

THE BRODIE CLUB



Established 1921

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

THE 1,115th MEETING OF THE BRODIE CLUB

The 1,115th meeting of the Brodie Club was held on Tuesday, 18 December, 2018 in Room 432 of the Ramsay Wright Laboratories of the University of Toronto.

Chair: Rose Addison

Secretary: Ken Abraham

The meeting was called to order at 7:30 pm and was attended by 40; 29 members and 11 guests.

Roll Call:

Present: Abraham, E. Addison, R. Addison, Bacher, Bell, Bertin, Bryant, Carley, Coady, Currie, Curry, Daniels, DeMarco, Dengler, Dunn, Eadie, A. Falls, B. Falls, Hussell, Iron, Juhola, Kortright, Machin, Martyn, Moldowan, Pittaway, Seymour, Slessor, Tomlinson.

Guests: Rae Hutchinson and Dierdre Tomlinson (guests of Tomlinson), Peggy Haist (Bertin), Ron Dengler (Dengler), Rob and Katherine Falls (A. and B. Falls), Elena and Cameron Hogart (Martyn), Dominic Stones (Bryant), Leila Krichel (Moldowan), Rachel Gottesman (Kortright).

Regrets: Beadle, Bendell, Crins, Dunlop, King, LaForest, Larsen, Lumsden, Obbard, Rising, Thomas, Sutherland.

Minutes: Minutes of the previous meeting were approved without amendment.

Committee Reports:

Program: Ed Addison announced next month's speaker: Nick Eyles, U of T Professor of Geology, will talk about under glacier ice streams and how they have shaped our landscape.

FON: Glenda Slessor passed around the thank-you note sent to the Club by the recipient of our donation to FON for to support a student to attend the 2018 FON Youth Summit for Biodiversity and Environmental Leadership. (The letter will also be circulated by email to members along with these minutes.)

Announcements:

- Oliver Bertin announced recent publicity and upcoming events related to the Ontario Government proposal to hunt cormorants, and reminded us that submissions could be made to the Environmental Registry until January 3rd. CBC Ontario Noon was to have a phone in program on the topic. John Carley moved that the Brodie Club submit comments as a club. There was spirited and lengthy discussion of this motion. The main arguments in favour were that as an impartial science based club we should take a stand as a club, and that the proposal is so egregious that ignoring it would be unconscionable. Those arguing against took no issue with the latter point, but noted that commenting on one issue sets a precedent for addressing other issues in future (and it takes a lot of time and effort to research and prepare a group response that reflects everyone's views), numerous larger organizations with staff experienced in commenting on government proposals have already done so for this one, and thoughtful individual submissions may carry more weight than one from a small organization. The original motion was defeated 15 to 13, and it was proposed instead that links to responses already posted on the internet that feature sound scientific arguments be circulated to members as a resource for preparing their own individual submissions. *[Editor's note: two sets of information were sent to members soon after the meeting.]*

- The Chair proclaimed best wishes to Bruce Falls on the occasion of his 95th Birthday, which was met with a round of applause. The Chair also noted the presence of a very young, potential future member (Elena Hogart, infant daughter of Kristen Martyn).

SPEAKER: Rose Addison introduced the speaker, member David Tomlinson, whose topic was "**Mapping, monitoring and managing urban breeding birds: A personal view**"

David began by acknowledging and thanking past and present members of Nature Aurora for their support and dedication to the project. Nature Aurora was begun in 2004 as a subcommittee of the Environmental Committee and is now an independent group of environmental citizen scientists. They agreed to concentrate on local wildlife preservation and now believe it is the best long-term approach within communities, achievable at little public expense. As birds are recognized as reliable indicators of habitat richness, breeding birds were selected as the object of mapping and monitoring.

