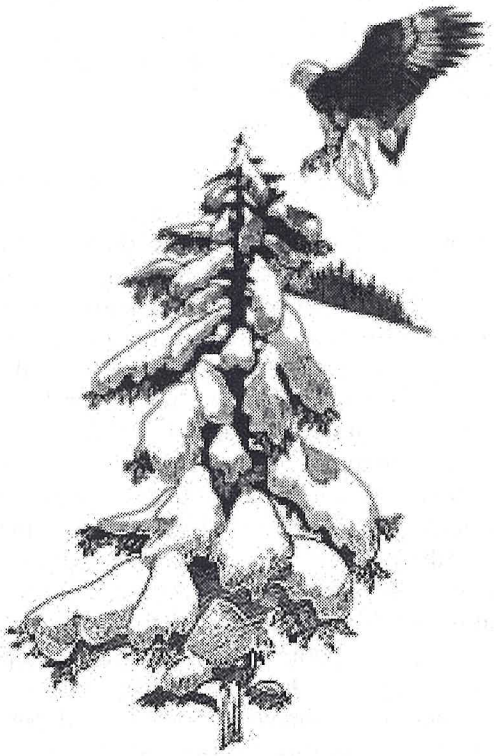
Katie Schreiner

Our January field trip was observing Bald Eagles in the Thousand Islands area. Though we (Heather, Heidi, Kenneth, Anne, Andrew Cirtwill and I) did not see any eagles at our first two stops (Landon Bay and Ivy Lea), we did see about fifty Mallard ducks, a gull, and a few blobs in trees (one of which flew away).

At our third stop on Wellesley Island, we saw two adult eagles and one younger one fighting over a dead carp, but, because of the heavy snow that was falling at the time, visibility was very bad, so we headed on.

On our way to our next stop (the international rift), we saw several deer. While we were in the forest there, Andrew showed us how to recognize kinds of trees, including different oaks, maples, pines, musclewood and Black Cherry. He also told us some interesting facts about the trees: for example, the Black Cherry produces cyanide. When it is being infested with caterpillars, it gives off a scent that warns other Black Cherry trees to produce more cyanide to protect themselves from the caterpillars.

The snow had cleared up, so we went back to Wellesley Island in time to see an adult Bald Eagle fly away, and crows take over the dead carp. After observing a chickadee for a while, we headed back, and the field trip ended.



Vernal Pools in Southern Ontario

Jessica Steiner

Reprinted from Amphibian Voice, Vol. 14, No. 1, Spring 2004

Vernal pools, also known as ephemeral wetlands, are shallow depressions that temporarily fill with water following the snow melt in the spring or heavy rainfall events. These unique habitats constitute an increasingly vulnerable type of wetland inhabited by many species of wildlife, some of which are totally dependent on vernal pools for their survival. Because of the temporary nature of these wetlands, fish cannot inhabit these pools. As a result, populations of frogs, salamanders and invertebrates thrive. Some species are highly adapted to the wet-dry cycle of these pools and come to depend on it for successful reproduction. These species are considered obligate species, and it is their presence which distinguishes vernal pools from an ordinary puddle.

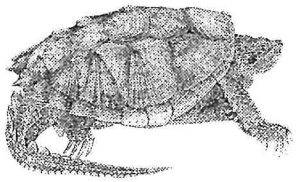
Urban development, deforestation, and poor land and water management and conservation practices threaten the disappearance of vernal pool habitats in southern Ontario. Intense agricultural practices have already stripped the land of almost all of its forested and wetland areas, leaving only remnant woodlots where vernal pools may have been found. Excavation of drainage networks, poor water conservation and deforestation are the biggest issues facing what little is left of these vernal pool habitats in southern Ontario.

Agriculture is an important contributor to Ontario's economy. Because excess water can make fields unworkable for farmers, they drain surface and subsurface water from the land in order to grow crops. This is achieved by constructing deep agricultural drains. Southern Ontario has the largest drainage network in the province, with Haldimand-Norfolk County alone containing over 1100 km of drain. The municipal drainage act does not protect wooded wetlands, and so headwater areas are frequently drained, depleting the water holding capacity of vernal pools or eliminating them altogether. Agriculture is also the biggest user of water in the area. Irrigation during July and August can drop the water table by 1 to 2 m in vulnerable areas, causing pools to dry up beyond the point by which they can be restored by fall or winter precipitation. Obligate species who depend on a certain length of time to complete the aquatic phase of their life cycle will perish when the pool dries up too early.

The issue of water quantity has actually become quite important to the region recently. The massive drainage network is almost too efficient, lowering water table levels to a point where water is becoming scarce for irrigation in the drier summer months. It is increasingly becoming clear that wooded wet areas are ideal for storing water supplies. Drains, which originally removed water from wooded wetland areas, are now serving as water storage and discharge areas. A steady seepage of water from restored wet wooded areas can help raise the water table, resulting in an increase in surface and groundwater available. This not only benefits the community by helping to buffer water users against drought, but also means some good news for vernal pools, since water levels are maintained throughout the summer.

Although water management issues threaten to dry up vernal pools for good, loss of surrounding wooded areas can be just as devastating. Many of the reptiles and amphibians that use vernal pools spend most of the year in the surrounding forests, making the upland area around a pool as important to species survival as the vernal pool itself. Land use near pools affects their value as breeding sites. Loss of surrounding trees can increase water temperature, decrease oxygen content and alter the wet-dry cycle, making the pools unsuitable for reproduction. The loss of acceptable breeding pools can mean trouble for a species' survival. Without obligate species, a valuable vernal pool is reduced to a barren puddle.

