THE 939th MEETING OF THE BRODIE CLUB
MINUTES

The 939th meeting of the Brodie Club was held on April 20, 1999 in the Ramsay Wright Building of the University of Toronto.

Chairman: Harry Lumsden
Recording Secretary: Oliver Bertin
Attendance: 14 members and four guests
David Tomlinson, guest of Lumsden
Jim Leafloor, guest of Ken Abraham
Sandra Eadie & Bruce Pendrel, guests of Bertin

Minutes of the previous meeting were approved with minor amendments.

ANNOUNCEMENTS:

McAndrews has signed up 12 subscriptions, including one for the Brodie Club, for a book on avian archeology in Ontario, soon to be published under the editorship of Michael Kirby. Entitled "Birds from the Ground - The Record of Archaeology in Ontario," the book was co-written by Douglas Sadler and Howard Savage, the recently deceased Club secretary who hosted meetings in his anthropology labs at UofT for 15 years. Subscriptions for autographed copies are $50 or $100. More subscriptions are available for those who have not yet signed up.

Bruce Falls is looking for support for an upcoming birdathon and for an all-party political meeting to discuss environmental policies for Ontario.

William Rapley, Director of Biology and Conservation at the Metro Toronto Zoo, has invited club members behind the scenes at the zoo for the annual field trip and picnic in mid-June. The members were invited there two years ago and found the tour fascinating. The invitation will be discussed at the May meeting.

Lumsden announced the Southern Ontario Woodlands Conference June 9 & 10 at Trent University in Peterborough, Ont. The Federation of Ontario Naturalists annual meeting will be in Kingston on May 28 to 30;

SPEAKER:

As a member, Bill Carrick needs no introduction. He kindly offered a copy of his speech, which is attached, and presented a series of slides and videos, which illustrated the history of induced migration in Trumpeter Swans, Canada Geese and Sandhill Cranes, as well as attempts to build a mechanical bird. A radio-controlled Ornithopter built at UofT worked exceedingly well, while a similar bird large enough to carry a person flapped up and down the runway in a manner that would have pleased Leonardo da Vinci.

Text of a talk given to the Brodie Club April 20, 1999 at the Ramsey Wright Building. University of Toronto by William Carrick

INDUCED MIGRATION IN TRUMPETER SWANS

On Dec. 23, 1998 Wayne Bezner Kerr arrived at the Muscatatuk Federal Wildlife Refuge near Semour, Indiana flying a Tucan Trike (Motorized Hang Glider) with four Trumpeter Swans following. He was accompanied by Ken Kennedy flying a Challenger II as a chase and backup aircraft. The trip started Dec.4th at Sudbury Ontario and averaged 130 kilometers per day for nine flying days.

This feat was the accumulation of 15 years flying experiments with Ultralite aircraft and a further 15 years experience with boats and remote controlled model aircraft filming and observing goose, swan and crane flying and following behaviour.

The following is an account of the events leading to this accomplishment and acknowledgment of those who contributed to its success:

The originator of the project to restore the Trumpeter Swan as a breeding bird to Ontario was Harry Lumsden. While employed by the Ministry of Natural Resources he started the Ontario Trumpeter Swan Restoration Group with the support of the Ontario Ministry and the Canadian Wildlife Service. Since retirement he has continued to organize and shepherd the care and release of approximately 300 Trumpeter Swans of which approximately 180 were present at the September/98 inventory. The project started in 1982 with eggs from wild nests at Grande Prairie, Alberta and financial support from Harold VanStone. In 1985 Jack Goldsmith, John Brouwer and I began supporting the project with a donation of 15 eggs for substitution in Mute Swan nests. This system was soon abandoned because of poor hatching and survival of cygnets. Breeding pairs of swans were acquired to provide eggs or cygnets for artificial incubation and rearing. Scott Paper Ltd. provided funds for the purchase of these swans and these birds were placed with co-operators who had natural ponds that would facilitate protection and breeding. Eggs were collected from some breeding pairs to encourage re-nesting or continuation egg-laying to obtain maximum production of young. This approach eventually produced 16 pairs of Trumpeter Swans nesting in the wild in 1998. Scott Paper also supported a Trumpeter Swan genetic research project and the production of a video on the swan re-introduction project.

