

THE BRODIE CLUB



Established 1921

Website: <http://thebrodieclub.eeb.utoronto.ca>

THE 1,086th MEETING OF THE BRODIE CLUB

The 1,086th meeting of the Brodie Club was held on Tuesday, 20 October, 2015 in Room 432 of the Ramsay Wright Laboratories of the University of Toronto.

Chair: Bob Curry

Secretary: Trudy Rising

The meeting was called to order at 7:35 pm and was attended by 30; 24 members and 6 guests.

Roll Call:

Present: R. Addison, Aird, Bertin, Bryant, Crins, Curry, Dunn, Eadie, A. Falls, B. Falls, Hussell, Johnson, A. Juhola, H. Juhola, Machin, Martyn, McAndrews, Obbard, Reading, J. Rising, T. Rising, Seymour, Slessor, Zoladeski

Guests: Cate Collins (guest of Zoladeski), Sharon Hick (McAndrew), and 4 guests of A. Falls: Ron and Nancy Dangler, Carolyn King and Steve La Forest.

Regrets: Abraham, E. Addison, Daniels, Kotanen, Larsen, Peck, Rapley, Speakman, Sutherland

Minutes: Minutes of the September Member's Night meeting had been revised once, and were accepted with no further revisions, following a motion made by Bill Crins and seconded by Bruce Falls.

Committee Reports:

Treasurer's Report: Treasurer Aarne Juhola reminded members that the report is in September's minutes.

Program Committee: Bruce Falls announced speakers for the remainder of the year. November's speaker will be Chris Richter, whose topic is whales. On December 15 David Evans will talk about dinosaurs, on January 19 Bridget Stutchbury will speak about bird migration research, and February 16 Peter Kotanen will speak on invasive species and loss of predators. At one other meeting in the spring, John Casselman will talk about sturgeon (date TBA).

Announcements:

Corresponding secretary, Rosemary Addison, announced that last year's average attendance was 28; previous years were similar at about 30. Last year three people attended all meetings and the field trip: Bruce Falls, Jeremy Hussell, and Ann Falls. These members, respectively, have attended 20, 30, and 45 consecutive meetings!

Helen Juhola brought to our attention the death of Louise Herzberg on Thursday, September 24, 2015, at the age of 78. Louise was an avid local naturalist who, among other things, wrote the biography of William Brodie. The Brodie Club has a copy of the unpublished manuscript of his life, *A Pocketful of Galls*. A Globe and Mail obituary can be found at this site:

<http://v1.theglobeandmail.com/servlet/story/Deaths.20150926.93365868/BDAStory/BDA/deaths>

Bill Freedman, who became a Brodie Club member in 1977, died in September, as noted in the following announcement in the Globe and Mail (Sept. 28):



A well-known ecologist, researcher, and retired biology professor at Dalhousie University has died. Dr. Bill Freedman died Saturday at his home. He was 65. He was a former chair of the Dalhousie department of biology. He also had a deep knowledge of Maritime environmental issues.

His friend Linda Stephenson of the Nature Conservancy of Canada says he leaves a legacy of thousands of students he taught over the years. "He ... had students that went on to graduate work and post-doc work all across Canada, the United States and other parts of the world as well. So in many ways his teaching will continue on forever because many of his students have chosen to become academics," she said. "Bill loved everything about the natural world, and he had a strong understanding that the best way to protect landscapes was to own them outright. And so he became engaged with the Nature Conservancy of Canada back in 1991, and his volunteerism and leadership and financial generosity was unwavering until the time of his death."

Recently, the Nature Conservancy renamed a property it owns near Halifax after Freedman. It's a coastal property at Prospect High Head, about 30 minutes outside of Halifax. Freedman often led nature walks there.

Sandra Eadie announced that, along with the Audubon exhibition presently on display at the Toronto Reference Library, a book of Audubon's trip to Newfoundland is also on display. She noted that the Blue Jay page is displayed on the 5th floor.