While southern Ontario searches for ways to improve water quality and quantity, vernal pools will indirectly benefit. Restoring wet areas along drains, protecting existing wooded wet areas, and replanting upland forests are all being implemented as ways to reduce pressures on natural systems and re-establish natural water systems. But more direct efforts focussed on vernal pool conservation are still needed in order to ensure the persistence of this unique habitat for future generations.



Kingston and Area Christmas Counts, 2004

Ron D. Weir

The relatively warm autumn weather that led up to Count period for the 2004 Christmas Counts (14 December 2004 to 5 January 2005) led to limited freezing of lakes just north of the City of Kingston along with some of the shallow bays along Howe, Wolfe and Amherst Islands. Snow cover was absent during most of the Count period, but as birders know, the vagaries of the weather on any particular Count day determine the outcome regardless of the number and quality of birders. Poor weather plagued the birders on the Count in Kingston and Amherst Island. For the Kingston Count (19 December 2004), the predawn sky was under heavy overnight rains at +4 °C with strong south winds that became snow by 0830h at -4 °C. By 1000h, the flash freeze was gripping with -11 °C and by noon the snow stopped and the temperature continued to drop to -13°C with brisk northwest winds. The morning snows cut the visibility to near zero over Lake Ontario which affected the numbers of diving ducks seen. The Amherst Island Count saw frigid conditions with temperatures around -30 °C and wind chill values near -40 °C.

Shown below in Table 1 are selected statistics for the six of the seven local counts. Table 2 contains the species totals for the past 14 years. The species total for the Kingston Count continues to remain at the plateau and this high number is coincident with the assignment of the leaders to permanent sections of the count circle. Their experience and detailed knowledge of their sector, together with contacts with persons living in the sector who provide important and useful information, have raised the species totals significantly since the 1980s. Formerly the leaders were rotated through the eight or nine sections year after year so that a leader would repeat a sector every eight or nine years.

The ranking of Kingston in the province is shown in Table 3. Our standing as 1st is a surprise as Kingston lies well to the north in latitude of those counts ranked in the other positions. Weather on the day can make the difference.

The detailed species list is provided in Table 4. Where record high numbers of individuals occurred, the number is underlined.

Table 1: Statistics on Individual Counts in 2004

	15 Dec Delta	18 Dec Prince Edward Pt.	19 Dec Kingston	20 Dec Amherst Island	27 Dec Napanee	27 Dec 1000 Islands
Species	43	71	104	36	51	57
Birds	3460	25514	33536	680	7005	6402
Participants	16	22	48*	11	10	26

There were an additional 15+ observers at feeders.

Table 2: Fourteen-Year Comparison with 13-Year Average

Count	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	1991-2003 Avg
Prince Edward Pt.	61	61	64	61	76	68	64	61	80	61	72	59	82	71	72
Kingston	95	96	113	99	101	97	104	103	107	102	111	109	103	104	103
Westport	37	55	50	46	36	38	46	41	49	44	54	47	*	*	-
Napanee	48	43	46	46	52	52	56	51	38	58	47	50	56	51	50
1000 Islands	61	57	74	59	53	58	56	57	69	56	51	52	61	59	59
Amherst Island	51	47	51	n/a	54	57	63	57	51	58	71	60	54	38	56**
Rideau Ferry								41	36	37	42	38	37	35	-
Delta										38	37	40	38	43	-

* The Christmas Count did not take place. ** 12-Year average

Table 3: Comparison of the Top Counts in Ontario for 2003 & 2004

Count	Total Species	
	2003	2004
1. Kingston	103	104
2. Blenheim/Rondeau	100	103
3. Hamilton	101*	102*
4. Long Point	110	98
5. Niagara Falls	98	95
6. Point Pelee	94	91
7. Toronto	89	89
8. Fisherville	95	82

* record high

Table 4: Kingston Area Christmas Counts 2004

Count:	15 Dec Delta	18 Dec PEPt	19 Dec Kingston	20 Dec Amherst Is.	27 Dec Napanee	27 Dec 1000 Is.
Red-throated Loon	-	-	-	-	-	-
Common Loon	-	1	6	-	-	-
Pied-billed Grebe	-	-	-	-	-	-
Horned Grebe	-	8	-	-	-	-
Red-necked Grebe	-	-	1	-	-	-
Double-crested Cormorant	-	1	-	-	-	-
Great Blue Heron	-	-	2	-	-	-
Snow Goose	-	-	4	-	-	-
Canada Goose	1	3713	12313	75	688	341
Brant	-	-	5	-	-	-
Mute Swan	-	2	2	-	-	-
Tundra Swan	-	127	352	-	-	-
Wood Duck	-	1	1	-	-	-
Gadwall	-	37	515	3	-	-
American Wigeon	-	-	11	-	-	1
American Black Duck	-	95	603	-	54	86
Mallard	6	1477	5292	50	284	401
Northern Pintail	-	-	9	-	-	-
Green-winged Teal	-	-	1	-	-	-
Canvasback	-	-	2	-	-	-
Redhead	-	-	565	-	-	-
Ring-necked Duck	-	1	21	-	-	-
Greater Scaup	-	629	2554	-	-	10
Lesser Scaup	-	10	45	-	-	70
Surf Scoter	-	-	5	-	-	-
White-winged Scoter	-	73	1	-	-	-
Black Scoter	-	12	1	-	-	-
Long-tailed Duck	-	3557	3	-	-	-
Bufflehead	-	209	361	-	-	22
Common Goldeneye	20	4296	501	4	310	184
Hooded Merganser	2	11	8	-	-	1

