Notes

Ground Nesting by Bald Eagles

Chris Martin

During the summer of 2004, I worked in Quetico Provincial Park, Rainy River District, in northwestern Ontario, researching forest stand history, shoreline succession and lake outlets. While working on Pickerel Lake near the northern boundary of the park, a co-worker informed me that as he was canoeing past a small, treeless rocky island, a Bald Eagle (*Haliaeetus leucocephalus*) flew out directly toward him in a threatening manner and returned to the island. Believing this to be unusual behaviour, he wondered if it might be nesting on the island. Later that evening, I paddled out with this co-worker to the island. This produced an identical unnerving response from the adult eagle. Using binoculars, I followed the eagle as it flew back to the island and saw it land next to a large stick nest, step into it and settle down as if to incubate eggs.

My second opportunity to view the nest came on a very windy 22 June en route to another lake. Armed with a digital camera, another co-worker and I fought the wind to gain a much closer east-facing perspective of the nest, scaring off one adult eagle in the process. A large stick nest sat on the highest part of the island, approximately two metres above the waterline. A juvenile Bald Eagle sat on one side of the nest. The island was a small rock dome, completely devoid of vegetation, and had a few large boulders scattered on it (Figure 1). The nest was made of sticks of various sizes and had a rather flattened appearance, possibly due to the activities of the young eagle. The nearest adjacent land was one kilometre away.

Discussion

Bald Eagles are a fairly common breeding bird in Quetico Provincial Park and northwestern Ontario (Elder 1994). Nests are usually constructed in the biggest locally available tree. In the park, White Pine (*Pinus strobus*) is the nest tree of choice followed by large Trembling Aspen (*Populus tremuloides*). Occasionally, another tree species may be used. There is no previous record of a Bald Eagle nest on the ground in Quetico or elsewhere in Ontario (Peck, 2004; pers. comm.). The species has a vast range in North America and tree nesting is the norm. Big trees are necessary to support the large size of the nest that if used for many years can

Figure 1: Juvenile Bald Eagle on ground nest, Pickerel Lake, Quetico Provincial Park, 22 June 2004. Photo by *Chris Martin*.

become extremely heavy. A nest used for many years in Ohio, U.S.A. was estimated to weigh more than 2 tonnes after it and its supporting tree were felled by a windstorm (Stalmaster 1987).

However, Bald Eagle nests have been found previously that were not built in trees (Buehler 2000). In Newfoundland, nests have been observed on steep cliffs (Peters and Burleigh 1951). Cliff nests have been recorded in Alaska and British Columbia also (Campbell et al. 1990) and in Baja California, a nest was built in a giant cactus (Palmer 1988). In west-central Labrador, both Bald Eagles and Ospreys (*Pandion haliaetus*) nest on large rock pinnacles in the Smallwood Reservoir (Laing et al. 2003). Bald Eagles have been reported nesting on the ground: near the shore of a rocky island in Great Slave Lake, Northwest Territories (Bromley and Trauger 1974); rarely (three out of 206 nests studied) on small islets (keys) in Florida Bay (Curnutt and Robertson 1994); and in a cornfield in northwestern Minnesota (Hines and Lipke 1991). A nest found on a small rocky island in the Saskatchewan River appeared to be similar to the one in Quetico (Gerrard and Bortolotti 1988).

Why this pair of Bald Eagles chose to nest on the ground is open to speculation. Bald Eagle populations have been increasing significantly in northwestern Ontario and it is possi-

ble that suitable nesting trees in the Pickerel Lake area of Quetico have all been taken by other pairs. It may have been the relative isolation and security the island site provided that made it more attractive than nearby suitable trees. The lack of mammalian predators in the Aleutian Islands (Sherrod et al. 1977) and on keys in Florida Bay (Curnutt and Robertson 1994) was presumed to enable ground nesting by Bald Eagles. It is possible that Ospreys first built the nest and the eagles took it over, but this seems unlikely since Ospreys are uncommon breeders in Quetico (Elder 1994), and there is an abundance of suitable nest trees.

In any event, it will be interesting to see whether what may be the only ground nest of Bald Eagles in Ontario continues to be used in the future.

Acknowledgements

Dave Elder and Ron Tozer kindly assisted with the preparation of this article, and Dawn Laing provided information on ground nesting Bald Eagles in Labrador.

Literature Cited

Bromley, R.G. and D.L. Trauger. 1974. Ground nesting of Bald Eagles near Yellowknife, Northwest Territories. Canadian Field-Naturalist 88: 73–75.