Elections:

Committees for 2015-16

Secretaries:

Editing – Dunn

Corresponding – R. Addison

Recording – Abraham, R. Addison, E. Addison, Bryant, Curry, Eadie, Martyn, T. Rising, Seymour

Treasurer – A. Juhola

Membership – A. Falls, Crins, T. Rising

Program – B. Falls, E. Addison, Bryant, Currie, Johnson, Sutherland

FON Reps – Curry, Slessor

Archives – Dunn, Eadie, Seymour

Refreshments – Bertin, T. Rising, Hick, H. Juhola, Eadie

Website – Dunn, Hussell

Field Trip – Currie, Curry, Pittaway

AV – Hussell, Dunn

SPEAKER:

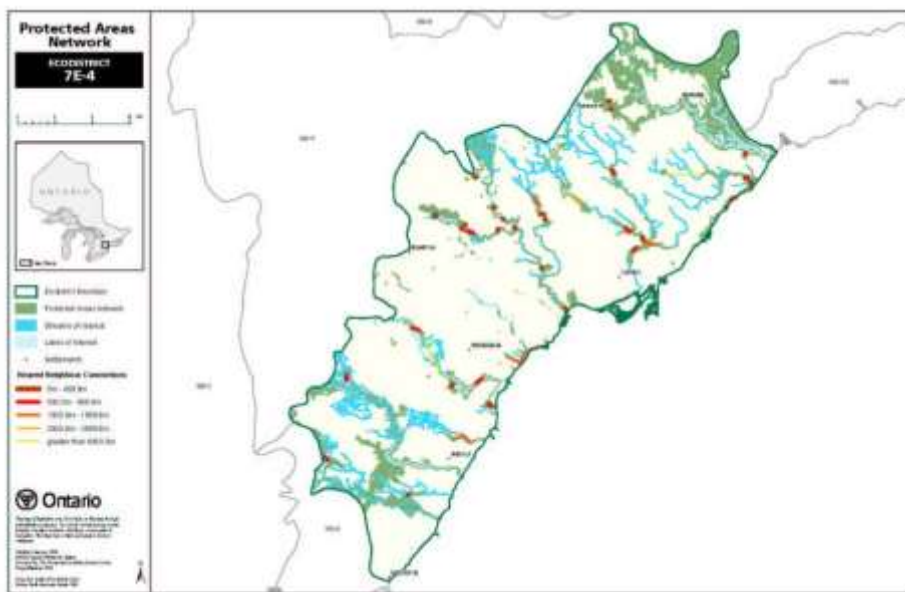


The speaker, member Bill Crins, was introduced by Martyn Obbard. Bill, an avid naturalist, retired from his position as Senior Program Coordinator, Resource Conservation at the Ontario Ministry of Natural Resources (Parks & Protected Areas Policy Section) at the end of July, 2015. His work at MNR spanned 24 years, after obtaining a PhD from the University of Toronto in 1986 and subsequent postdoctoral positions at UBC and at the New York State Museum. His topic for the presentation was Natural Heritage Systems in Ontario: the Essential Elements.

Bill began by defining just what are Natural Heritage Systems (NHS), and went on to discuss their mandates and rationales, with examples of existing ones.

According to Ontario policy, under the Planning Act (of the Ontario Ministry of Municipal Affairs and Housing), this is a system made up of natural heritage features and areas, along with their linkages, connectivity, and natural processes, promoting the conservation of biological and geological diversity, viable populations, indigenous species and ecosystems.

Bill gave the history of development of these. In 1996/97 they were initiated, and from 2005-2014 the designations became more comprehensive, including maintenance of biodiversity and linkages, for example.



It was mandated that NHSs shall be identified in Ecoregions 6E and 7E; all municipalities within these two ecoregions must develop these.

From 1890 - 1969, there was little increase in protected areas in Ontario; the last 30 years have shown great increase, but mainly in the north, due to the amount of private land further south.

