THE 930TH MEETING OF THE BRODIE CLUB
MINUTES

The 930th meeting of the Brodie Club was held in room 432 of the Ramsay Wright Building, U. Of Toronto, on April 21, 1998 at 8 p.m.

CHAIRMAN: Fred Bodsworth
RECORDING SECRETARY: Ann Falls

ATTENDANCE: 20 members and 7 guests
Guests were: Mary Boswell, John Dales (guests of Falls), David Rendall (guest of McAndrews), Mary Tasker (guest of Tasker), Claire and Bernard Muller (guests of Carrick), Sandra Eadie (guest of Bertin).

MINUTES: Bendell, who spoke at the last meeting, has sent minor corrections to Carrick. Acceptance subject to minor corrections moved by Rising, seconded by Tasker, passed.

ANNOUNCEMENTS: None
BUSINESS: None

INTRODUCTION OF SPEAKER:
John Theberge was introduced by Bruce Falls. He was brought up in Oshawa, and went to Guelph University. As a student he was hired by Dave Fowle to work with Doug Pimlott on wolves in Algonquin Park. He did a Master's degree at U of T with Bruce Falls on wolf howling, the first study of its kind. This was followed by a PhD at UBC working with Jim Bendell on rock ptarmigan. He then joined the University of Waterloo in the Faculty of Environmental Studies where he still teaches. Since 1987 he has studied wolves in Algonquin Park, and with his wife Mary has written a book "Wolf Country" which will be published next October by McLelland and Stewart. He has also authored several other books and a recording of wolf howls.

SPEAKER:
Since 1987 Theberge and several graduate students have studied the wolves of Algonquin Park (mostly in the eastern part) with special interest in the interaction between wolves and their prey. Wolves feed mainly on deer, moose and beaver, which in turn feed on vegetation, which is influenced by climate and soil. Biologists question whether the system is driven from top down or bottom up. Does the wolf ride system change or drive it?

Wolves on Isle Royale have been much studied but two researchers, Mech and Peterson, using the same set of data have opposite views on the top down/bottom up controversy, and both have changed their views 180° in the past 10 years.

The situation with Algonquin Park wolves is much more complex. Vegetation is affected by spruce budworm, logging and fire. Moose and deer are affected by native hunting in eastern AP, and deer are hunted by non-native hunters when they move out of the park in the late fall. Winter tick and brainworm affect moose. Wolves are affected by human hunting and by canine parvovirus. It is an extremely complicated system, too complex to fully understand or model. If the ecosystem was not perturbed by people (logging, hunting etc.) it might evolve a top down system.

The speaker referred to the wolf of fiction (Little Red Riding Hood, Peter And The Wolf) which has coloured many people's views of wolves. He has met people in areas near the park who think their children are in constant danger when outdoors.

There are two main forest types in the park - tolerant hardwood (mainly maple) in the west, and in the east a mix of intolerant hardwood and pine. The density of moose is about the same in both types, and wolves are present in both but are easier to study in the east which is less hilly. Radio collars are one of

the main tools of their research and hills interfere with line of sight signals. Collared wolves can be located using aircraft but this is a major expense. Researchers do a lot of tracking and analyse scats to determine what prey wolves are eating. The use of howling to locate packs was pioneered by Pimlott, but using radio collars, it was found that howling near dens can cause female wolves to move their young, so researchers are now cautious about using howls.

Theberge showed a slide of an old wolf which was emaciated and lacking many teeth. Analysis of its DNA and those of wolves from other packs revealed that it had many kin in 5 different packs (mostly adjacent to its territory). Algonquin Park wolves have a close genetic affinity to red wolves of eastern USA but they have a unique allele. If they turn out to be a different species they would be considered an endangered species. (Red wolves in USA were extinguished in the wild but have been reintroduced from captive stock.)

Besides following movements of packs, telemetry helps locate dens. Wolf packs are family units or extended family units averaging about 6 members in summer. This may be down to 4 by the end of winter. One pack had 13 members.