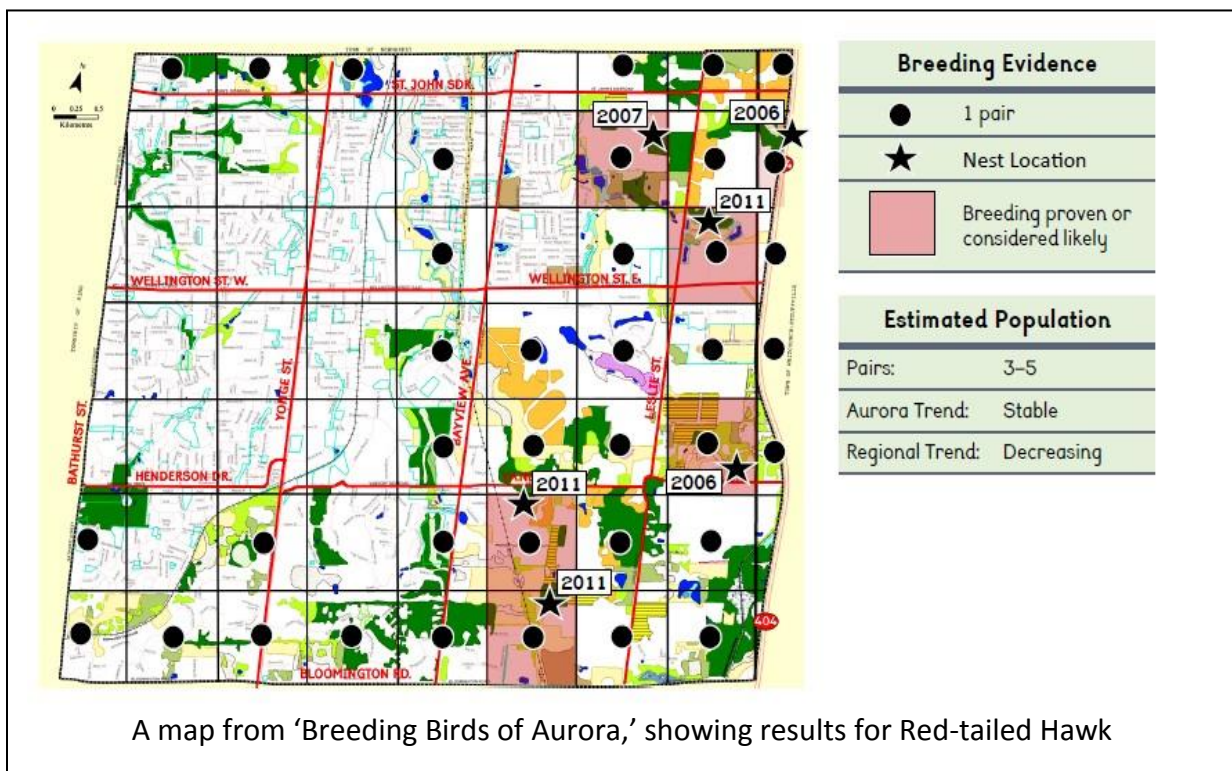


Fortunately, the group had reliable early surveys of land use in Aurora. In 1973 its population was 13,000, concentrated in the northwest corner of the town. By 2013, the population had increased to 60,000 and most of the west and north portions of town had been developed. David listed the major breeding bird habitats as: 1) Urban yards and gardens, much of the established residential having a well developed tree canopy; 2) Woodlands, including "old growth" deciduous and mixed deciduous-coniferous, natural and planted secondary deciduous and conifer plantations; 3) Scrublands, generally abandoned arable land and grassland in mid succession; 4) Arable farmland, most of it on the Oak Ridges Moraine, and most in corn, winter wheat and soy bean; 5) Grassland, most being abandoned pasture and hay fields, but also a "reinstated" garbage dump; 6) Wetlands, including three major creek systems that traverse the town, two provincially important wetlands, McKenzie Marsh and Ivy Jay Community Nature Reserve, and over 25 stormwater ponds in new subdivisions; 7) Disturbed Ground, such as areas stripped of topsoil and left fallow.

The project collected data based on the methods of the Atlas of Breeding Birds of Ontario (ABBO) and the town was divided into 61 one-kilometer squares. Modifications of the ABBO were based on the Norfolk, UK, 2007 Bird Atlas; instead of Probable, Possible and Confirmed categories, "probable" was changed to "proven or considered likely", "possible" was changed to "unlikely." In maps, size of dots indicates number of pairs. Populations were calculated using a modified version of the British Trust of Ornithology (BTO) Common Bird Census method of territory mapping.