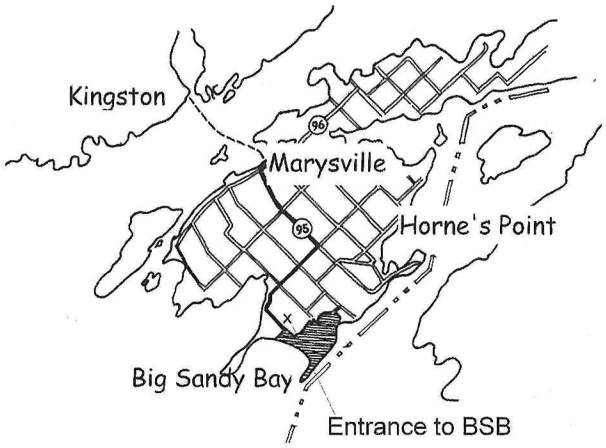
Count:	15 Dec Delta	18 Dec PEPt	19 Dec Kingston	20 Dec Amherst Is.	27 Dec Napanee	27 Dec 1000 Is.
Common Merganser	983	7023	2149	1	6	184
Red-breasted Merganser	-	80	124	-	13	-
Ruddy Duck	-	-	1	-	-	-
Bald Eagle	1	33	8	2	-	22
Northern Harrier	-	1	17	1	3	1
Sharp-shinned Hawk	1	-	3	-	1	1
Cooper's Hawk	1	-	1	-	-	1
Northern Goshawk	1	-	1	-	-	-
Red-tailed Hawk	15	12	26	7	16	35
Rough-legged Hawk	-	4	8	3	3	7
Golden Eagle	-	-	1	-	-	-
American Kestrel	-	1	3	-	-	2
Merlin	-	-	1	1	1	-
Peregrine Falcon	-	-	1	-	-	-
Ring-necked Pheasant	-	1	6	-	-	-
Ruffed Grouse	7	2	1	-	1	13
Wild Turkey	80	56	100	-	-	257
American Coot	-	2	22	-	1	-
American Woodcock	-	5	-	-	-	-
Bonaparte's Gull	-	23	24	-	-	-
Ring-billed Gull	18	20	192	-	311	25
Herring Gull	1	1555	236	-	235	35
Iceland Gull	-	-	1	-	-	-
Glaucous Gull	-	1	1	-	1	-
Great Black-backed Gull	-	71	44	-	38	10
Rock Pigeon	246	75	1132	26	688	372
Mourning Dove	160	93	533	30	612	331
Eastern Screech Owl	-	4	3	-	1	-
Great Horned Owl	1	1	14	-	-	2
Snowy Owl	-	-	3	2	-	-
Barred Owl	1	-	1	-	-	1
Long-eared Owl	-	-	2	-	-	2
Short-eared Owl	-	-	3	-	-	-
Northern Saw-whet Owl	-	-	1	-	-	-
Boreal Owl	-	-	-	1	-	-
Belted Kingfisher	-	-	-	-	-	1
Red-bellied Woodpecker	-	1	8	1	-	4
Downy Woodpecker	23	17	62	3	23	51
Hairy Woodpecker	12	12	25	2	6	24
Pileated Woodpecker	1	4	1	-	1	6
Northern Shrike	1	2	4	-	1	-
Blue Jay	298	104	178	66	329	291
American Crow	118	137	327	2	118	88
Common Raven	7	-	5	-	2	12
Horned Lark	-	-	85	-	121	16
Black-capped Chickadee	215	307	770	64	415	665
Tufted Titmouse	-	-	1	-	-	1

Count	15 Dec Delta	18 Dec PEPt	19 Dec Kingston	20 Dec Amherst Is.	27 Dec Napanee	27 Dec 1000 Is.
Red-breasted Nuthatch	1	1	5	-	3	8
White-breasted Nuthatch	34	34	88	3	25	92
Brown Creeper	1	3	9	-	1	-
Carolina Wren	-	-	3	-	-	1
Winter Wren	-	3	3	-	-	-
House Wren	-	-	-	-	-	1
Golden-crowned Kinglet	-	4	25	-	1	3
Ruby-crowned Kinglet	-	-	-	-	2	-
Eastern Bluebird	-	3	1	-	-	-
Hermit Thrush	-	-	1	1	-	-
American Robin	1	3	73	-	27	2
Gray Catbird	-	-	-	1	-	-
Brown Thrasher	-	-	1	-	-	-
European Starling	189	339	1077	109	436	178
Bohemian Waxwing	-	2	-	-	-	-
Cedar Waxwing	87	70	35	-	47	-
Yellow-rumped Warbler	-	-	1	-	1	-
American Tree Sparrow	138	126	192	54	116	191
Song Sparrow	-	3	5	1	2	19
Swamp Sparrow	-	1	3	-	-	-
White-throated Sparrow	-	-	2	-	4	-
White-crowned Sparrow	-	-	1	-	-	-
Dark-eyed Junco	28	64	71	5	49	71
Lapland Longspur	-	-	6	-	-	-
Snow Bunting	102	1	708	20	1020	1443
Northern Cardinal	13	10	70	3	21	33
Red-winged Blackbird	1	4	5	5	-	1
Rusty Blackbird	-	-	1	20	-	-
Common Grackle	-	-	2	-	-	-
Brown-headed Cowbird	-	-	3	7	-	13
Purple Finch	2	7	9	-	2	13
House Finch	35	2	350	3	106	49
White-winged Crossbill	-	-	-	-	1	-
Common Redpoll	158	154	128	7	154	151
Pine Siskin	5	82	3	-	4	-
American Goldfinch	220	710	132	23	149	125
House Sparrow	225	83	1068	70	362	432
Scaup sp	-	2	-	-	-	-
Buteo sp	-	2	-	-	-	-
Gull sp	-	533	-	-	-	-
Totals: Species	**43**	**71**	**104**	**38**	**51**	**57**
Individuals	**3460**	**25514**	**33536**	**680**	**7005**	**6402**

New "Friends" Group for Big Sandy Bay Management Area

Linda Van Hal, Co-chair, Friends of Big Sandy Bay Steering Committee

Big Sandy Bay Management Area is a 404-hectare day-use area on Wolfe Island with a coastal ecology rare in Ontario. The area has been identified as an environmentally sensitive "Area of Natural and Scientific Interest." Provincially and regionally significant birds, provincially rare trees and other rare plant species flourish here.