The radio collars also help locate kills where wolves are feeding. Bones from carcasses of prey are examined for information about the condition of prey. They have examined a few hundred carcasses found this way, and find that the moose are generally in poor condition but deer are mostly in good condition - they appear to have no nutritional problems. In summer the wolves' diet is about one third each of deer, moose and beaver. This is a surprisingly high number of moose, because moose can kick and kill attacking wolves. Wolves must assess the moose's condition before attacking. Winter ticks are a serious problem for moose. In late winter a moose may be infested with 10,000 ticks. This causes hair loss and moose may die of hypothermia. They may also have depleted bone marrow indicating malnutrition. Half of moose fed on by wolves in late winter were already dead. The moose population is fairly stable. Native hunting initially caused a decline but the population has rebounded from that. The spruce budworm epidemic of the 1970's allowed balsam fir to increase, and this benefits moose. Areas hit by budworm or logged in the previous 15 years have the densest moose population. Hemlock is an important food for moose, and on hilltops provides good habitat for moose in winter, but it is declining in Algonquin Park. Beaver are eaten more in April and May when beaver forage on land more than they do in summer. Hares make up only 1% of the wolves diet in the eastern part of the park but more (11%) in the western part.

The collars give a different signal if not moving, so it becomes possible to find dead animals and determine cause of death. A rabies epidemic struck Algonquin park wolves in 1990-91. One third of the collared wolves is the eastern park died. Rabies is unusual in wolves.

The deer from the eastern part of the park migrate out of the park in winter to deer yards in the vicinity of Round Lake, off the south-east corner of the park. Here they are intensively hunted. The wolves follow the deer and having left the protection of the park are hunted, snared and trapped by wolf-haters in the area. This is a major problem - kills of 61%, 55% and 39% of the population have been estimated in recent years. Regulations have now been changed to prohibit killing wolves from December 15 to March 31 in the three townships adjacent to the south-east corner of the park. However wolves need more protection. Pack territories have a diameter of 15 to 20 km, which means that one half of the packs have territory extending outside the park. Ontario policy gives less protection than any other jurisdiction. Neck snaring is banned in Alaska and some other states. There are 34 packs in the park with a mean territory size of 225 sq km. There should be a 10 km buffer zone around the park. WWF, Wildlands League and FON support this.

Thoreau - "in wildness is the preservation of the world". Theberge notes that in Europe wolves that remain have evolved in a different direction because of interaction with humans. If humans are the main mortality factor in the supposedly protected Algonquin Park wolves they will also become "made by

human" wolves. He questions whether the park is doing its job if it is not maintaining the conditions the wolf evolved in.

QUESTIONS AND FURTHER DISCUSSION:
Huff - What one action would be most helpful to protection of wolves?
--close all townships on perimeter of park to killing of wolves. MNR is moving in this direction, but slowly.
Interaction with coyotes?
-the genetic integrity of Algonquin Park wolves is threatened by exploitation of wolves which allows space for coyotes to move in. They may interbreed. This happened to red wolves in the USA. The seven smallest animals caught during the study were coyotes.
Falls - Did breeding rate respond to population loss?
-- recruitment stays at a relatively low rate of 25% with little variation. Disease (parvovirus) may be important, or possibly inbreeding depression (the park population is genetically like an island population). Also, young parents are not as successful as experienced ones.
Attitude of hunters?
--Federation of Anglers and Hunters don't want any townships closed off for hunting. They tried to get the wolf study closed down.
Would recognizing the wolf as a game animal with seasons and quotas help?
- Possibly. Trappers abide by the ban.

- The population size is about 2/3 what it was in Pimlott's time , but the deer population is down.

The speaker was thanked by Oliver Bertin.

MEMBERS NOTES AND OBSERVATIONS:
Reynolds - commented on the premature spring.
Boyer - saw vultures near Gravenhurst April 18th.
Scovell - vulture count is high at Grimsby hawk watch this spring.
McAndrews - early blooms on apple trees in Niagara, also Erythronium and Claytonia in bloom.
Currie - vegetation appears to be two weeks early but the birds are on their usual schedule. A few warblers appeared early, e.g. a parula warbler in March and a yellow warbler on April 2.
Huff - - bears emerged from hibernation at record-breaking early dates.
- Huff has just attended the founding meeting of the Mexican Ornithological Society.
Bruce Falls - in Algonquin Park, some 30 years ago, noted wolf howling when the truck bearing Theberge approached. By the time the truck stopped to play a recorded howl, the wolves had stopped.

NEXT MEETING:

The 931st meeting of the Brodie Club will be held in Room 432 of the Ramsay Wright building, U. Of T. At St. George and Harbord Sts. on Tuesday, May 19, 1998 at 8:00 pm.

GUEST SPEAKER: ***Darryl Gwynne***
Dr. Gwynne is a zoology professor at the Erindale campus of U.of T. He and his students study sexual selection and the evolution of insect mating behaviour.

SUBJECT: ***Mating Behaviour of New Zealand's Giant Insects - the Wetas***