Results of the project were presented for a number of species as examples of various habitat associations and population trends. Mourning Doves are concentrated in residential areas and are sparse in rural areas. Song Sparrows show the opposite pattern (more abundant in rural areas), but they nest in subdivisions where some natural habitat remains. Savannah Sparrows are absent from urban areas except where extensive grassed areas are present, such as hydro corridors. Indigo Buntings are strongly associated with scrubland. Pileated Woodpecker pairs were all located in scattered mature woodland and had large territories (4-6 square kilometers). Eastern Wood Peewees had a distribution similar to Pileated Woodpeckers. Spotted Sandpipers occupied sites left dormant after topsoil stripping, where there were shallow muddy pools, but these were transient habitats. All pairs of Belted Kingfisher nested in temporary topsoil heaps on disturbed areas. Aurora had a single pair of Osprey, nesting on a tower by Highway 404 in the extreme southeastern corner of the town which fed their young with goldfish caught in lakes in Richmond Hill and Stouffville. Only two species showed rapid changes that Tomlinson did not relate to development within the town: Bobolink, which decreased from 47 to 10 pairs, and Pine Warblers which increased from 0 to 16 pairs. The Nature Aurora group created a Critical Habitat map for breeding birds in 2009-2010. From this they created a map showing potential wildlife corridors linking major habitats.

Other studies included comparison of several natural areas for which there was information both from before (1974-1975) and after development (2000-2006). Between 1974 and 2006, a 23 ha site at Sheppards Bush lost 21 species, while 13 declined, 3 were stable, 7 increased, and 5 were new additions. Between 1974 and 2000 at McKenzie Marsh, a 22 hectare site, 17 species were lost, 7 declined, 5 were stable, 17 increased, and 7 new species appeared. Tomlinson showed a comparison



of breeding bird populations in residential subdivisions of Aurora of different ages: 100 years, 50 years, and 5 years, which respectively had 148, 218 and 149 pairs collectively of 34 species.

A special case of monitoring took place at Ivy Jay Nature Reserve, a 70 hectare site that Tomlinson was able to have the Aurora town council protect in 1998. It was monitored annually over the period from 2001 to 2014 as the surrounding land was being developed. Using the BTO territory mapping method, the number of pairs that nested and the extent of their territories was recorded. From the data, a list of species by category of impact of development was created; the categories are Disastrous, Adverse, Marginal, Beneficial and Initially Beneficial But Later Disastrous.

Tomlinson shared his views on a number of common urban management techniques. He stated that public tree planting on grassland and scrubland eventually reduces biodiversity. These become woodland in 50 years and the species adapted to open habitat are lost. Design of nature reserve features is critical, especially restricting access, fencing of trails and use of earthen berms to screen human activities from wildlife. Buffer zone width is often debated, but he found that screening of human activity, rather than width of buffer, was more important for breeding birds. For wetland management, drop board dams are easy and efficient methods of controlling water level and flow. Problems in wetland vegetation related to water level include invasion of sedges by cattails, invasion of cattails by common reed grass, and loss of ephemeral ponds; water level management can be used to combat all of these problems. Board walks in wetlands are expensive to build and maintain relative to berms; further, berms can be used in wetland habitat creation where boardwalks cannot. Stormwater ponds can be designed to provide good habitat, but this is not always done. Rotational mowing of grassland buffers in nature reserves was encouraged, while plowing for artifacts was discouraged; grazing would be even better for grassland maintenance, and shrub invasion must be controlled to maintain open grasslands. In woodlands, retaining a mix of old and secondary growth and conifer plantations is needed to ensure diversity of tree species and age to support an array of different breeding bird species. In scrubland, Tomlinson recommends aiming for 60% scrub to 40% old field herbaceous. He views the pioneering invasive shrub Buckthorn as beneficial, in opposition to the commonly held view, citing its use by robins. Preservation of insects, whose decline is associated with bird population declines, is a neglected conservation issue. He recommends retaining damaged, decaying and dead trees and downed woody debris. Fungi develop on these woody habitats, encouraging use by insect adults and larvae.

Tomlinson described the use of native plant species. He recommends using locally collected seed, and growing in mouse-proof frames. However, he also commented on the benefits of residential gardens containing alien vegetation species for butterflies, bees and flies.

An extensive set of nest boxes has been established in Aurora; 250 boxes have produced 5,192 Tree Swallows, Black-capped Chickadees, House Sparrows and House Wrens over 10 years. A school nest watch program in Aurora has been used as a model by other organizations in Canada and the US. Aside from boxes, other artificial nest sites on buildings are important for Aurora's urban birds, particularly Barn Swallows, European Starlings, House Sparrows, Rock Pigeons and American Kestrels (and the Osprey). Chimney Swifts nest in chimneys in the old part of downtown Aurora. Rough-winged Swallows nest in masonry walls and Barn Swallows nest in concrete culverts and underpasses. Temporary human made artificial sites such as topsoil heaps and quarry walls are attractive to swallows and kingfishers, but to retain them in urban areas, Tomlinson recommends constructing artificial cut banks. Likewise, nesting islands in stormwater ponds and rafts and nesting baskets must be designed to avoid flooding and reduce risk of predation. Protection of all types of artificial nest sites is important.

