

THE  
BRODIE  
CLUB



ROYAL ONTARIO  
MUSEUM OF ZOOLOGY

### THE 1008<sup>TH</sup> MEETING OF THE BRODIE CLUB

The 1008<sup>th</sup> meeting of The Brodie Club was held on Jan. 16, 2007 at the Ramsay Wright Zoology Laboratories of the University of Toronto.

Chairman: Glenn Coady  
Secretary: Oliver Bertin

There were 25 members and five guests.  
Peter Webb, guest of John Speakman  
Linda Weseloh, guest of Bruce Falls  
Jeremy Hussell, guest of Ed Addison  
John Carley, guest of Coady  
John Nishikawa, guest of Kevin Seymour  
John Saunders, guest of Sandra Eadie and Bertin

The minutes of the December meeting were approved with minor changes.

#### NEW BUSINESS:

Ann Falls welcomed new members Glenda Slessor and Bob Curry to The Brodie Club.

Carley, chair of the Friends of the Spit, gave notice of a public presentation on Jan. 17 where city consultants were due to present their views on Lake Ontario Park, a new public area that would extend from Toronto's Cherry Beach to the R.E. Harris water-filtration plant at the border with Scarborough. "The park will change the waterfront for ever," Carley said, and not necessarily in a way that everybody will like. Bertin went to the meeting. His impression was that the consultants are planning something for everyone and ending up with a hodgepodge that will suit nobody. They plan to build a "wildlife" marshland, a "wildlife" waterfowl reserve, "wild" sand dunes, "natural" cross-country skiing and a "wildlife" causeway over a natural canoe-racing course. But they plan to mix in soccer fields and baseball diamonds and volleyball courts and boardwalks and restaurants and just about anything else they can cram into a narrow strip of beach. The project is midway through stage three. Stage four is construction.

Falls announced that member David Tomlinson will speak on *Selecting, designing, managing and monitoring urban wildlife areas* at the next meeting, on Feb. 20. James Fuller of UofT's Erindale campus will speak on bats in March and ROM archaeologist Peter Storck will take us back to the Ice-Age palaeo-Indians in April. The May meeting is still open for suggestions.

SPEAKER:

The speaker was Chip Weseloh, a PhD graduate in urban ecology from the University of Calgary, who switched to ornithology at the Calgary museum. He spent 18 years with the Canadian Wildlife Service at the Canadian Centre of Inland Waters in Burlington, Ont. where he works on a variety of aquatic birds, including cormorants.

DOUBLE-CRESTED CORMORANTS of the GREAT LAKES,  
LAKE ONTARIO & TORONTO HARBOUR

Cormorants may be one of the most visible birds along the shores of the Great Lakes – and especially in Toronto harbour – but they are relative newcomers to the Great Lakes. Until World War I, they were restricted to the Lake of the Woods area. But they arrived in Thunder Bay in 1913, Lake Nipigon in 1924, Sault Ste Marie in 1931, Midland and Pelee in 1936 and Kingston by 1945.

They peaked at just under 1,000 nests on the Great Lakes in 1950, before being knocked back by DDT etc to a low of only about 100 nests. The real growth spurt started around 1972 when the population exploded by 23.7 per cent a year, reaching a peak of about 115,000 in the Great Lakes in 2000.

There are many reasons for the contaminants, increased food, reduced on all the Great Lakes.

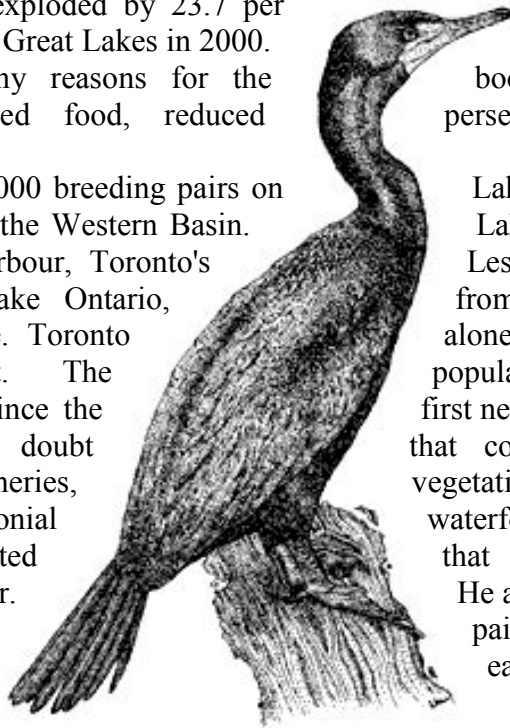
There were 17,000 breeding pairs on them in the islands of the Western Basin. pairs, in Hamilton harbour, Toronto's islands of eastern Lake Ontario, the east side of the lake. Toronto colonies on the spit. The per year on average since the