Areas of natural and scientific interest have been identified in the south (these often are on private land), but there are very few areas that can be regulated as provincial parks.

Bill discussed Life Science Representation Gaps. For example, Chatham/Kent is heavily agricultural so little area is left to be added for NHS systems. 80% of the woodlands and 72% of the wetlands have been lost in southern Ontario since European settlement began.

The health benefits of nature, i.e., green environments, are now being stressed (according to Dr. [Francis \(Ming\) Kuo](#), 2010), along with the ecological rationales, which is helpful in promoting development of NHS.

Early approaches to protected area system planning had little connectivity. Some of the early examples of NHS in southern Ontario include the Oak Ridges Moraine Conservation Plan (2002), the Greenbelt Plan (2005), and

the Niagara Escarpment Plan (2005), along with a few others. Another early example, in Ecoregion 7E -- The Big Picture -- included areas where restoration might be possible and where rare ecosystems occurred in the past, even to the extent of mapping soils to determine where prairies could be brought back, for example.

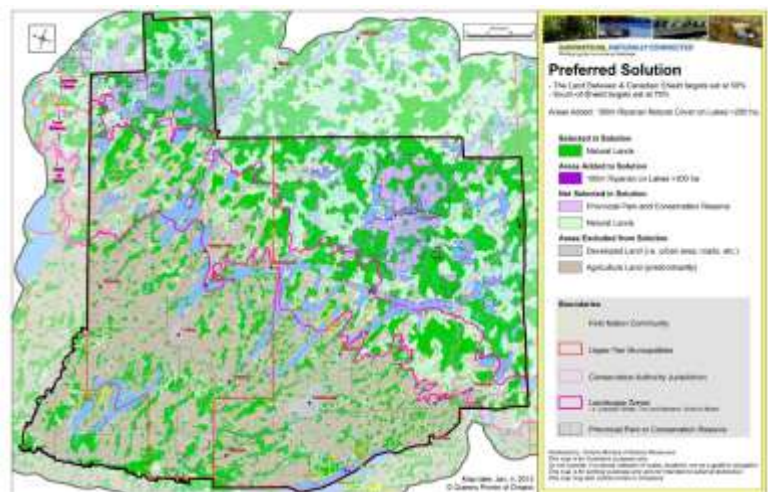
The Nature Conservancy of Canada and others started looking at where natural habitat blocks could be built upon, where substantial amounts of natural cover now exist (such as Long Point) and where blocks and connections could be enhanced.

Bill cited the Oak Ridges Moraine Conservation Plan as a connected system, with areas of natural cover and associated linkages, as well as the Greenbelt Plan, and Niagara Escarpment Plan.

How are NHS developed? Stakeholders and other knowledgeable individuals are encouraged to meet -- all who can contribute; usually coordinated by a municipality, a Conservation Authority, an ENGO, or a combination of these. The best available data and tools are used, and NHSs are developed based on regional ecological boundaries (like watersheds, ecodistricts, etc.). A science-based approach looks at the data to see where corridors should be. They produce a set of maps for anyone to use.

The Process

Bill used the “Kawarthas, Naturally Connected” plan, 2013, as an example. First, goals are set: develop a connected system of natural areas; create a set of maps that anyone can use; use an inclusive, collaborative process. With lots of data compilation, the committee meets and prepares a preferred scenario of results. Data inputs include targets for natural heritage features, plugged into an analytical model (e.g., MARXAN).