Buehler, D.A. 2000. Bald Eagle (*Haliaeetus leucocephalus*). *In* The Birds of North America, No. 506 (A. Poole and F. Gill, editors). The Birds of North America, Inc., Philadelphia, Pennsylvania.

Campbell, R.W., N.K. Dawe, I. McTaggart-Cowan, J.M. Cooper, G.W. Kaiser, and M.C.E. McNall. 1990. The Birds of British Columbia. Volume 2. Nonpasserines: Diurnal Birds of Prey Through Woodpeckers. University of British Columbia Press, Vancouver.

Curnutt, J.L. and W.B. Robertson, Jr. 1994. Bald Eagle nest site characteristics in south Florida. Journal of Wildlife Management 58: 218–221.

Elder, D.H. 1994. The Birds of Quetico Provincial Park and the Atikokan Area. Friends of Quetico Park, Atikokan, Ontario.

Gerrard, J.M. and G.R. Bortolotti. 1988. The Bald Eagle: Haunts and Habits of a Wilderness Monarch. Western Producer Prairie Books, Saskatoon, Saskatchewan.

Hines, P. and H. Lipke. 1991. Ground-nesting Bald Eagles in northwestern Minnesota. Loon 63: 155–157.

Laing, D.K., D.M. Bird, T.E. Chubbs and G. Humphries. 2003. Migration routes, timing and nest fidelity of Osprey (*Pandion haliaetus*) and Bald Eagles (*Haliaeetus leucocephalus*) as they relate to military aircraft activity in Labrador. Argos Animal Tracking Symposium, Annapolis, Maryland, March 24-26, 2003.

Palmer, R.S. (editor). 1988. Handbook of North American Birds. Volume 4. Diurnal Raptors (Part 1). Yale University Press, New Haven, Connecticut.

Peters, H. S. and T.D. Burleigh. 1951. The Birds of Newfoundland. Department of Natural Resources, St. John's, Newfoundland.

Sherrod, S.K., C.M. White, and F.S.L. Williamson. 1977. Biology of the Bald Eagle on Amchitka Island, Alaska. The Living Bird 15: 143–182.

Stalmaster, M.V. 1987. The Bald Eagle. Universe Books, New York.

Chris Martin, 130 Balsam Road, Box 1065, Atikokan, Ontario, P0T 1C0

An Apparent Bufflehead x Common Goldeneye Hybrid

Kevin McLaughlin, George Naylor and Bill Lamond

On 11 January 2004, the authors were once again counting waterfowl in the Hamilton Study Area as part of the Lake Ontario Midwinter Waterfowl Census, of which GN is the regional compiler. The Hamilton area is divided into three sections for this census, and three participant groups rotate through these different areas on a yearly basis. The authors have been a census team for a number of years, and in 2004 our area of responsibility was the north shore of Lake Ontario from the Burlington Ship Canal to Bronte Harbour.

The first stop after lunch was Sioux Lookout on the Burlington shoreline. The usual format is for the three observers to divide up the species. For example, GN would count geese and dabbling ducks, BL would take care of certain species of diving ducks, and KM would count the remainder. The time was approximately 1300h when the group started counting waterfowl.

KM was the first to spot an unusual diving duck which was swimming among many Common Goldeneyes (*Bucephala clangula*), roughly 300 m from shore. His first thought was that it resembled an alcid. BL and GN were both able to get on the bird and a lively discussion ensued regarding its identity. The notion that it might be an alcid was quickly discarded, with the acceptance that the bird was an unusual hybrid diving duck.

Description

The duck was slightly but obviously smaller than the male Common Goldeneyes. The crown, nape, chin and throat were black and the eye appeared dark as well. Much of the side of the head was whitish, clearly lacking any semblance of the characteristic goldeneye facial spot. The bill was smaller than that of a Common Goldeneye, black in colour, and seemed rather narrow. The head shape seemed rounder with a flatter crown and also was noticeably smaller. The back was black and the scapulars were broadly white, lacking the black "slashes" so evident on male Common Goldeneyes. The chest, flanks and underparts were gleaming white. As the duck neither flapped its wings nor flew during the observation, the makeup of the upperside of the wing could not be determined.

After more discussion regarding the duck, the conclusion reached was that the bird was a

Figure 1: Presumed male Bufflehead x Common Goldeneye hybrid that was shot off the coast of Washington state near Deception Pass in early January 1998. Photo by *Patrick Pitt*.

hybrid, most likely involving Bufflehead (*B. albeola*) and Common Goldeneye, and that it was a male. That a Barrow's Goldeneye (*B. islandica*) could have been involved had to be considered and indeed could not be ruled out on the basis of plumage and structural features visible. Our conclusion, however, seemed reasonable as the most likely case scenario. As always when a suspected hybrid is present, a caveat must be used; hence the word "apparent" in the title.