Map by Linda Van Hal

The property was acquired by the province in 1967 and has been managed by the Ministry of Natural Resources since 1975. A 57-hectare section was added in 2000 through a partnership with Ducks Unlimited Canada, the Canadian Wildlife Service, the Nature Conservancy of Canada, and the Ontario Ministry of Natural Resources through the Eastern Habitat Joint Venture Program. The last half of the trail to the beach crosses this newly acquired portion. In 2003, these agencies entrusted the day-to-day management of the entire area to the Township of Frontenac Islands (Big Sandy Bay Stewardship Committee).

A year ago, the Greater Kingston Community Foundation funded a project to create a not-for-profit association of volunteers dedicated to the conservation, restoration and appreciation of the natural features of the Big Sandy Bay. A steering committee has completed the drafting of bylaws and will apply for incorporation and charitable status for "Friends of Big Sandy Bay." A membership drive is now underway.

Prior to last year, Kingston Field Naturalist (KFN) members and other visitors hiking in the area have had to traverse muddy terrain churned up by All-Terrain Vehicles. Now the beach/dune complex is accessible via a 1.3-km walking trail through wetlands and woodlands, and motorized vehicles have been banned from the site. While enjoying the area on foot has become easier, the increased accessibility needs to be balanced by careful monitoring and increased awareness of its sensitivity.

The Friends of Big Sandy Bay look forward to working with groups such as KFN to promote conservation of the area through the development of educational and interpretative materials. "The Friends"' goals for this year include rehabilitating some damaged sections of the dunes, planting native trees and creating a gathering area for groups at the entrance to the trail.

Visitors may access the trail at any time of year. However, they should be aware that the area is shared with deer and duck hunters. Visitor information is posted on the gatehouse near the entrance to the trail and the Big Sandy Bay Stewardship Committee has environmental stewards available to answer questions during the summer operating season.

For more information about the Friends of Big Sandy Bay and a description of the Big Sandy Bay Management Area, check out their new website at www.bigsandybay.ca or e-mail info@bigsandybay.ca.

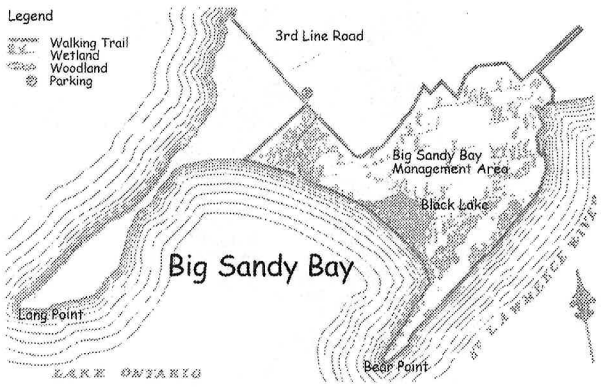


Illustration by Margaret Crothers

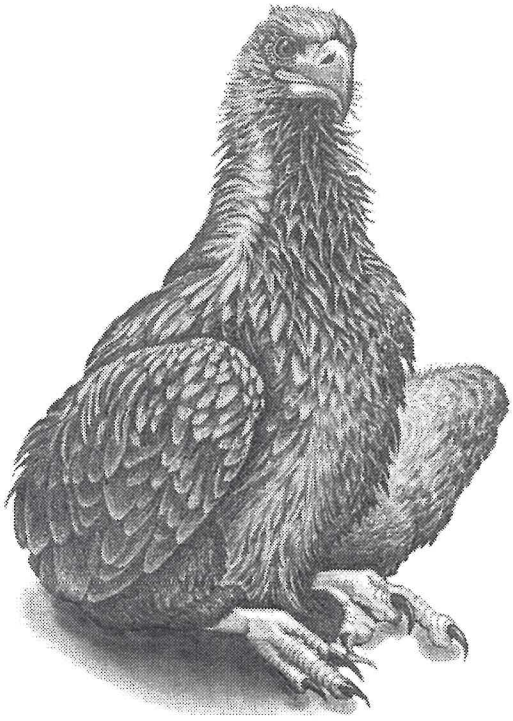
The Eaglet, the Auntie and the Outcome

Kit Chubb

Reprinted from Notes & Anecdotes Fall 2003, Avian Care & Research Foundation
http://www.kitchubb.ca

The story starts on July 8, 1991 on a fish-rich and residence-free lake in Ontario, where an eaglet tumbled from his nest in a White Pine tree. Though this one was not very high as Bald Eagle nests go, the youngster broke his wing and ripped his tail-stump, which soon became busily infested with blowfly maggots as he squatted on the shore squealing loudly to his parents. By the fish remains and white stripes radiating from him, we knew that he was being fed there. Some fishermen found him and helped get him to us.

Though we knew that his wing would probably have healed naturally if we had left him to the care of his parents, his tail-wound needed attention where the squirming larvae threatened the deep cup-like follicles holding his twelve newly sprouting tail-feathers—a damaged follicle can neither support nor nourish a feather, and an eagle needs his tail.



