

THE
BRODIE
CLUB



ROYAL ONTARIO
MUSEUM OF ZOOLOGY

THE 1,023 MEETING OF THE BRODIE CLUB

The 1,023rd Meeting of the Brodie Club was held at 7:30 pm on Oct. 21, 2008 in Room 432 of the Ramsay Wright Laboratories of the University of Toronto.

Chair: John Riley

Secretary: Oliver Bertin

The meeting was attended by 22 members and six guests:

Pleasance and Chuck Crawford, guests of Aarne Juhola

Dorothy Andrews and Barbara Welch, guests of Fred Bodsworth

Brenda Gibson, guest of John Sparling

Andrew Jano, retired MNR biologist who joined the Iron-Abraham trip, guest of Bruce Falls

Several members, including Ed Bousfield and Ken Abraham were unable to attend the meeting because of an early snowfall. Other members were traveling.

Announcements:

The current slate of Club officers were re-elected to their current positions. The officers for the current session will be:

- Secretary: Oliver Bertin, with help from many other members (thank you)
- Treasurer: Aarne Juhola
- Membership Committee: George Bryant, Ann Falls, Kevin Seymour, Jennifer Young
- Program Committee: Ed Addison, Hugh Currie, Bruce Falls, Jock McAndrews, Jim Rising
- FON (Ontario Nature) Representative: Trudy Rising
- Archives: Alexandra Eadie, Kevin Seymour

• John Speakman was made a Member of the Order of Canada in the July 1 honours list for his work treating Inuit people, starting in the late 1940s. He joins Harry Lumsden, who was made a Member in 2004, and Ron Tasker, who was made an Officer in 2005. We have some illustrious members in our club.

From the official announcements by the Office of the Governor General of Canada:

John S. Speakman, C.M.
Toronto, Ontario
Member of the Order of Canada

For his contributions as a professor, clinician and volunteer ophthalmologist who has provided comprehensive eye care to First Nations peoples in Canada's North.

Harry G. Lumsden, C.M.
Aurora, Ontario

Member of the Order of Canada

He provides a strong example of how, by working together, we can make a lasting contribution to conservation. A retired biologist and research scientist with Ontario's Ministry of Natural Resources, Harry Lumsden is an international authority on the grouse family and waterfowl. As well, he has shared his knowledge of aviculture with the general public. He has inspired volunteers to follow his lead in breeding Canada geese and trumpeter swans, successfully reintroducing these birds to Ontario. Known for his passion and dedication, he continues to stimulate public interest in wildlife conservation.

Ronald R. Tasker, O.C.
Toronto, Ontario

Officer of the Order of Canada

Professor emeritus at the University of Toronto, Ronald Tasker is a world renowned neurosurgeon as well as a caring physician, teacher and mentor. His meticulous study of the human brain's deepest centres has broadened our understanding and improved the quality of life for people living with Parkinson's disease and other forms of tremors, involuntary movements and chronic pain resulting from cancer and other diseases. Involved in the community, he has served with environmental organizations such as the Ontario Federation of Naturalists and has written handbooks cataloguing the various species of plant life, butterflies and birds that are popular guides for nature enthusiasts.

- **Harry Lumsden** took another honour earlier this month, when he was given the Distinguished Ornithologist Award by the Ontario Field Ornithologists. The presentation was made Oct. 4 in Hamilton.
- **Fred Bodsworth** celebrated his 90th birthday on the Thanksgiving Day weekend, while birdwatching for the 35th year, at the Bracebridge Sewage lagoon.