About this time (1990) the CWS changed policy from supporting the re-introduction project to engineering its demise. They withdrew permission to release Swans in southern Ontario and suggested the James Bay Lowlands as a base for operations. The reason given was that naturalists did not approve of the re-introduction in southern Ontario. This was at the time we were beginning to consider the use of Ultralite aircraft to escort birds on migratory flights. The CWS also refused to renew my Aviculture Permit and insisted that I remove all waterfowl from my property. I am not sure who was the prime target in this harassment but to both of us the results were devastating. Harry solicited support letters from Naturalists Clubs and in a very short time had the southern Ontario scheme re-instated. I also complained in letters to the Minister of the Environment, had some pro-bono legal support and several unsolicited support letters to the Minister from friends. My permit was also re-instated before the end of the year. I received a request for the $10. avicultural permit fee which I will pay when reimbursed for the loss of a breeding female Trumpeter Swan that died of stress during the move. Harry and I are attempting to outlive our detractors in the hopes that their replacements may be more amenable to projects and ideas that may restore some of the biodiversity that has been lost in the past.

Lishman was also investigated and hybrid Trumpeter X Tundra Swans in his possession were seized and returned to the U.S.A.. These swans were to be test flight birds which were of less value that Trumpeter Swan cygnets. Because of CWS disapproval, Scott Paper ordered that no mention of swan flight possibilities be included in their video. This disruption contributed to the termination of our association with Lishman and the use of his aircraft. Lumsden, Carrick and Lishman had formulated a proposal to fly a group of Canada Geese to the USA as surrogates for a future Trumpeter Swan flight to learn the logistics of flying a group of birds cross-country attended en route by the necessary support crew. I had envisaged the accompaniment of a second aircraft as a backup in case of aircraft unservicability. The second aircraft proved to be invaluable herding errant flyers back on course. I suggested Lishman continue a proposed Goose flight without our participation but Lumsden and I would retain control of the Swan experiments. I was also against any attempt to fly the birds on a return trip in the spring. Fortunately the birds arrived back in the north coinciding with Lishmans arrival in Virginia for the pick-up.

As well as arousing the ire of the CWS my contribution to the project was supplying facilities to incubate eggs and to house and rear cygnets. This avicultural experience was acquired working at the Delta Waterfowl Research Station at Delta, Manitoba for Albert Hochbaum for three seasons. A further nine years experience was acquired managing the Guelph Kortright Waterfowl Park where 500 Canada Geese were raised for local re-stocking with eggs obtained from Toronto Islands, St. Lawrence Parks and Manitoba. It was found that waterfowl released in their first year would migrate and return if they survived.

Birds penned or clipped in their first year stayed permanently in the vicinity of the release site as long as food and open water were available. My other contributions were the discovery that imprinting was not necessary to induce birds to follow vehicles and the suggestion that an aircraft could be used to induce migration.

The first proposal for an induced swan migration was published in a Trumpeter Swan Society Newsletter "Trumpetings" in the form of a letter from Jim King to Len Shandruk entitled "Swan Fantasy" in which King outlined a proposal to lead swans cross-country following a "Swanmobile" (appropriately painted ground vehicle) Jim King's fantasy was practical when aircraft was substituted for van.

Wayne Bezner Kerr is currently pursuing a Master's Degree at the University of Guelph with Thomas Nudds as his advisor. His thesis will compare the following ability of captive reared and parent reared cygnets. This is an extension of the time budget study performed by Eadie et al in 1993 using the Alaska birds obtained by Lumsden for the release project. (Published in the proceedings of the Toronto Zoo Trumpeter Swan Symposium 1995). It was at the end of this project when fledged birds of the imprinted group were tested for following ability with a motor boat. A group of non-imprinted birds proved to be more amenable to following, than the imprinted birds (Carrick & Lumsden 1995 Symposium). Ten day parent reared birds were substituted for non imprinted birds in further experiments to insure that non-imprinted birds were not influenced by any human contact in Wayne's study. Wayne's experiments covered a three year period mostly financed by Falconbridge Limited with other support from Canada Trust, Bendix, The Conrad Hilton Foundation
He also received invaluable assistance from Brian Quickmire and Mack Nussey. Wayne's wife Rachael and Anita Jane Fedoruk drove the ground support vehicles. Carl Heibert provided photographs and the use of a motor home. Insurance for Wayne's project was provided by rearing identical sets of study birds at Harry Hewick's farm and airfield in Millgrove, Ontario.