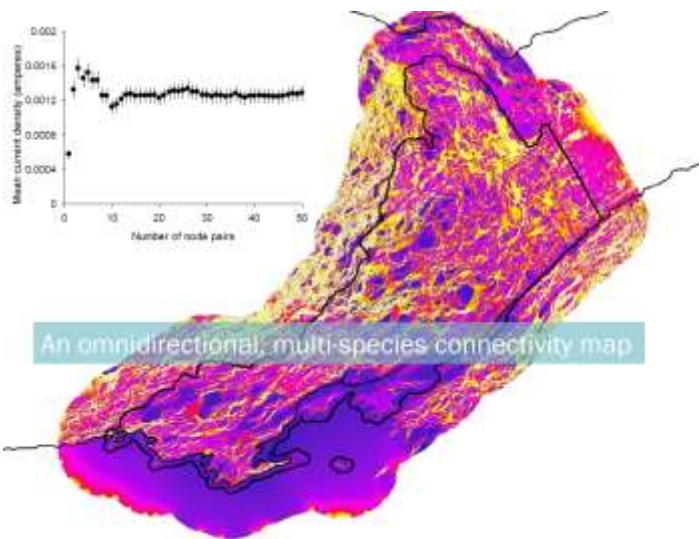


Features relating to biodiversity conservation (soils, wetlands, etc.), population and/or ecosystem viability (patch size, etc.), and socio-political considerations are also included. Bill showed photos of different rare ecosystems in ecodistricts 6E-17 (Ojibway prairie) and 6E-9 (Alvar), as examples.

With all data types coded in MARXAN, it will be shown that some areas are available but with cost, so the model tries to minimize the use of these lands. Multiple scenarios with different targets, assumptions and achievement levels are produced.

Additional analysis is needed following creation of the preferred scenario and any other alternative scenarios, because outputs of MARXAN do not include all relevant information, such as connectivity. Examples of ways in which connectivity can be considered on the landscape were provided using Ecodistrict 7 E-4 (Burlington to Toronto), focusing on ecologically functional connections such as following watercourses between natural core areas.

A new way of looking at connectivity using an analytical tool called “Circuitscape” is being employed by Jeff Bowman’s lab (OMNR, Peterborough), and the example shown (next page) was for Prince Edward County to southern Frontenac County.



Ecological Restoration

[“Principles and Guidelines for Ecological Restoration in Canadian Protected Areas”](#) was mentioned as an excellent source for planning restoration projects anywhere, not just in protected areas. The current state of NHS development in Ontario, as outlined in the State of Ontario's Biodiversity Report (2015), is still quite limited. The percentage of Municipal Office Plans that have done this is low (less than 50%). Now it's law. Virtually all municipalities in southern Ontario will need to build ecological connectivity and ecological restoration into their NHSs.

In Prince Edward County, the Preferred Scenario Map shows 40% of the area as forming part of the NHS. In the “Kawarthas, Naturally Connected” project, natural areas to be protected have been defined, but connectivity still needs to be added.

Over the next few years, more NHSs will be developed. Bill says the critical thing is to get involved. People need to think about targets and need to understand the data and biases. Bill ended with some cautionary ideas on things to consider:

Hard-wiring existing protected areas may not be a good idea. There are pros and cons to locking in features. It is possible that parts of the geography aren't yet well known regarding species at risk, for example, so NHS developers should also be careful not to penalize areas for lack of certain kinds of information.

One tool doesn't do everything. Look at alternate ways of connecting. Planning needs to be seen as a fluid process in order to produce a diverse, well connected landscape.

Questions following the presentation:

B. Falls: This is very encouraging. Planning has come a long way. It seems to be top down instead of bottom up, such as use of land trusts (Nature Conservancy, etc.). Can you address this?

A lot of private properties will fit into the plan. For example, your own property in Peterborough County was known to support many natural values, and was a significant addition to the conserved properties of the Kawartha Land Trust.

Dunn: An early map showed areas near Windsor. What did the very long straight lines between areas it mean?

This was the “Big Picture” map. There were lots of connections built into that early map, but many of them were not as ecologically meaningful as they would be if designed today.

Johnson: on legal protection; all 6E and 7E have to have NHSs, but there's no indication of where and how.

The problem is that there are no specific sizes or dates identified. The Ontario Biodiversity Council has accepted the international target of 17% of the terrestrial land base being protected, which means that southern Ontario has a long way to go.