There is little doubt impact on local fisheries, site, and on other colonial

Weseloh estimated 1,700 tons of fish a year. a population of 6,257 young per nest, 169 days a year.

Cormorants aren't the biggest fish-eaters in the lakes, however. Weseloh cited a 2003 study that estimated that Red-breasted Mergansers eat 7,000 tons of fish in western Lake Erie, or 35 per cent of all the fish consumed by waterfowl. Cormorants took 5,900 tons or 31 per cent, Herring Gulls 1,600 tons or 8.5 per cent and Common Mergansers 1,100 tons or 5.9 per cent. Together, these four species account for more than 80 per cent of all the fish taken by birds in the lake.

Cormorants cause considerable damage to trees because their droppings are high in ammonia, nitrogen and phosphates, high enough to kill trees and ground cover. Weseloh looked at Middle Island, a Canadian island south of Point Pelee in Lake Erie where the proportion of



boom. Weseloh mentioned reduced persecution and legislated protection

Lake Erie in 2006, virtually all of Lake Ontario had 21,000 breeding Leslie Street Spit, and among the from Brighton to Kingston and down alone has about 6,150 pairs in three population has grown by 36 per cent first nest was found in 1990.

that cormorants have a considerable vegetation at the breeding and roosting waterfowl.

that the Toronto colony eats about He arrived at this figure by estimating pairs or 12,514 adults, plus two eating one pound of fish a day for

healthy trees fell to 61 per cent from 93 per cent over an eight-year period. During the same period, the proportion of unhealthy trees rose to 32 per cent from six per cent.

Cormorants also cause considerable damage to other birds' nests. In Western Lake Erie, the number of Black-crowned Night Heron nests fell to about 300 from 4,100 in 26 years, while Great Blue Herons nests have fallen to 2,100 from 2,300. Great Egrets peaked at 1,500 before falling back to 1,000.

Night herons appear to be most threatened by the cormorants. Weseloh looked at 44 night heron colonies around the lower Great Lakes. Nearly 30 per cent had been abandoned and nine per cent of the nests were taken over, with another 23 per cent of the colonies under potential or probable threat. Put another way, more than 60 per cent of the Night Heron colonies on Lake Ontario have been affected by cormorants.

With Great Blue Herons, 27 per cent of the nests were taken over and nine per cent abandoned. Another 45 per cent of the colonies faced a probable threat. With Great Egrets, 85 per cent of the colonies faced possible or probable threats, while 7.7 per cent had nests that were taken over. None had been abandoned.

In other studies, there were aggressive interactions and nest take-overs between the species in about a third of the sites.

There have been many attempts to control the population of cormorants, usually without long-term success. Weseloh reported on a study which compared a managed with a controlled site. There was no significant difference between the brood size and nest-failure rate for Great Blue Herons or Great Egrets at either place.

Weseloh also reported on Cormorant tracking studies. Nearly 20,000 Cormorants have been banded over a 10-year period in James Bay and a large number of sites around the Great Lakes, from Lake of the Woods to the St. Lawrence River, down to Lake Oneida and Lake Champlain in New York State.

It was clear that cormorants move great distances – to Kingston from Green Bay, Wisc., and Toronto, Lake Champlain and Lake Oneida with most of the travelling done in May, with a small peak in July.

Weseloh concluded that:

- The Great Lakes population of cormorants has risen to 119,000 pairs in 2005 from 100 pairs in 1973.
- There are 6,300 breeding pairs in Toronto Harbour in 2006, up eight per cent from the previous year. The first nest was found in 1990.
- Cormorant management/culling has a minimal impact on herons and egrets.
- Cormorant management led to increased aggressive behaviour between the species.
- Great Blue Herons appear to be more sensitive than egrets.
- Other cormorants move in to replace culled birds. In eastern Lake Ontario, cormorants have flown in from 13 different sites around the greater Great Lakes, including the Montreal area, the Niagara River and Green Bay.