Among the lesser events this month,

- **Jim Bendell** fell down the stairs at his home in the Ottawa Valley and tore some ligaments. He is slowly recovering.
- **Clare Muller** is still battling wind power turbines at her home on Wolfe Island, across the river from Kingston, Ont. Canadian Hydro Developers is currently building about 84 windmills on the island. Bertin noted that in England the Ministry of Defence is banning turbines in certain locations on the grounds that they disrupt defence radar systems. The U.S. Air Force has objected to turbines in Canada for the same reason. There is talk about building wind farms along the eastern shore of Georgian Bay, in Lake of the Woods and along the Scarborough Bluffs in Toronto. Germany, however, is exporting 10,000 to 15,000 turbines a year, but has reportedly halted their use at home.
- **Aarne Juhola** is still looking for a few members to collect this year's dues – \$10 for individuals and \$15 for couples.
- **Bruce Falls** has lined up a full slate of speakers for the coming season. The November speaker will be D'Arcy Jenish, who will talk on the 18th century explorer, David Thompson, who walked 55,000 miles, to Lake Athabaska for the Hudson's Bay Co. and to the mouth of the Columbia River for the North West Company. A popular historian, Jenish wrote *Epic Wanderer: David Thompson and the Opening of the West* in 2004. It lists for \$21.95 at Chapters. He has also written on the last days of the Blackfoot and on the Stanley Cup.

Speaker:

The speaker was member **Jean Iron**, a long-time member and seasoned Arctic traveler. (The following is an edited version of Jean's notes. I can send a PDF of the original to anybody who would like one.)

**Akimiski Island in James Bay, Nunavut
Summary for Brodie Club by Jean Iron
October 21, 2008**

This summer, Jean Iron spent seven weeks researching shorebirds with Ken Abraham, a Brodie Club member and research scientist with the Ontario Ministry of Natural Resources (OMNR), assisting a student, Lisa Pollock, who has undertaken a major shorebird project to understand the importance of Akimiski Island to migrating shorebirds. The presentation was in two parts: Part 1 was conducted in the spring, from May 22 to June 11, and part 2 in late summer from August 1 to 25.

With an area of 3,208 square kilometres, including tidal mudflats, Akimiski Island is the largest island in James Bay, which is an extension of Hudson Bay cutting deeply into central Canada. It is south of the latitude of Edmonton, Alberta, yet its climate is subArctic. It is part of Nunavut.

Akimiski Island is uninhabited. The closest people are the Attawapiskat First Nation Cree, an isolated community on the Ontario mainland on the west coast of James Bay, one of the most important areas in the world for migrating shorebirds. They saw the island across the 19 km strait that separates the island from the mainland and called it Akimiski, meaning *The Land Across*. It is pronounced *Akamaski*. Akimiski's north coast has huge mudflats and a myriad of tidal pools.

Part 1, May 22 to June 11, 2008

Jean, Ken and the research crew reached camp on the north shore of Akimiski by OMNR de Havilland Twin Otter, a Canadian plane known worldwide for its reliability. It has huge balloon or donut tires for short take off and landing on rough gravel beach ridges.

The 40-minute flight from Moosonee took them up James Bay, which in May was covered in sea ice. The land warms up faster than the sea. From the air, they saw trees on ancient beach ridges, interspersed with wetlands. The interior is wet, with large muskeg, fens, bogs and prairie-like expanses. The highest elevation is 31 metres.

The MNR camp is on a small promontory facing James Bay to the north. Behind is boreal forest with spruce bogs and fens. Pack ice was still on shore.

Sixteen people were in camp under the direction of Ken Abraham, Research Scientist with OMNR in Peterborough. Erica Nol, professor at Trent University, advised Lisa Pollock about the shorebird project. Erica is known for her shorebird research, especially Semipalmated Plovers, on Akimiski Island, Churchill and Southampton islands, while Lisa's work marks the start of quantifying the importance of the tidal mudflats to migrating and staging shorebirds. OMNR and Trent have a close working relationship.

Ken's interests are wetlands, waterfowl and shorebirds. He heads long-term studies of the reproduction and survival of the interior subspecies of Canada Geese on Akimiski and the Hudson Bay Lowlands. Another major study is on Lesser Snow Geese, with the most southerly breeding population in the world on Akimiski Island.

