

A Great Egret with long, wispy white feathers is perched on a dark, bare tree branch. The bird's long, straight, yellowish-brown beak is pointed to the left. A red band with white markings is visible on its right leg. The background is a clear, bright blue sky.

# Wintering locations of Ontario-banded Great Egrets: New Jersey to the Caribbean

*D.V. Chip Weseloh, Dave Moore  
and Tina Knezevic*



Figure 1. A Great Egret with red alpha-numeric leg bands used from 2001-2010.

Photo: Simon Audy

## Introduction

In the northern portion of its range, which includes Ontario, the Great Egret (*Ardea alba*, henceforth egret) is considered a highly migratory bird (McCrimmon *et al.* 2011). Autumn migratory movements of egrets from Ontario are usually underway by September and extend through October to November and, for some individuals, into December (Canadian Wildlife Service (CWS) unpubl. data). For some egrets, however, the migration period can be very short and fast, as was demonstrated by a juvenile bird which was wing-tagged on Notawasaga Island (Georgian Bay, Lake Huron, near Collingwood, ON) on 4 July 2011 and observed in Jamaica three months later on 11 October 2011 (see below). In general, however, most egrets which bred, or were raised in Ontario, usually have reached their wintering areas by December, where they may remain throughout January and February; young birds may stay even later (see below). By early March, many adult birds will have already started their northward migration (McCrimmon *et al.* 2011).

The overall winter range of the Great Egret in North America is well known (Mikuska *et al.* 1998, Sibley 2003, McCrimmon *et al.* 2011). However, in order to fully understand the life cycle of egrets from Ontario, and to know the conditions and risks they may face during winter, it is essential to know the specific jurisdictions to which the birds migrate and spend those 3-6 months of the year.



Figure 2. A Great Egret with the alpha-numeric laminated PVC wing tags used from 2010 – 2012.

Photo: Alan Wormington.

The winter range of egrets from eastern North America extends throughout the Caribbean islands, the entire state of Florida, southern Georgia and a narrow strip along the east coast of the U.S. from New York, New Jersey and Virginia south around Florida and the Gulf of Mexico, to Honduras in Central America and beyond (McCrimmon *et al.* 2011). The northern limit of the winter range is usually weather dependent in any given year as egrets need open water in which to forage (McCrimmon *et al.* 2011). Mikuska *et al.* (1998) identified 21 key wintering areas for Great Egrets in North America, mostly along the Pacific and Atlantic coasts through North, Central and northern

South America. In the U.S., several large banding studies have been conducted to track where egrets from specific states or regions spend the winter (Byrd 1978); at the time of its compilation, there were no encounters of Ontario or Canadian-banded egrets. Dunn *et al.* (2009) showed that only three egrets had been banded in Canada up through 1995. However, from 2001 to 2012, the CWS (Environment Canada) had a large egret banding program in Ontario's Great Lakes (and the adjacent New York waters of the Niagara River)(see below). In this paper, we present results from this ongoing work, which demonstrate where egrets banded in Ontario spend the winter.

## Methods

During the period 2001-2012, we banded 1900 young flightless egrets with metal bands at four locations: Notawasaga Island (near Collingwood), Chantry Island (near Southampton) and Middle Sister Island (near Colchester) in Ontario and Motor Island (near Buffalo) in New York. Alpha-numeric red plastic leg bands were placed on 1280 of these egrets between 2001-2010 (inclusive) (Fig. 1); 711 were given coloured, alpha-numeric laminated PVC wing tags from 2010 – 2012 (Fig. 2) and nine had no auxiliary markers.

From the CWS Bird Banding Office, we obtained details of all Great Egrets banded in Ontario and encountered anywhere up through 2012. “Encounters” included cases in which the aluminum band, colour band or wing-tag was recovered from a dead or injured bird, when a marked bird was captured and released, or when one or more of the band or tag numbers were read through binoculars or a spotting scope. All of the encountered egrets had been marked as part of this project.

A second and much more productive method of obtaining “encounters” of marked egrets came from re-sightings of colour-banded or wing-tagged egrets from CWS staff and volunteers as well as records we received from birders in response to notices posted on various birding/ornithological listservs (e.g. Ont-Birds, GeneseeBirds) up through 14 April 2013.