2300 g of eagle chick
By Kit Chubb

This was a big chick—2300 g, of which about 200 g was fish in his crop. An x-ray revealed a closed common or garden distal ulnar fracture; hundreds of these fractures have taught us this one was best left alone, which we did—no support, no bandages, no anything; after all, it had a built-in splint already: the radial bone next to it.

We concentrated on cleaning up his stinking wound. At the sink we hosed the great jagged tear, watching with satisfaction as thousands of maggots poured down the drain. Then back to the treatment table for a close look, tweezering out all the larvae we could see before thoroughly powdering it all with diatomaceous earth. All soft parts of bug bodies when pricked by sharp diatom fragments dehydrate and die; simple, quick, and non-toxic. We use it for lice, mites, hippoboscid flies as well as blowfly maggots, but it is sold for gardening.

Throughout this damp procedure the eaglet made no demur. An odd-looking creature this, topped with shaggy brown plumage, brown eyes and beak, and bottomed with thick buttercup-yellow legs and feet. Released into an aviary, he enthusiastically gobbled chopped mice (for now, better nutrition than fish) and sprawled out comfortably, baby-raptor fashion, to relax after all that fuss.

The next most important step for the health of this eaglet was to acquire a foster-parent, an "auntie," and being fresh out of them, we borrowed an unreleasable one from a distant wildlife centre. The adult soon adapted to the undisturbed aviary with its ferns and bushes in which the eaglet now rested in a nest I had improvised on a raised platform. To me this haphazard accumulation of sticks looked thoroughly uncomfortable, but he stayed there for some time before deciding to adventure groundward.

Meantime, he ate mice or chopped fish from a dog bowl passed through a small hatch at nest level. From a one-way window we were pleased to see "Auntie" spend long periods beside the youngster,

who squeaked softly to her. Her rôle was simply to keep him thinking "eagle."

For a few weeks they both spent most of their time wandering around the aviary, wading into the pool to seize live fish, or just loafing; eagles are not energetic creatures. One day a fisherman brought a large pickerel. Auntie promptly dragged it off for a private feast, but just as she got started, the dozing eaglet woke up and began to squeal anxiously. *Hey, wait for me!* Scrambling to his feet, he ran at the big fierce-looking adult and her fish, squealing louder and louder. Unseen at the window, we held our breath. Naturally the needs of the young prevailed, and Auntie reluctantly retired, leaving the eaglet to eat his fill.

On the 19th day I banded one of his big yellow legs, and with some Ministry of Natural Resources conservation officers we accomplished the most imperative step of all: returning our prize to his parents. Breeding Bald Eagles are quite rare in southeastern Ontario. Two days before, a sibling had also fallen, but was uninjured and just starting to fly with short practice bounds; probably he spread his wings on descent to soften the landing. Our younger eaglet would not be flying for at least another two weeks—his flight-feathers were still in blood (being nourished by their blood-supply) but we acted on the advice of Peter Nye, well-known American naturalist who has studied and banded hundreds of eaglets. Peter said to take him back at once and risk the predators: the family bond was all-important for his health.

So we all jumped to it, drove to the lake in question (because many eagles get shot, I have not identified it) and boated a long way to the island where we delicately ushered the 4230-gram youngster out of the box within four metres of his sibling. We spent the rest of the day quietly listening and watching the area and the adults, who were seen several times and were in attendance. Luckily, there seemed to be no raccoons on the island (we have seen large grounded eaglets eaten by them before) and curious boaters were diplomatically encouraged to keep moving.

A daily "eagle watch" rota was organized, some observers being Ministry, some being friends of ours. At their last report fifteen days later, the family remained intact, adults bringing fish to their audible but invisible young who were well concealed in cool heavy undergrowth. The future of these eaglets looked promising.

The eaglet's story ends twelve years later, with his band recovery on April 15, 2003. Our eagle's body was found in or near Duparquet, Quebec. Sadly, dead.

Mid-Winter Waterfowl Inventory for Kingston—9 January 2005

Ron D. Weir

The Mid-Winter Waterfowl Inventory (MWWI) was carried out throughout North America from 3-9 January 2005, and 15 members of the Kingston Field Naturalists surveyed the Kingston region from Ivy Lea to Prince Edward Point. The specific sections covered were Ivy Lea to Howe Island, Wolfe Island, Cataraqui River, Amherst Island, Kingston waterfront from Treasure Island to Collins Bay, Bath Road from Collins Bay to Glenora, Waupoos Peninsula and Prince Edward Point. Participants were Maureen Addis-Martin, Erwin Batalla, Betsy and Gaye Beckwith, Sharon David, Joel Ellis, Shirley French, Jay McMahon, Ken Ross, Bud Rowe, Bob Sachs, Shirley and Al Treganza, and Barb and Ron Weir. The results shown in Table 1 below were forwarded to Ken Ross of the Canadian Wildlife Service and to Ken Abraham of the Ministry of Natural Resources. Our sightings of Bald Eagles and Great Gray Owls are also included in Table 1.

Most moving and deep waters were open. The closed bays and shallow still waters were frozen. Large numbers of mergansers moved in after the Christmas Count on 19 December 2005 and some geese moved southwards. The 11,606 Long-tailed Ducks at Prince Edward Point reflect a return to the traditional long-term numbers for this time of year after several years of abnormally high counts. The 5,000 Redheads are a significant total. Lake Ontario at Prince Edward Point was open all the way east to the south shore of Amherst Island. However, the inshore bays at South Bay, Smith Bay and Waupoos were frozen, as was the channel along Long Reach. The shallow bays around Wolfe, Howe & Amherst Islands were frozen. Ivy Lea on the St. Lawrence River was also open as usual, and the St. Lawrence River west to Kingston was mostly open. The weekend of the census saw moderate cold with occasional snow that affected visibility.