Unfortunately, the bird was not seen again after this first observation, obviously negating the possibility of a photograph being obtained. The photo included in this note shows a mounted specimen (Figure 1). That bird was shot off the coast of Washington state in January 1998. It is very similar to the Burlington bird except in having somewhat less black on the throat, and having a bill seeming to match the size of a Common Goldeneye's. We can only assume that the golden eye colour of the specimen represented that of the bird in life. Though quite distant, the Burlington bird always appeared to have a dark eye. As with the Burlington bird, the specimen is believed to be a hybrid

involving Bufflehead and Common Goldeneye.

Discussion

Gauthier (1993) stated that there were only two published putative cases of hybridization involving Bufflehead in the wild. One was a possible Bufflehead x goldeneye known from a wing returned by a hunter near Thunder Bay, Ontario (Palmer 1976). The other concerned a male bird which was presumed to be a Bufflehead x Hooded Merganser (*Lophodytes cucullatus*). This individual was found during May in Illinois (Marcisz 1981). However, recent examination of the photographs by the authors has led to the belief that the bird in question, paired with a female Bufflehead, was in fact a male Bufflehead in its second calendar year, at or near the end of its first prealternate molt.

The infrequency of reported hybrids involving Bufflehead in the literature contrasts with Common Goldeneye, which hybridizes readily with several species. It has been suggested that the Bufflehead's small size and distinctive display behaviour probably contribute to reproductive isolation in the species (M.T. Myres *in* Gauthier 1993). However, given that Bufflehead and Common Goldeneye are in the same genus, are both cavity nesters, and share a large breeding range, hybridization may occur more often than published reports would suggest. Another example of possible hybridization involving Bufflehead was a bird present at Tollgate Ponds, Hamilton Harbour, from 28 August to 6 September 1999 (Dobos 2000a, 2000b). Observed by KM and others, this bizarre-looking individual possessed characters suggesting parentage of Bufflehead and Ruddy Duck (*Oxyura jamaicensis*).

Wild hybrids have been reported involving Common Goldeneye with Barrow's Goldeneye, Hooded Merganser, Smew (*Mergus albellus*), Common Merganser (*M. merganser*), Pochard (*Aythya ferina*), and Greater Scaup (*A. marila*) (Gray 1958, Palmer 1976, Panov 1989, Eadie et al. 1995), and with many species in captivity (Gray 1958). Hybridization occurs most

frequently with Barrow's Goldeneye (Martin and Di Labio 1994, Eadie et al. 1995).

Acknowledgements

We would like to thank Ron Tozer for providing a number of references, Ron Pittaway for critical comments on an earlier draft, Ken Abraham for information and photos of hybrids, and Patrick Pitt for the photograph used in this note.

Literature Cited

Dobos, R. 2000a. Noteworthy bird records. The Wood Duck 53: 105–108.

Dobos, R. 2000b. Noteworthy bird records. The Wood Duck 53: 127–133.

Eadie, J.M., M.L. Mallory, and H.G. Lumsden. 1995. Common Goldeneye (*Bucephala clangula*). *In* The Birds of North America, No. 170 (A. Poole and F. Gill, editors). Academy of Natural Sciences, Philadelphia, Pennsylvania, and American Ornitholo-gists' Union, Washington, D.C.

Gauthier, G. 1993. Bufflehead (*Bucephala albeola*). *In* The Birds of North America, No. 67 (A. Poole and F. Gill, editors). Academy of Natural Sciences, Philadelphia, Pennsylvania, and American Ornithologists' Union, Washington D.C.

Gray, A.P. 1958. Bird hybrids. Technical Communication No. 13. Commonwealth Agricultural Bureau, Farnham, England.

Marcisz, W.J. 1981. A presumed Bufflehead x Hooded Merganser hybrid in Illinois. American Birds 35: 340–341.

Martin, P.R. and B.M. Di Labio. 1994. Natural hybrids between the Common Goldeneye, *Bucephala clangula*, and Barrow's Goldeneye, *B. islandica*. Canadian Field-Naturalist 108: 195–198.

Palmer, R.S. 1976. Handbook of North American Birds. Volume 3. Waterfowl (Part 2). Yale University Press, New Haven, Connecticut.

Panov, E.N. 1989. Natural Hybridization and Ethological Isolation in Birds. Nauka, Moscow.