While Canada Geese and Snow Geese nested, large numbers of Brant from the Atlantic coast were fattening up on emerging grass before migrating farther north to breed in the Arctic.

Marbled Godwit Mystery. This species' main breeding area is the northern Prairies. A small outlier population breeds on the west and south coast of James Bay, and on Akimiski Island. There are two mysteries: Where do these Godwits go for the winter and where on Akimiski Island do they nest? To help solve the mystery, Ken invited Bridget Olson of the Bear River Migratory Bird Refuge in Utah and Adrian Farmer of the U.S. Geological Survey to put satellite transmitters on five Akimiski godwits. We caught five, put satellite transmitters on them, cut a covert feather for isotope analysis and then released the birds. In part 2, Jean showed what we learned.

Shorebird migration north to the Arctic breeding grounds is more rapid than southbound. We saw large flocks of shorebirds flying northwest. Most did not linger to feed.

Common spring migrants included hundreds of Lapland Longspurs, Snow Buntings and American Pipits, which were migrating further north to the Arctic.

Researchers noticed the beauty of Akimiski's subArctic vegetation: the low-growing plants, mosses, lichens and plants with large and waxy leaves that were adapted to cold and moisture conservation.

Snowshoe Hares and Red Foxes were the most common during the spring study session.

Most of the crew departed camp on June 11, disappointed because they wanted to see Polar Bears, but all they saw were the occasional tracks. The bears were still on the sea ice hunting seals, which they do until the ice melts and they are forced ashore.

Part 2, August 1 to 25, 2008

Jean returned to Akimiski Island on August 1 to assist Lisa with her shorebird research, and to count and age shorebirds. The crew of six soon met its first Polar Bear. The crew had to change its plans to get along with the bears that shared the island with them. Lisa rearranged her research and the crew worked close to camp.

The crew learned much about Polar Bear behaviour. Akimiski is the most southerly summer home to Polar Bears in the world, with about 50 bears that summer along the north shore. Having them around was scary but the bears were not aggressive. They were very curious, and wanted to sniff the crew, but did not growl or behave in a vicious way. Four females made frequent visits to the camp. One had three cubs; one had two cubs, which is the most common number; and two females had one cub each. Polar Bear cubs are born in the female's winter den in December or January. The female takes them out on the sea ice to hunt seals, and they come ashore in the summer when the ice melts. The cub stays with the mother for two to two and a half years. Female bears are ideal parents, taking great care of their young. The young have a strong attachment to their patient mother.

Jean's main role was to help Lisa count each species of shorebird, determine their ages and provide information on molts, plumages and movements. The most common shorebirds were White-rumped and Semipalmated Sandpipers that had bred farther north and were fattening up before flying to South America. There are two age classes, adult and juvenile. Adults in all shorebirds migrate first.

Jean's photos showed several species of shorebirds, and she pointed out their ages. The list included adult and juvenile White-rumped Sandpipers, Semipalmated Sandpipers, Hudsonian Godwits, Whimbrels, and Ruddy Turnstones, juvenile Short-billed Dowitchers and adult Black-bellied Plovers.

At high tide, the crew saw molting adults and juveniles of the presumed *rufa* subspecies of the Red Knot. This eastern population has declined severely and is now on the COSEWIC Endangered Species list.

Lisa is also doing important research into what the shorebirds are eating. She caught a lot of flies (Diptera) on the screen. Important shorebird foods are flies and their larvae in the mud, marine worms, tiny snails and crustaceans. Assistant Professor David Beresford of Trent University, an entomologist, advised Lisa and did his own experiments, which included using two dead Canada Geese to attract insects. Most shorebirds have lice, and David collected lice samples from birds being banded. He said these lice eat feathers and dead skin, rather than sucking blood, so they probably don't harm the birds..