The results of the survey for all of the Lake Ontario sites within Canada have been collated by Mr. Bill Edmunds of Toronto and are given in Table 2. Areas surveyed along Lake Ontario from east to west were Kingston, Quinte, Presqu'ile, Port Hope, Durham, Toronto, Hamilton and Niagara.

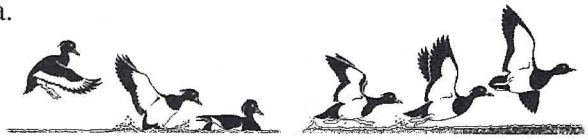


Table 1: Waterfowl Summary for Kingston, 9 January 2005

Species	Ivy Lea	Howe Island	Kingston Waterfr.	Cataraqui River	Amherst Island	Wolfe Island	Bath Road	Prince Ed. Pt.	Waupoos Peninsula	Long Reach [a]	Total
Red-throated Loon	-	-	-	-	-	-	-	1	-	-	1
Common Loon	-	-	1	-	-	-	-	1	-	-	2
Horned Grebe	-	-	-	-	-	-	-	1	-	-	1
Red-necked Grebe	-	-	-	-	-	-	-	1	-	-	1
Canada Goose	95	50	275	500	1249	2500	11500	120	2820	-	19109
Mute Swan	-	-	-	-	-	-	2	-	-	-	2
Trumpeter Swan	-	-	-	3	-	-	-	-	-	-	3
Tundra Swan	-	-	-	-	20	172	42	6	114	-	354
Gadwall	-	-	12	-	-	-	80	10	5	-	107
American Wigeon	-	-	-	-	-	-	2	-	-	-	2
Black Duck	-	3	65	11	242	390	2420	125	262	-	3518
Mallard	30	40	375	5	620	1010	13500	160	466	-	16206
Norther Pintail	-	-	-	-	1	-	2	-	2	-	5
Northern Shoveler	-	-	-	-	-	-	1	-	-	-	1
Redhead	-	-	2	-	-	5000	30	2	-	-	5034
Ring-necked Duck	-	-	2	-	-	-	1	2	-	-	5
Greater Scaup	-	-	80	-	-	1000	10	50	502	-	1642
Lesser Scaup	-	-	35	-	-	-	5	40	2	-	82
Scaup (sp)	-	-	-	-	-	-	-	-	246	-	246

Species	Ivy Lea	Howe Island	Kingston Waterfr.	Cataraqui River	Amherst Island	Wolfe Island	Bath Road	Prince Ed. Pt.	Waupoos Peninsula	Long Reach [a]	Total
White-winged Scoter	-	-	1	-	-	-	-	125	-	-	125
Black Scoter	-	-	-	-	-	-	-	1	-	-	1
Long-tailed Duck	-	-	-	-	-	-	-	11500	106	-	11606
Bufflehead	-	10	-	-	17	84	25	85	10	-	231
Common Goldeneye	576	517	230	65	474	750	1050	550	882	-	5094
Hooded Merganser	-	-	-	-	-	-	1	-	-	-	1
Common Merganser	5500	2480	225	50	3	600	175	110	27	-	9170
Red-br. Merganser	-	-	10	-	37	-	16	165	58	-	286
Ruddy Duck	-	-	-	-	-	-	2	-	-	-	2
merganser (sp)	-	-	-	-	25	-	-	-	76	-	101
American Coot	-	-	7	-	-	-	2	-	-	-	9
Unidentified dabblers	-	-	-	25	45	250	-	-	-	-	320
Unidentified divers	-	300	-	-	-	1500	-	-	100	-	1900
Total	**6201**	**3400**	**1320**	**659**	**2733**	**13256**	**28866**	**13055**	**5678**	**-**	**75168**
Bald Eagle	12	2	2	9	2	6	12	3	6	3	57 (36a, 20i, 1 U)
Great Gray Owl	-	-	-	1	1	-	-	-	2	-	4

a. The Long Reach was completely frozen.

Table 2. Lake Ontario Mid-winter Waterfowl Inventory, 9 January 2005 Compiled by Bill Edmunds

						TORONTO AREA										
Species	**Kingston**	**Quinte**	**Presqu' ile**	**Port Hope**	**Durham**	**Route1**	**Route2**	**Route3**	**Route4**	**Route5**	**Route6**	**Route7**	**Subtotal**	**Hamilton**	**Niagara**	**Total**
Red-throated Loon	1															1
Common Loon	2													1	1	4
Pied-billed Grebe														1		1
Horned Grebe	1				1		4				5		9	2		13
Red-necked Grebe	1													2		3
Double-crested Cormorant														36	35	71
Tundra Swan	354		31											1		386
Trumpeter Swan	3				2	21	6				4		31	151		187
Mute Swan	2	26	304		15	57	14	47	39	29	96	32	314	129		790
Greater White-Fronted Goose																0
Snow Goose																0
Brant																0
Canada Goose	19109	915	880	2498	1343	7361	154	75	46	150	291	2335	10412	2321	872	38350
Cackling Goose					4		1									4
Wood Duck											1		1			1
Green-winged Teal														4		4
American Black Duck	3518	1	24	54	46	54	5	50	23	20	103	100	355	199	20	4217
Mallard	16206	81	86	704	254	993	485	557	947	1071	1595	1230	6878	4923	660	29792