The amounts of protection in Ontario generally only include regulated protected areas so far (provincial parks, conservation reserves, national parks). The data do not include lands protected by land

trusts, conservation authorities, etc. These other lands should be included, but even with these lands serving as core protected areas, there will still be a long way to go.

Aird: Stated that he wrote a short article on Heritage that has been reproduced world wide (the site for this has been inserted here for members' interest):

https://www.caledon.ca/en/explore/resources/Tree_booklet_2014_for_website.pdf

N. Dengler commented on the coordinated review of the Oak Ridges Moraine Plan, Niagara Escarpment Plan, Greenbelt Plan, and Growth Plan, and wondered about the status of the review.

Unfortunately, I could not answer that question because of my limited involvement in the coordinated review prior to my retirement.

Marc Johnson thanked the speaker. He remarked that he knew Bill as one of the best naturalists he knew, knowing so much about plants, birds, etc., but here's another major contribution. It is exciting to see action to save natural lands and waterways.

OBSERVATIONS

Enid Machin noted watching a Pileated Woodpecker debarking an elm.

Bruce Falls commented on hawk migration, with Turkey Vultures being the big item to date; he noted that this month we'll be getting Golden Eagles and others, especially with a NW wind.

Bob Curry said at Windermere Basin he watched a Merlin chasing gulls and roaring down on shore birds, evidently just playing.

Zoladeski commented on an observation of a human-made heritage system in Brampton. During the course of restoration and seeding, a new species of Beggar Tick (*Bidens polylepis*) was brought in. It will be monitored to see about its ability to deal with our winters.

Martyn reported on summer observations: she identified a Spiny Softshell Turtle at the Leslie Street Spit, out in open water, and she got good photos. Also, during the Bio Blitz this summer, she reported that a new spider species was identified.

Johnson said that on the Credit River, salmon are running about three weeks late. He also noted that Wild Indigo Duskywings have exploded in numbers and we still might see some.

Obbard reported seeing a Polar Bear, barely alive, at James Bay. Its teeth were breaking and it was thin, probably about 30 years old. He commented that male Polar Bears are, in general, looking good. It's the young and females that appear to be in poor shape.

NEXT MEETING

The next meeting will be on Tuesday, November 17. Chris Richter is the speaker and his topic will be about whales; title to come.

The meeting was adjourned at 9:15 p.m.

CORRESPONDENCE

In memory of Mary Boswell, who died 13 October, we reprint her Brodie Club mini-bio here.

Mary Alexandra Boswell

Born: 1935, England

Brodie Club: 1998

Interests: Birdwatching, bird banding, photography, nature travel

Memberships:

McIlwraith Field Naturalists, Federation of Ontario Naturalists, Long Point Bird Observatory, Toronto Field Naturalists, American Birding Association, Ontario Field Ornithologists, Toronto Bird Observatory (Treasurer & Membership Secretary)



Bird Watching Travel Experiences: Cuba, Grand Manan Island, Pelee Island, Venezuela, Ecuador, The Galapagos Islands, Vancouver Island and the Queen Charlotte Islands, Costa Rica, Point Pelee (each spring). I have also banded birds at Toronto Bird Observatory, Long Point Bird Observatory, and taken part in Peregrine Watch and other hawk watching in Toronto.

Work experience:

University Academic Administration, Finance & Budgeting, Appointment & Promotion, Organizational Planning & Development. Personnel Management Administrative Officer Department of Medicine at the University of Western Ontario, Administrative Assistant Division of Gastroenterology in the Department of Medicine at Queen's University, and Medical Secretary Department of Medicine Queen's University Kingston Ontario.

In earlier years I also worked as a Secretary at Kingston General Hospital, and at University Typewriting Office Ltd., Cambridge, England. In 1954-1955 I was secretary to James Fisher, Ornithological Consultant/Editor, Natural History Department, Collins Publishers London England.