Banding was undertaken during the daylight to avoid conflict with bears and ministry regulations. It was difficult to catch birds during her day, but they did catch 10 species. For her research, Lisa wanted to know how long the shorebirds stayed in the area. Every day, Lisa and Jean checked hundreds of shorebirds for re-sightings of banded birds.

Mammals that were seen included a Lynx, which dashed out on the mudflats after the Canada Geese. Snowshoe Hares came into camp, but were not as numerous as in the spring.

Wildflowers were beautiful. There were huge expanses of Marsh Ragwort *Senecio congestus*, Balsam Groundsel *Senecio pauperculus*, Northern Grass-of-Parnassus *Parnassia palustris*, Prickly Saxifrage *Saxifraga tricuspidata*, Arctic Gentian *Gentianella propinqua*, Sea-Purslane/Seaside Sandwort *Honckenya peploides*, Arctic Daisy *Chrysanthemum arcticum*, and Mountain-Avens *Dryas integrifolia*. Most names follow Riley 2003.

Berries are important food for birds and mammals. Canada Geese feasted on Buffaloberries or Soapberries *Shepardia canadensis*, which contain a chemical that causes a soaplike foam.

Marbled Godwit Mystery: Part of the Godwit mystery was solved. Previously, it was speculated that Marbled Godwits wintered in Georgia and the Carolinas. But researchers were surprised that all five godwits that were equipped with satellite transmitters this year went west, following the path of a Godwit last year.. Four are now on the coast of the Sea of Cortez, Mexico. One lost its transmitter or died, just north of Las Vegas. The group had less success with the second part of the mystery: Where do they nest? We saw at least eight different fresh juveniles, but Marbled Godwit nests are hard to find, and no one this summer found one on Akimiski.

Before leaving, the crew had several days of 28°C weather, so they swam in James Bay. The shallow water was a very warm 27°C, warmer than Lake Ontario.

Next year, Lisa will continue her important shorebird research under the direction of Ken Abraham and Erica Nol.

Back in Toronto, Jean is wondering how the female Polar Bear and three cubs are doing on the vast unspoiled wilderness of Akimiski Island, and the bears too may be wondering if the researchers will return next year.

Jean provided the following links:

Photos and information: <http://jeaniron.ca/2008/Akimiski2008/index.htm>
and <http://www.jeaniron.ca/2008/AkimiskiAug08/index.htm>

Akimiski Marbled Godwits: <http://www.fort.usgs.gov/Resources/GoGodwits/>
See maps of godwit numbers: 70541, 75688, 75689, 80794, 80795

Climate Change and Hudson Bay Polar Bear Research:
http://www.mnr.gov.on.ca/en/Newsroom/LatestNews/MNR_E004159.html
and http://assets.panda.org/downloads/obbard_et_al_cern_3.pdf

Questions:

- **Sandra Eadie** asked whether local polar bears hibernated in summer. Unlike Black Bears and Grizzly Bears, Polar Bears do not hibernate. In summer Polar Bears dig pits to keep cool. In winter females give birth in snow dens, but they are not hibernating.
- **Fred Bodsworth** asked what made Akimiski special. The extensive mudflats provide food for hundreds of thousands of migrating shorebirds. The island is exposed, isolated and cool. The Quebec coast of James Bay is rugged while the Ontario coast of James Bay and Akimiski Island have extensive tidal flats important to shorebirds.
- **Harry Lumsden** said polar bears appeared remarkably fat on Akimiski Island this summer, unlike the bears farther west in southern Hudson Bay, where they are reported in poor condition. Part of the problem appears to be climatic change. Jean replied that the ice has gone out 9.5 days earlier in the spring each decade for the past 20 years, and probably comes in later in fall. That means bears have less time to fatten and spend about a month longer on land, fasting. Jean noted that females and younger bears in southern Hudson Bay are in poorer condition than males. Also, females live about 30 years, while males live about 25. Iron referred members to an article by Marty Obbard on the condition of Southern Hudson Bay Polar Bears.
- **Andrew Jano** said there may be a feeding area for bears at the south end of Akimiski Island, where there is open water in winter due to tides, strong currents and upwellings.
- **John Riley** said he had been reading the diaries of 18th century Hudson Bay factors, who wrote that Cree would travel to Akimiski Island to hunt caribou.
- **Trudy Rising** asked about invertebrates. There is a large number of invertebrates of a good variety, including fly larvae (Diptera), small crustaceans, and marine worms.
- **Bruce Falls** said mosquitoes are numerous – and fierce – in the bush, out of the wind. But the wind drives them away near the field cabins and along the shoreline. Mosquito nets were needed on only a few nights. Bulldog (a.k.a. horse and deer) flies were common around the camp.
- **John Riley** said polar bears have been seen as far south as Fraserdale, walking along the Moosonee-Cochrane railway line.
- The first polar bear was sighted on Akimiski Island in mid-June this year. They were common in August after the ice had left James Bay.
- **Glenn Coady** asked about the accuracy of satellite transmitters – as used on birds. Those on the Marbled Godwits were only accurate to within about 200 metres; researchers were unable to locate a satellite transmitter that had fallen off an Akimiski Marbled Godwit, but was still transmitting a year later. Coady remarked that other types of transmitters give a signal that allows the observer to walk right up to a nesting bird. Accuracy often depends on cost and weight.

The speaker was thanked by John Speakman, C.M.

Notes and Observations:

- **David Tomlinson** saw an Osprey nest on a communication tower near the intersection of Hwy 400 and Bloomington Sideroad, with two young. There were two Merlins nesting in a subdivision northwest of Aurora. It was a great summer for bees, including the Cuckoo bee.
- **Harry Lumsden** kept his eye on a saw a rose Leaf-cutter Bee on his sun deck. It would remain in the nest for 2.28 to 3.52 minutes ($x=2.7$ min), and forage for 5.4 to 8.08 minutes ($x=6.3$ mins). The bees lived in knot holes in 2*4 planks, but used their jaws to enlarge holes in the wood. He saw lots of hymenoptera parasites later in the summer.
- **Sandra Eadie** saw a Curlew Sandpiper in Fort Erie, near Jaeger Rocks. She also spied a black mink preening among the rocks by the shore.
- **Ron Pittaway** said mink have escaped from domestic ranches near Point Pelee and elsewhere and have contaminated local populations in southern Ontario. They soon revert to their natural coloration.
- River otters are making their way to Lake Ontario. They were seen two years ago, for the first time since the 1950s.
- **John Speakman** saw two young Great-horned Owls, just starting to fly, on an island in Great Slave Lake, with lots of food remains from the owls, including the head of a rabbit, parts of a muskrat and pike and lots of small rodents. Also, a Red-headed Woodpecker nested successfully near his cottage on Lake Simcoe, near Beaverton.
- **Oliver Bertin** saw a Trumpeter Swan the previous Sunday, complete with a Harry Lumsden yellow wing tag, in Toronto harbour, swimming in the lagoon south of Hanlan's Point. It was accompanied by four Mute Swans. He has seen a wide variety of fauna in the boat harbour at the bottom of Bathurst Street, including four Great Egrets that hung around most of the summer, Great Blue Herons, Black-crowned Night Herons at dusk every day, two minks that bounced along the seawall for two months, pike, carp and what appeared to be a painted turtle disappearing fast. He saw a gorgeous, three-foot long otter and an Osprey last fall, and muskrat and beaver in other years. Double-crested Cormorants were relatively rare this summer. Instead of 50-plus in a row along the sea wall for much of the day, there would be half a dozen. Perhaps the mink are chasing them away?
- **Jock McAndrews** sent in a piece on:

Subglacial floods bursting from subglacial lakes shaped our landscape

At the end of the Pleistocene, the Laurentide glacier that covered most of Canada melted from the top and from the bottom. Warm air melted the surface, but the bottom melted due to warm rock, which was heated from below. Some of the meltwater was stored in subglacial lakes. Catastrophic discharges from these lakes shaped much of our landscape in southern Ontario (Russell et al. 2004). These subglacial floods from lakes on the Precambrian Shield eroded tunnel valleys southward and emerged at the ice margin to build the Oak Ridges Moraine with fluvial sediment. These tunnel valleys now host lakes and under-fit streams that flow northward, for example Cooks Bay – Holland River (Lat: 44.06°N, Long:79.57°W), Uxbridge Brook – Wagner Lake (44.19°N 79.13°W) and Lake Scugog – Scugog River (44.14°N 78.92°W).

Subglacial lakes occur beneath the Antarctic ice sheet. The largest, Lake Vostok (77.00°S, 105.00°E), when measured by ice-penetrating radar turns out to be the size of Lake Ontario, but deeper (Wikipedia 2008). Now such a lake basin has been located in eastern arm of Great Slave Lake of Canada (Christopherson et al. 2008). Like Lake Vostok, it occupies a rift in bedrock that is now filled with late-glacial sediment. With deglaciation, 50 cubic kilometers of water flooded to the Arctic Ocean. Such subglacial lake basins in Ontario have yet to be described although Lake Ontario is a possibility.

Christopherson, P.S., Tulaczyk, N.J. Wattrus, J. Peterson, N.Q. Krupinski, C.D. Clark and C. Sjunneskog. 2008. Large subglacial lake beneath the Laurentide ice sheet from sedimentary sequences. *Geology* 36:563-566.

Russell, H.A.J., R.W.C. Arnott and D.R. Sharpe. 2004. Stratigraphic architecture and sediment facies of the western Oak Ridges Moraine, Humber River watershed, southern Ontario. *Geographie physique et Quaternaire* 59:241-267.

The meeting adjourned at 9:15 pm.

Next Meeting:

The next meeting will be held at 7:30 pm on Nov. 18, 2008 in Room 432 of the Ramsay Wright Zoological Laboratories. The speaker will be author D'Arcy Jenish, who will talk on the 18th century explorer, David Thompson.

Some Unusual Remembereds

**By Yorke Edwards
Our Western Correspondent**

Watching animals and plants that I have seen, some in Ontario, most in British Columbia, and in many wild places on land and water.

- Once on a forest path I met a bear nearly face to face. We both turned back.
- Once I saw a bald eagle swimming and pushing a large dead fish onto the shore.
- A rattlesnake was once going down a hill while I was going up. We both turned.
- One spring up a mountain, I touched a female caribou asleep on a patch of snow.
- While holding a baby moose, its mom ran at us, but at 20 feet turned away.
- Once on Long Point, Ontario, I found that I was sleeping on small bits of cactus.
- Once, high on hay in a barn, a house mouse ran up inside my pants. I got out fast.
- I have seen wolverines just twice; once in a forest, once crossing a road ahead.

- Once on a beach, I saw two Red-legged Kittiwakes. First seen in Canada?
- One day in Algonquin Park, I saw a wolf chasing a deer, both crossing a lake. When I followed that deer, I found her dead. She had been chewed into her side.
- With a friend, all one summer, we studied ducks on a big lake – in heaven.
- Once we canoed across that lake in winds through high, white waves. We got home.
- Several times driving across Canada, I have seen pronghorns on the treeless areas.
- Once, I saw an American Avocet near our garden beside the sea. First seen in B.C.
- Climbing down a rope, down a cliff to a raven's nest was easy. Back to the top was not.
- Once in Toronto's Cedar Woods, several water shrews ran over my shoes.
- For six days, I once watched seven white owls on the big island close to our shore.
- Twice, I've seen a house mouse running across our room. How did they get in?

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