For financial reasons the flying group organized the migratory bird research group to keep accounts and money raising separate from the Trumpeter Swan Restoration Group although the induced migration is considered to be an extension of the Trumpeter Swan re-introduction program. The re-introduction group has supplied all of the birds required for the behaviour and flying experiments.

At the same time as our flight training, William Sladen with Lishman's help were conducting a similar project in northern New York state with 17 Trumpeter Swans. They failed to get their birds to make cross-country flights although they successfully flew three birds across Chesapeake Bay the previous year. They blamed adverse weather for reducing practice flying time. I am convinced that the avoidance of human imprinting is responsible for the difference in behaviour.

When adapting to follow aircraft, Canada Geese, Trumpeter Swans and Sandhill Cranes have different characteristics. Geese avoid flying beyond 500 feet above ground level. After slowly climbing to this level in pursuit of the aircraft, they will glide down, and fly just above tree level maintaining a position below the aircraft. When the aircraft descends they will re-form and repeat the procedure.

Trumpeter Swans and Sandhill Cranes will follow the aircraft at any height but we have only tested them up to 3000 feet. Swans and Cranes stay with the aircraft frequently changing position relative to the wing tips and occasionally gliding on an upflow or pressure wave above the wing. The birds will follow the aircraft down for a landing and frequently land in front of the vehicle making it necessary to avoid running over birds.

Both Harry and I want to continue working toward establishing a viable migrant flock of Trumpeter Swans nesting somewhere in Ontario and migrating south of the border. First we need to find a way to increase the number of birds that will accompany a given flight. We may experiment with combining broods at an appropriate age or perhaps train foster parents or surrogate guides to lead the young birds southward.

There is also the problem of Mute Swans which may compete with the Trumpeters for nesting territories. These birds have reached nuisance proportions on the east coast of the USA and may well do so here in the near future. The CWS has issued permits to allow conservation groups to oil Mute Swan eggs to prevent hatching. A vigorous shaking of developing eggs will achieve the same result. I have submitted a proposal to the CWS for a permit to catch Mute Swans, render them flightless and farm these birds out to persons or institutions that may want swans for decorative or other purposes. These birds may also discourage the presence of Canada Geese and help reduce submerged aquatic vegetation. My proposal also suggests that these birds be supplied in same sex pairs or groups to discourage breeding. I intend to suggest that I be allowed to return one feral Mute Swan to captivity for every Trumpeter Swan released.

QUESTIONS:

- Metro Toronto Zoo had two pairs of captive swans in 1972. About 40 birds now overwinter there, and two wild pairs tried to breed last year. One pair was successful. There was a population of 191 wild Trumpeter Swans at the zoo last Sept. 1, and 50 cygnets. They should be self-sustaining in a year or two.
- Lumsden et al may start a swan population on Lake St. Clair, where conditions are excellent for their breeding. Another proposal is to re-introduce a fly-way from the Prairies to the Atlantic Coast and Chesapeake Bay, and from the Prairies down the Mississippi Valley to the Gulf Coast.
- There are references to Trumpeter Swans in the 17th-century Jesuit Relations. The Jesuit missionaries saw swans over-wintering in Lake Oneida.
- About 50 per cent of the imprinted Trumpeter Swans have died, either shot or poisoned by lead pellets.
- The secret to flight for the mechanical Ornithopter is to twist the wings on every stroke, thus mimicking the natural motion of a live bird.

Carrick was thanked by Lumsden.

OBSERVATIONS:

- McAndrews noted that beavers have established a colony in Humber Marshes near Bloor St. in Toronto.
- Abraham saw a Red-Tailed Hawk pursuing an immature Mourning Dove on the grounds of UofT. He tossed a finch in the air, and the hawk caught it.
- Lumsden noted that Trumpeter Swans laid their first eggs this year on April 14, the earliest in the 15 years since he started keeping records. The previous record was April 17.
- Eadie and Abraham have seen a flock of Greater White-fronted Geese and Blue Geese near Millbrook, south of Peterborough.

The meeting adjourned at 10 pm.

THE NEXT MEETING:

The next meeting will be held on May. 18th at 8:00 pm in Room 432 of the Ramsay Wright Zoological Laboratories at the University of Toronto when McAndrews will talk on the geology of the Oak Ridges moraine.

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