## QUESTIONS:

- Weseloh has provided a copy of his powerpoint presentation to the Brodie Club. Please see Bertin if you would like a copy.
- Cormorants are opportunistic feeders that take whatever fish is available, including alewives, yellow perch, smallmouth bass, pike and salmon. They also eat gobies, an invasive species.
- While cormorants eat a considerable amount of fish, they appear to take only a small amount of the biomass available. They tend not to compete unduly with the angling fraternity. The carrying capacity of the lake is not known.
- There are commercial fishermen on Prince Edward County, Presqu'ile Point and Lake Erie, but they tend to go after perch and pickerel.
- Cormorants are protected by provincial regulations, not the federal migratory act. Ontario would prefer not to have cormorants in the inland lakes.
- Cormorants are destroying the Carolinian forest on Middle Island, south of Pt. Pelee. But that doesn't necessarily mean they should – or could – be removed.
- Mutated cormorants are still found, with crossed bills and the like. But the number is far less than during the DDT days of the 1960s.
- Culling cormorants does not appear to have any long-term effect. Culling has to be repeated every three or four years at every location where the birds choose to nest.
- Great Blue Herons appear to move in when the cormorants are culled. Then the cormorants come back and drive the herons away. Despite this, the population of Great Blue Herons and Great Egrets is rising in the Great Lakes.
- Many cormorants die of botulism they pick up from contaminated fish. Botulism is associated with anaerobic decomposition of the lake bottom.
- Angry fishermen have shot cormorants in large numbers. In one case, they were fined \$2,000 and given six months house arrest.
- Egg-oiling is a slow process. It takes about three years to have any effect, it only affects 10 to 20 per cent of the population and it has no long-term effect.
- Cormorants are appearing in the interior lakes, in Abitibi, Nipigon, Algonquin and Lake Muskoka. They are growing slowly, but the population is unlikely to grow very fast unless there is enough food for them.
- Culling has a short-term effect. About 10,000 birds were shot at Presqu'ile, knocking the population back for a short time.
- Culling merely moves cormorants around from one breeding ground to another.
- Cormorants have probably been around for a considerable period. They were not mentioned in diaries from the mid-nineteenth century.
- Nobody is sure why the population suddenly exploded, but it could be related to the removal of top predators and the consequent explosion in populations of alewives and smelts.

The speaker was thanked by Curry.