Kevin McLaughlin, 30 Bingham Road., Hamilton, Ontario L8H 1N4

George Naylor, 51 Behan Street, Hamilton, Ontario L8T 4N7

Bill Lamond, 238 St. George Street, Brantford, Ontario N3R 1W7

Can Migration Counts Detect the Effects of West Nile Virus?

Allen T. Chartier

According to several sources (including the U.S. Centers for Disease Control, and Health Canada), West Nile Virus was first detected in North America in New York in 1999, infecting 62 people and causing 7 deaths. Several thousand birds, mainly American Crows (*Corvus brachyrhynchos*) were found dead, many confirmed killed by the virus through testing of blood and tissue. The summer and fall (the primary seasons of infection) of 2000 saw an expansion of the disease through the northeastern U.S., but it was not detected anywhere in Canada. In 2001, West Nile Virus was found in Canada for the first time, mainly in southern Ontario, with 128 dead birds testing positive for the disease, but there were no human cases. The 2002 outbreak was the worst to date, with the greatest spread of the disease (to the far western U.S.), and the largest number of human casualties. In Canada, dead birds tested positive in Ontario, Nova Scotia, Quebec, Manitoba, and Saskatchewan. The 2003 and 2004 seasons were not as serious as 2002. However, West Nile Virus is clearly here to stay, and annual outbreaks are to be expected into the foreseeable future.

West Nile Virus in birds is confirmed only through testing of blood and tissue of dead birds turned in to local health agencies. To date, more than 100 species of birds have tested positive for the disease. It has been clear that members of the family Corvidae (Crows and Jays) are particularly susceptible. Most detections were of dead American Crows, partly due to the visibility of dead birds, and partly due to testing policies of health agencies. So if migration counts have any potential to show the effects of West Nile Virus, members of the family Corvidae should be ideal subjects.

Annual counts of Blue Jays (*Cyanocitta cristata*) have been conducted at the Holiday Beach Migration Observatory (HBMO) near Malden Centre, Essex County, Ontario with fairly consistent effort since 1983. The low count of 72,591 in 2002, which was significantly lower than the previous year's count, drew commentary from several local observers that perhaps this might be due to West Nile Virus. This led to the natural question, can the effects of West Nile Virus be detected through migration counts? An examination of the data (Figure 1) reveals several interesting patterns.

One important observation is that the low count in 2002 was not the lowest ever, but in fact there were three other years with even lower counts, 1984, 1998, and 2000. The low count in 1984 was possibly affected by lower observer effort (see actual count data in Appendix 1).

There is also a clear pattern of even-numbered years having lower counts than odd-numbered years; a two-year cycle. From 1983 through 2004, there are only two years where this cycle was broken, 1986 and 2004, though both those years were "up" years when they should have been "down" years.

Beginning in 1998, through 2002, the pattern of alternating high and low counts becomes more dynamic, with two record high counts and three near-record lows. It is unclear what this greater instability in counts tells us.

A closer examination of the data from even-numbered years only shows a trend within a trend (Figure 2). A hand-drawn best-fit curve indicates a longer-term trend of perhaps 7-10 years between low and high points in this cycle. This suggests that recent low numbers should not be unexpected.

Conclusion

Blue Jay count data from Holiday Beach show a consistent two-year cycle that has only been broken twice, once unrelated to the presence of West Nile Virus. Data from 1998-2004 indicate greater instability in numbers, which might be an effect of West Nile Virus, but the first year the disease was detected

