

# THE BRODIE CLUB



*Established 1921*

## **THE 1,068th MEETING OF THE BRODIE CLUB**

The 1,068th meeting of the Brodie Club was held on Tuesday, 15 October, 2013 in Room 432 of the Ramsay Wright Laboratories of the University of Toronto.

Chair: George Bryant

Secretary: Kevin Seymour

The meeting was called to order at 7:30 pm and was attended by 32; 30 members and 2 guests.

### **Roll Call:**

Present: Abraham, Bertin, Bryant, Coady, Crins, Currie, Curry, Daniels, Dunn, Eadie, A. Falls, B. Falls, D. Hussell, J. Hussell, Iron, A. Juhola, H. Juhola, Machin, McAndrews, Obbard, Pittaway, Reading, J. Rising, T. Rising, Seymour, Slessor, Speakman, Sutherland, Tasker, Zoladeski

Guests: Diego Wazar Anchorena (guest of Bertin), Tanya Taylor (Sutherland), Sharon Hick (McAndrews).

**Minutes:** Minutes of the September meeting were unanimously approved.

### **Committee Reports:**

- Upcoming programs:

Nov. 19	John Riley	Once and Future Great Lakes Country
Dec. 17	Various presenters	Bruce Falls Night
Jan 21	Darryl Gwynne	Six Legged Sex

Each upcoming program is announced on the Club website: <http://thebrodieclub.eeb.utoronto.ca/>. To see Member Content, type in the password: TBC1921.

- Slessor reported on ON Nature: Among other issues, the new Nature Guide to Ontario will be digital, and available spring 2014. In addition, there is a legal case brewing: ON Nature amongst others will be suing the government over the exemptions to the ESA, on the basis that the exemptions undermine the purpose of the ESA, and that the minister has failed to consider the impacts of these exemptions.

### **Announcements:**

- McAndrews noted that the ROM will be hosting a play called the "Trial of David Suzuki." Details at [www.rom.on.ca](http://www.rom.on.ca). Google the name of the play to learn about controversy that has erupted around this presentation.

### **New business: Annual Meeting:**

Committees for 2013-14 were approved, as follows:

**Secretaries:** "Editing:" Dunn; "Coordinating:" R. Addison; "Recording:" E. Addison, R. Addison, Bryant, Eadie, T. Rising, Seymour.

**Treasurer:** A. Juhola

**Membership:** A. Falls, Crins, Seymour, T. Rising

**Program:** B. Falls, E. Addison, Bryant, Currie

**FON representative:** Slessor, Curry

**Archives:** Dunn, Eadie, Seymour

**Refreshments:** Bertin, A. Falls, T. Rising

**WebSite:** Dunn, J. Hussell, Bertin, Abraham

**Field Trips:** Bryant, Curry, Currie

NB: To lessen the burden on secretaries, we are aiming for more condensed reports on speaker presentations. We'll check in a few months to learn whether members approve.



**SPEAKER:** Bertin introduced the speaker, John Casselman. John is retired from the OMNR, where he headed a unit studying age, growth and fish production in the province. Presently an adjunct professor at Queen's University, Department of Biology, John has conducted extensive research on climate change, fish and fisheries around the world.

### **The Dramatic Decline of the American Eel: Are They Squirring Back Up That Slippery Slope?**

The American eel (*Anguilla rostrata*) played an important role in the life of Ontario aboriginal peoples. The species was abundant at the time, and because of its high fat content it was dried or smoked and used as a travelling food. However because of a number of factors (listed below), the species suffered a population crash in the 1990's in Ontario and was officially listed as endangered in 2007. There are signs of recent increase, but these are so tiny as to possibly be meaningless. Other eel species around the world are also in trouble. The North American aboriginal community has expressed a deep concern over the decline of this species.

The life history strategy of the eel is unusual: the whole population spawns in the Sargasso Sea (though never actually been observed), then randomly disperses via drift through the Caribbean and up the east coast of North America. Some of them reach the St. Lawrence River and make their way into the Great Lakes. Brackish and fresh water stimulate the eels to mature into swimming larvae that move upstream, into one of the broadest ranges of any North American fish. From there, the adult eels return to the Sargasso Sea to breed. This life cycle leaves the eels open to many perils.