### NOTES & OBSERVATIONS:

- Bertin went to British Columbia for two weeks in mid-December, in the middle of the wildest, wettest winter weather in years. Winds reached 110 kph while he was there, and more later, downing 1,000-year-old trees in Stanley Park, Squamish and Cathedral Grove. He saw a lynx bounding across the road 30 feet in front of his car on a dirt road south of Whistler, B.C., a lithe animal, three-feet high at the shoulders, tawny with short tail and big feet. Went to Brackendale, a Bald Eagle observation station just north of Squamish, at the bend of a shallow gravel river where dead salmon drift by and are easy to grab. The site is maintained by the local Eagle Watchers naturalist group, who have erected a permanent structure and conduct school tours, with binoculars set at the proper height for 14-year-old budding naturalists. He saw perhaps 30 Bald Eagles within clear view, some as little as 20 feet away, some juveniles, some adults ripping apart dead salmon. Local naturalists said several hundred eagles winter there. He was told the eagles never bother other birds — at this time of year anyway. Gulls stood five feet away from the Bald Eagles, waiting for an opportunity to grab the scraps of left-over salmon, while pairs of Red-breasted Mergansers, Harlequin Ducks, Buffleheads (all ID'd by local experts) bobbed away in the river, 30 feet from the Bald Eagles, seemingly oblivious to the threat nearby.
- Curry commented on the incidence of woodpeckers in Algonquin Park, in and about fallen trees. Falls observed a Black-backed Three-toed Woodpecker on the ground trees near his cottage in Aspley. Addison spotted the species in Algonquin after Christmas. There was no doubt they had been in the trees for a long time.
- Helen Juhola saw some Black-crowned Night Herons on Etobicoke Creek in late December.
- Ellen Larsen showed her students some potter wasps, which construct "abodes" for their eggs. They place one egg and many comatose – but living – prey in each compartment of the nest for the larvae to eat. In southern Ontario, they usually prey on caterpillars, but some species also feed on aphids. Larsen mistakenly thought the prey in one case were aphids, but (UofT zoologist) Chris Darling said they were actually bark lice (Psocoptera). Matthias Buck from Guelph said this was the first example of such prey in North American potter wasps, although some European species do use bark lice. And this is happening on the edge of the Carden Alvar!
- George Bryant has seen a huge number of gypsy-moth egg masses this year, including 28 near each other in Toronto's Mount Pleasant Cemetery.
- Ken Abraham commented on the Ontario Mid-Winter Waterfowl Survey this year. Over 14,000 Tundra Swans were counted, mostly on Lake St. Clair and Lake Erie, but some were also on Lake Ontario. The majority of Eastern Population Tundra Swans (about 75,000) winter on the United States east coast in the mid-Atlantic states. Formerly the whole population wintered there, but it has been found in recent years that as many as 15 to 20 per cent of the EP Tundra Swans are now spending part or all of the winter in the Great Lakes.
- Abraham added that a single Green-tailed Towhee was banded this past year at Thunder Cap Bird observatory. The bird was photographed in December at a feeder in northern Minnesota.
- Kevin Seymour noted that the Long Point Christmas bird count was completely average despite the abnormally warm weather this fall.
- Coady agreed there was an average number of species – and sprouting dandelions – on the Toronto Christmas bird count.
- Helen Juhola noted that spring bulbs are already sprouting.

The meeting adjourned at 9:19 pm.

NEXT MEETING:

Member David Tomlinson will speak on *Selecting, designing, managing and monitoring urban wildlife areas* at the next meeting, in Rm 432 of the Ramsay Wright Zoological Laboratories of the University of Toronto, at 7:30 pm on Feb. 20, 2007.

### Lichens for Caribou

By Yorke Edwards  
Our Western Correspondent

Santa Claus must put lichens on his sled when going around the world. When reindeers are hungry they eat only lichens that grow on the ground in the Arctic, as well as on the ground and trees of forests, farms, and in some cities.

Wild caribou live around the top of the world. They are named caribou in Canada and Alaska, but in Eurasia the English people call them reindeers. There are four other names too, in Russia, Finland, Sweden and Norway. There, many people use caribou like our farmers use cattle and horses. Through Eurasian winters, reindeers pull people along on sleds over snow and frozen rivers, while in summer they carry people or pull them along on wagons. Tame reindeer in Eurasia give people milk, meat, leather and a vehicle for riding, like horses.

Lichens are the main caribou food everywhere. Many kinds of lichen grow on the Arctic ground, while other kinds grow on the ground or trees in northern forests. Some caribou live in southern Canada, living high on cool mountains a short distance from the United States. I once saw two caribou standing near the road on B.C.'s most southern highway, high up, near the south edge of Canada. They were probably a mile from the United

States. Others live in the high mountains of northern Montana, Idaho and Washington.

Through the 1960s, when I was in the B.C. Parks Branch, I went often into Wells Gray Park, a huge area with lakes, rivers and big-tree forests on the low flat lands, as well as forests that go up mountains to levels where it is too cold for the trees. There are many kinds of little plants above the forest, on small flat places. Through summer, the caribou live above the forest, eating lichens that are scattered on the flat ground. In late autumn when snow covers over the deer's food, the caribou go down into the forest where there are lichens of many kinds on branches of many trees. The caribou must eat lichens so, in the forest, they reach up into the trees, well above their heads, often standing on their hind legs.

Reindeers are used in winter for pulling sleds over the land and on frozen rivers in Asia and through the cold winters of the mountains in western Russia. In winter, a man sits at the front of a sledge going to town in winter. In summer, their reindeers are used for travel, like our horses. In the western mountains, people have many ancient trails that are hundreds of years old. Where two trails meet, there is sometimes a 'reindeer stone,' a carved caribou with all legs horizontal, two forward, two backward. One wonders why they were made, and why they were put there.

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