Species	Kingston	Quinte	Presqu'ile	Port Hope	Durham	TORONTO AREA Route1	Route2	Route3	Route4	Route5	Route6	Route7	Subtotal	Hamilton	Niagara	Total
Northern Pintail	5					1				1			2	26		33
Blue-winged Teal																
Northern Shoveler	1										6		6	22		29
Gadwall	107				16	4	3	159	157	38	328	159	848	210		1181
American Wigeon	2			2				8	12	13	3	12	48			52
Canvasback			1											148	4	153
Redhead	5034	16	1760	27	2	25		1006	785	109	382	58	2365	68		9272
Ring-necked Duck	5					1			1		1		3	31		39
Tufted Duck																
Greater Scaup	1624	51	1219	1095	3147	1615	5	484	958	62	12970	4935	21029	29508	5131	62804
Lesser Scaup	82					4	12	1	23	7	4	2	53	2678	2	2815
Scaup sp.	246		1					700					700			947
King Eider								1					1	1		2
Harlequin Duck				3		1				1			2			5
Long-tailed Duck	11606	1029	2477	257	815	125	3898	3801	867	5914	1367	97	16069	29886	2528	64667
Black Scoter	1													3		4
Surf Scoter								2	1				3	242		245
White-winged Scoter	125	38	20	7	21		2	16	32		6	28	84	15277	719	16291
Common Goldeneye	5094	279	1131	1475	1711	745	190	500	149	146	752	1201	3683	8509	1358	23240
Barrow's Goldeneye																
Bufflehead	231	170	151	202	411	421	152	274	143	167	321	505	1983	594	586	4328
Hooded Merganser	1	1	1				3	4	9	74	11		101	31		135
Common Merganser	9170	20	24	47	32	85	10	30	27	18	58	3	231	2641	1042	13207
Red-breasted Merganser	286		332	180	540	148	66	13	21	35	200	317	800	246	1898	4282
Ruddy Duck	2										2		2	241		245
American Coot	9					2					4		6	7	1	23
Swan sp.																
Merganser sp.	101															101
Duck sp.	2220		30		15										125	2390
Mallard X Black Duck				1				2		2			4			5
Total Birds	75149	2627	8472	6552	8375	11663	5009	7730	4240	7857	18510	11014	66023	98139	14982	280319
Total Species	28	12	15	13	16	18	16	17	18	17	23	15	26	32	15	36

Party-hours	37	8	8	16	13	9.5	10	8	7	7	8	9	58.5	25.5	14	180
Bald Eagle	57										1	2	3	1		61
Great Gray Owls	4		1	2	1			1					1			9

What Is A Bird? Part III: Spitfires & Chickens

Jerry Bloom

Reprinted from The Wood Duck, November 2004

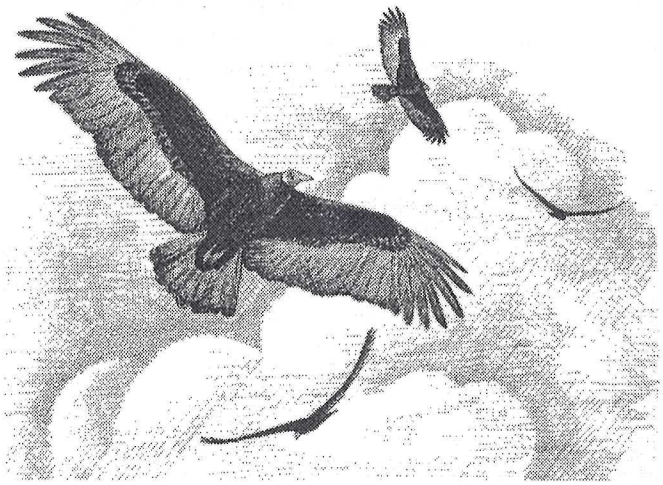
Birds depend upon feathers for the ability to fly. This is obvious—if you clip a bird's primary wing feathers, the wing area is greatly reduced and the bird can no longer fly. But the contribution of feathers to flight is in many ways subtle. To appreciate the details of how feathers enable and optimize the ability to fly, you need to understand the basics of aerodynamics.

All animals capable of powered flight (except the smallest insects) are governed by the same rules of aerodynamics that control the flight of aircraft. There are two pairs of opposing forces that must be considered. First, **LIFT**, the upward force produced by unequal air flow over the top and bottom of the wing, must be greater than **WEIGHT**, the force by which gravity pulls the bird to earth. Second, **THRUST**, the force moving the bird forward, must be greater than **DRAG**, the backward force caused by the friction of the air on the bird. Therefore, powered flight is only possible if LIFT is HIGH and/or WEIGHT is LOW, <u>and</u> if THRUST is LARGE and/or DRAG is SMALL. Feathers act in all four areas—producing lift, reducing weight, producing thrust and reducing drag.

In a fixed-wing airplane, the relationship between lift and thrust is fairly simple, because lift is produced exclusively by the wings while thrust is produced exclusively by the engines. Birds (and bats and insects) are much more complex. As in helicopters, the engine (flight muscle) moves the wings, which produce <u>both</u> lift and thrust. This is accomplished by the complicated cycle of motions we call a wing beat. During the wing beat the large primary flight feathers at the tip of the wing push air both downwards and backwards, creating lift and thrust. These motions, and the resulting forward motion of the bird, also cause air to flow more rapidly over the top of the wing than under it, generating more lift.