Factors affecting the recent decline of the species are: 1. Alteration and loss of habitat, 2. Barriers to migration, 3. Toxicity of contaminants, 4. Exploitation of all life stages, 5. Hyrdoelectric turbine mortality, 6. Changes in oceanic conditions, 7. Productivity and food web changes, 8. Parasitism, and 9. Sargasso weed harvest.



Life stages of American Eel

Worldwide demand for eels is increasing, particularly because of the Asian market. Tons of juvenile American eels are caught alive and then cultured in China, largely for sushi in Japan. This species is now stocked in the St. Lawrence River system, allowing the species to persist there.

The species decline, in both abundance and recruitment, is particularly noticeable at the extremities of the range, for example in the Ottawa River system. Human fishing and other sources of mortality must be reduced if this species is to survive. Given the universal decrease in its abundance and distribution, the eels should be considered threatened and the resource, endangered. One way to try to compensate for the decline is to increase the reproductive capacity of the spawning population, through reduction of barriers to spawning areas and protection from exploitation. Because such measures are needed in all parts of the range, cooperative action is urgently needed.

One promising avenue to conservation is development of techniques for raising hatchling eels to the swimming stage—something that has proved elusive to date, although progress is being made. Much of the market for juvenile American eels would disappear if culture of the entire life cycle could be done at a commercial scale.

The speaker was eloquently thanked by Bob Curry.

### **RESPONSES TO QUESTIONS:**

- The European species drifts north by the Atlantic coast along with American eel, but doesn't mature for 2 years, thus drifting on to Europe before moving into fresh water. That species is showing no signs of recovery.
- Both American and European eels breed in the Sargasso Sea, but at different depths. However, there are some hybrids, which occupy Iceland.
- Murex is found in eels preserved from past years, but there is much less now that Murex has been banned.
- Initially against stocking, Casselman now favours it, to help preserve the species. Cultured eels grow much faster than wild ones, reaching full size in 5 instead of 20 years.
- Because eels are now so rare in Ontario, most are seen only by researchers, or by anglers fishing for bullheads at night in the spring.
- Bertin showed photos of a plate of jellied eel he ordered in England last week. Others averred that smoked eel are a lot more palatable. Most eel served in North American restaurants are in sushi; smoked eel is more common in Europe.
- Export of European eels is banned, so it is American eel that is exploited for the Asian market.
- To a limited extent, eels can travel overland. With nearby water, some seepage, and maybe wet grass, and they move short distances.

### **OBSERVATIONS**

- Bryant: A Brown Booby in the Fort Erie area has been observed recently by a number of members, it is a first record for Ontario.
- Falls watched a loon come up from a dive under a cormorant, which quickly departed. This drew similar stories from others, and it was noted that Obbard's first publication was about a Pacific Loon killing a Canada Goose.
- Bertin saw a white bird at the apex of a V of flying cormorants. It turned out to be a Herring Gull, possibly being pursued rather than trying to be a leader.
- D. Hussell was in Iqaluit Sept 13<sup>th</sup> to 27<sup>th</sup> this year to study the Northern Wheatear, but most had already left, due to early onset of cold weather. He captured 45 Snow Buntings, all juveniles, indicating that adults left earlier (as has been reported from Greenland).
- Eadie showed a photo of a 5m long oarfish found dead off California. This marine, deep-water fish is the longest of living fishes, as may be the source of sea serpent legends.

The meeting was adjourned at 9:40.

**NEXT MEETING**

The next meeting will be held Tuesday, November 19th at 7:30 pm in Room 432 of the Ramsay Wright Zoological Laboratories. The speaker will be John Riley, on The Once and Future Great Lakes Country.

**25 years ago – nuggets from past minutes**

September 1988: Dr. Mark Taylor spoke on the biology of the mongoose. Asked by Bendell whether young mongooses were mongoslings, he answered “It’s a free country.”

October 1988: On 1 October, Young saw a Winter Wren land on a customer’s head inside Yorkdale shopping mall.

Bertin asked how well birds count, having observed a female duck with 8 young reappearing apparently unconcerned with only 7 young a few minutes later. Falls replied that studies by a professor at Freiburg showed that the smartest birds could count to seven.



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