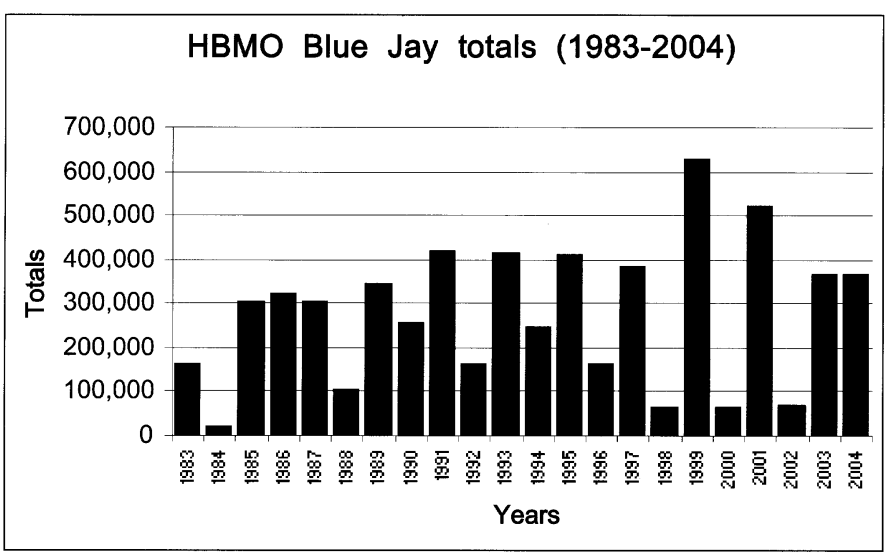

Figure 1: Holiday Beach Migration Observatory annual Blue Jay count trend, 1983-2004.

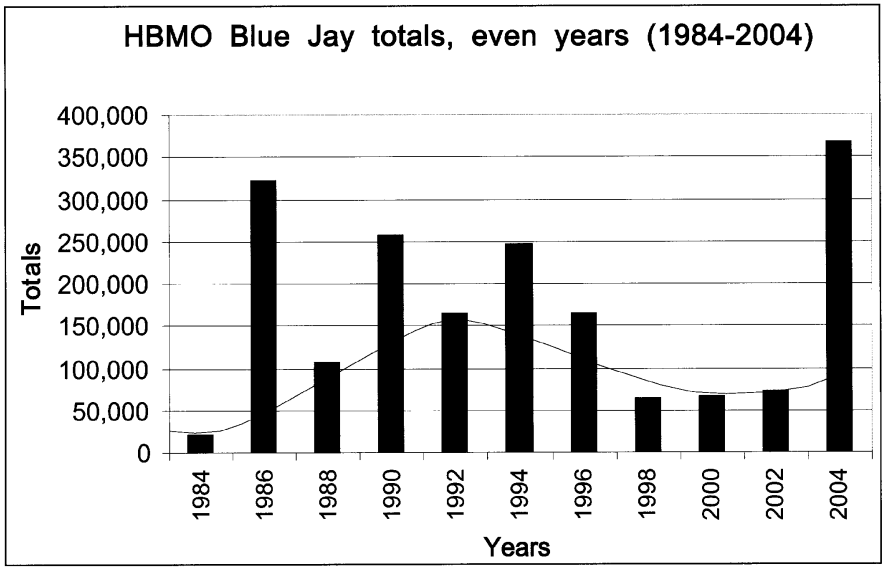

Figure 2: Holiday Beach Migration Observatory Blue Jay counts for even-numbered years only.

in North America, 1999, there was a record high count at Holiday Beach, and the first year the disease was detected in Ontario, 2001, provided our second highest count ever. It is intriguing to think that the very low count in 1998 might signal an earlier presence of the disease in North America, but without actual blood and tissue tests of Blue Jays from that time, this is only speculation. Although the low count in 2002 appears to correlate with an extensive outbreak of West Nile Virus that year, not all of the low counts show such a correlation. An examination of the alternating even (down) years suggests that the recent low numbers fall within a pattern of longer-term trends. In fact, the recent record high counts are more outside what might be expected from a normal pattern than recent low counts.

Thus, the variations in migration counts are more easily explained by normal patterns and trends. The data seem to provide very little, if any, insight into the effects of West Nile Virus on the population of Blue Jays migrating past Holiday Beach, as there is not a strong correlation with known levels of infection in the region.

Acknowledgements

I wish to thank the numerous observers who counted Blue Jays at Holiday Beach from 1983-2004. I am also grateful to the Holiday Beach Migration Observatory for making Blue Jay data from recent years (1997-2004) available on their website.

Information Sources

Canadian Cooperative Wildlife Health Centre:
http://wildlife1.usask.ca/ccwhc2003/west_nile_virus/wnv_north_america.php
Centers For Disease Control: http://www.cdc.gov/ncidod/dvbid/westnile/
Holiday Beach Migration Observatory: http://www.hbmo.org/

Appendix 1: Holiday Beach Migration Observatory Blue Jay annual count data, 1983-2004.

Year	Count	Year	Count	Year	Count	Year	Count
1983	161,921	1989	346,455	1995	412,186	2001	524,685
1984	21,487	1990	257,745	1996	165,898	2002	72,591
1985	305,152	1991	422,660	1997	383,952	2003	368,998
1986	323,386	1992	165,863	1998	64,689	2004	367,825
1987	306,825	1993	418,187	1999	629,990		
1988	106,882	1994	247,837	2000	65,731		

Allen T. Chartier, 1442 West River Park Drive, Inkster, Michigan 48141