If you take a close look at a primary flight feather, you see that it is beautifully formed to be both a wing and a propeller. First, it is quite stiff, as it must be to carry the weight of the bird through the air. If you watch a very large bird, such as a Turkey Vulture, you can see the primary flight feathers bowed upward at the tips as they bear the weight of the gracefully soaring bird. The primary flight feather is also asymmetric in several important ways. The strong shaft is not central, but is close to the leading edge of the feather. This stiffens the leading edge as it cuts through the air. The outline of the feather is also asymmetric, being straighter in the leading than in the trailing edge, with a gracefully rounded tip. This is the shape of the wings of many high performance propeller-driven aircraft. The peacock primary feather that I'm looking at as I write is almost identical in outline to the wing of the famous Spitfire fighter aircraft of World War II.

The vane of the flight feather is also complexly curved in three dimensions, from tip to base and from front to back. These curves are responsible for causing the air flowing over the top of the feather to move faster than that flowing under the feather, producing lift. Because of the flexibility of the vane and shaft, these curvatures change during the movements of flight, varying lift and thrust from instant to instant. In this way the feather is far more sophisticated than any aircraft wing.



In most birds the flight feathers can be moved with respect to one another during flight, fanning out or folding together, or twisting up and down, changing the size and shape of the wing continuously. Thus the lift and thrust systems can be modified, as the bird requires, on a split second scale. Very large birds (watch those Turkey Vultures again) often hold their primary flight feathers widely separated (slotted) when soaring, using each one as a small separate wing. Conversely, tiny hummingbirds hold their flight feathers tightly together and beat their wings stiffly, as if they were formed of a single feather. In this way they can fly with the manoeuverability of a fly or a bee.

What do feathers contribute to the reduction of weight and the minimization of drag? Well, weight is easy. Feathers are as light as . . . feathers! I have an eagle primary flight feather that I found on the banks of the Churchill River in Northern Saskatchewan over 30 years ago. It is more than half a meter long, seven centimetres wide, with a shaft almost one centimetre in diameter. Yet it weighs only four and a half grams, about the weight of a nickel! The very properties that make feathers such good insulators are a very important factor in reducing the weight of flying birds. Birds, masters of lightness, also have many other weight reduction tricks up their sleeves (up their wings?), and we'll look at those another time.

Drag is caused by friction with the air, and is reduced by streamlining. Compare the shape of a jet airliner with that of a bulldozer, and imagine which will slip through the air more easily. Birds tend to look a lot more like jet planes than bulldozers—pointed at the tip, smoothly tapering up to a wider mid-section, and smoothly tapering down back to the tail. Or do they!? Look at a plucked chicken. Stretch out its neck, and imaginatively reattach the head. Is the result streamlined? Well, a chicken is not atypical—most birds have the same blocky, bulbous shape under their feathers. It is the stiff, smooth plumage that provides birds with their wonderful aerodynamic shapes, smoothing the superbly functional (but not very streamlined) biological machinery beneath. Indeed, the term for most of the visible body plumage is contour feathers, because these feathers give the bird its outer form.

Sometimes, however, drag is a good thing, especially if you want to turn or slow down. Manoeuvring birds deploy both wing and tail feathers to change the balance between thrust and drag, and thus slow or turn. In particular, drag produced by the tail feathers allows the tail to act as both a rudder and an air brake. Long tails produce greater drag than shorter ones, resulting in potentially greater manoeuvrability, but at the cost of some speed. Very long or elaborate tails, like those of pheasants and whydahs, may even be a hindrance to flight. These birds "tolerate" this interference because these very long feathers also serve an unrelated, but very important function—display and communication.

More on the role of feathers in display and communication next time. Until then, lift your burdens cheerfully, and don't drag your tail!

Notes on Natural History
No. 131, April 23, 1962

Helen R. Quilliam

Our present (year) list covers more than a month and reflects the beginning of the return of some of our resident birds and of many of the migrants.

There are two birds on this list which are rarely seen here, one from the far north and one from the south-the Great Gray Owl and the Carolina Wren, respectively.

The Great Gray Owl is much the rarer of the two. In fact, there has been only one previous Kingston record of this owl and this was as long ago as 1951 on April 21.

The bird on our list, first discovered by J.A.Warren, stayed in the vicinity of the Bath road for about three weeks and was seen by many people including members of the Kingston Nature Club.

Unless you live deep in the north woods the chances of seeing this owl are remote, so its appearance here was an event of no little importance.

It is our largest owl with a wingspread of five feet. The body, however, stripped of its thick long feathers, is smaller than that of a Great Horned Owl. Its long loose plumage and long tail give it an appearance of great size.

For its size it is one of the lightest birds we have, weighing only one to two lbs., yet it measures from bill to tail 27 inches.

A blue goose of comparable length weighs about five pounds. It is amazing that the comparatively tiny body, compared with the bulks of the bird, can keep up the huge wings, heavy claws and enormous head.

The range of the Great Gray Owl is in the timbered regions of central and western Canada, from Hudson Bay westward to Alaska and the Pacific coast.

In its normal habitat it is a forest bird. This visitor to Kingston, however, did not keep to the woods but was frequently seen on fenceposts and willows alongside the road.

In the summer in the north, because of the almost continuous daylight, it must of necessity hunt during the day.

While it was here it often flew from one side of the road to another and on several occasions was seen to capture meadow mice during the day.

These owls have a reputation for being rather tame and this may account for the very exposed place which it chose for its perches on a number of occasions, very near the road.

Normally this owl does not migrate and with its warm covering of feathers is well suited to stand the most rigorous winters. However, if its food supply is short it must come south looking for food.

There have been one or two other reports of its appearance in southern Ontario this winter.

When deep snows cover the runways of mice and when rabbits and ptarmigan are scarce in the northern wilderness then there may be a southward invasion of these birds.

There was a famous [invasion] in 1889-90 when, before the days of protection for owls, many were shot and found their way into the hands of the taxidermists. Then, considerable numbers of these owls passed eastward along Lake Ontario.