Tomlinson noted that two-thirds of our breeding songbird species winter in Central America. He described some monitoring he conducted in a dry woodland wintering area in Maria del Portillo, Cuba, between 2005 and 2013. He urged spending some of our conservation dollars protecting wintering habitat in Central and South America if we want to conserve our breeding birds.

In his closing remarks, Tomlinson stated the need for retraining of urban park department administrators and maintenance staff to manage natural, publicly owned land for wildlife. Urban land is not often maintained, and management could prevent local extinctions.

More information on the Nature Aurora studies is available on line at <https://nature.aurora.ca> where early reports can be found, as well as current projects on mammals, amphibians, nest boxes, snakes and birds.

Questions following the presentation:

John Bacher commented on the speaker's defense of the alien Buckthorn. Tomlinson replied about the acceptance of some alien species.

Bruce Falls asked about who did all of the work involved. Tomlinson noted that many people were involved and he saw his role as encouraging others to have an interest in the place of natural area management in the urban world and in training them to be able to contribute.

George Bryant asked Tomlinson about Grey Squirrels as bird predators. Tomlinson replied that he thought they are very important predators. In the talk he gave an example of Barn Swallows successfully nesting on facades of commercial buildings until the squirrels found them.

Ed Addison thanked David and commended him on his community involvement.

OBSERVATIONS

Bob Kortright commented on the Toronto Christmas Bird Count, noting that 5 Eastern Phoebe had been seen, the first since the 1980s. A Black and White Warbler was also observed.

Hugh Currie noted that a Barred Owl was reported near Huron and St. George streets.

Nancy Dengler reported a Barred Owl from Edwards Gardens.

Patrick Moldowan shared interesting observations of Spotted Salamanders falling prey to Pitcher Plants. He surveyed 76 plants of which 20% had captured salamander metamorphs. He wants to continue study to see if absorbing salamanders gives the plants a growth or survival advantage.

NEXT MEETING

The next meeting will be on Tuesday January 15. Nick Eyles will speak on “Cool stuff about ice ages: the ice stream paradigm.”

The meeting was adjourned at 9:10 pm. Our special Christmas edition of refreshments included a birthday cake for Bruce Falls, who was serenaded with a rendition of ‘Happy Birthday.’

MEMBERSHIP

John Bacher was accepted as a new member at the November meeting, and we include his bio here for the permanent record.



John Bacher

Born: St. Catharines, Ontario, 1954

Brodie Club: 2018

John had a love of nature study cultivated in him from a young age through his parents, Win and Mary Bacher, who were both members of the St. Catharines based Peninsula Field Naturalists. Over time he slowly emerged as a conservation leader, playing a role in the 1970s and 1980s in the formation of the Niagara Escarpment Plan. While a student at Brock university he helped protect a forest along Lockhart Drive, joining with other conservationists, such as a former President of the FON, Charlie Pryor. He earned a Ph.D. in history at McMaster University (1985), and has taught both there and at University of Toronto.

He is the author of two books: *Two Billion Trees and Counting: The Legacy of Edmund Zavitz* (Dundurn Press, 2011; short-listed for the 2012 Speaker's Book Award). This book details Zavitz's critical role of saving Ontario from the threats of desertification, floods triggered by deforestation and forest fires sparked by the use of fire to clear land for agriculture. Bacher's biography of Mel Swart, published by the Preservation of Agricultural Lands Society, highlights their joint work in development of the Niagara Escarpment Plan in 1985.

Founder in 1976 and currently researcher for the Preservation of Agricultural Lands Society (an organization concerned with stopping urban sprawl in southern Ontario). With his work with the Niagara Restoration Council, which he founded in 1996 and continues to serve as board chair, he was involved with the most successful restoration planting of the endangered tree, the Cherry Birch (found in natural forest conditions in Canada only in St. Catharines).

John is now Chair of the Ontario Chapter of the Sierra Club of Canada. His current environmental protection work is focused on the protection of the Thundering Waters Forest in Niagara Falls Ontario, which is a refuge for a variety of endangered species such as the Acadian Flycatcher.