From the banding/encounter data listed above, we first selected all encounters of marked egrets from the “Winter

Period”, *i.e.* December – February, as defined by (Dunn *et al.* 2009). However, because the encounters showed that some egrets migrated quickly and directly to reach their winter quarters before December (see above) and others remained at their winter quarters into March (see below), we also selected all encounters of marked egrets from October-November and March. This expansion of dates to include early autumn and late spring migrants increased the probability of including egrets that were not yet at, or had already left, their wintering grounds. To compensate for this situation, we, secondarily, only selected encounters that were received from the egrets’ known winter ranges (Byrd 1978, Root 1988, Mikuska *et al.* 1998, McCrimmon *et al.* 2011, eBird 2013 and National Audubon Society 2000-2012). Thus, we did not include any records from outside the October – March period nor from areas where egrets in North America were not already known to winter, *i.e.* Ontario, Indiana, Michigan, Wisconsin, western or central New York, Pennsylvania, Europe, etc. (McCrimmon *et al.* 2011). For example, October and November encounters from Ontario, or any Great Lakes states, were not considered to be valid winter records (because egrets do not winter in Ontario) nor were three December-January encounters of the same Ontario-tagged egret in the Azores Islands (Weseloh and Moore 2008) considered valid wintering records. Lastly, if a given individual was encountered more than once, the most southerly record was retained; this occurred only once (see below).

## Results

Data from the CWS Banding Office showed 45 records of 38 different Great Egrets banded in Ontario and encountered anywhere throughout the year. Eight of these encounters were from the distinct “winter” period (December – February) and 14 were from the late autumn/early spring period (October – November and March). Two of the winter encounters and nine of the late autumn/early spring encounters were reported from areas where egrets were not known to winter (see above) and were discarded, leaving 11 encounters from the banding office which we considered to be valid winter range records. All birds had been banded on Lake Huron or the Niagara River as part of this CWS project.

From the public and CWS staff and volunteers, we received 1206 reports on

465 known individuals and 229 undifferentiated marked individual egrets banded in Ontario (and the Niagara River) and encountered in Ontario or elsewhere throughout the year. Twenty-four of these encounters were from the “winter” period (December - February) and 81 were from the October - November and March period. Eleven of the encounters from the winter period and 71 from the late autumn/early spring period were either from areas where egrets were not known to winter or were also listed with the data from the banding office and were discarded, leaving 23 encounters which we considered to be valid winter range records. Thus, this paper is based on a total of 34 encounters of Great Egrets colour-banded or wing-tagged as flightless young in Ontario (Table 1).

Table 1. Locations and numbers of Ontario-marked Great Egrets encountered during the expanded winter period, October - March, 2001-2013.

ENCOUNTER LOCATION	ENCOUNTER MONTH						Total
	Oct	Nov	Dec	Jan	Feb	Mar	
North Carolina			3	3	2	2	10
South Carolina		3	1		2		6
Florida	1	3		1			5
New Jersey	2		1				3
Cuba		1		1			2
Lesser Antilles			1		1		2
Tennessee				1			1
Alabama				1			1
Georgia			1				1
Dominican Republic						1	1
Virginia						1	1
Jamaica	1						1
<b>Total</b>	<b>4</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>5</b>	<b>4</b>	<b>34</b>

### Winter Range and Encounter Details

The 34 encounters were received from 12 jurisdictions: eight states within the United States and four Caribbean islands. The centre of the winter distribution was North and South Carolina (Fig. 3). Of the six months analyzed in this study (October – March), tagged egrets were encountered equally as often in November, December and January (seven each month, 62% of all encounters) (Table 1). There were four reports of egrets in October, two from as far south as Florida and Jamaica. There were five and four reports for February and March, respectively, one as far south as the Dominican Republic in March.

A large majority (30 of 33 or 91%) of the known age egrets encountered were 3-9 months old; the rest (9%) were 2-6 years old. Of the 34 encounters, four were found dead, one was caught due to an injury, one was caught or found dead due to control actions and the rest were sight records.

### Discussion

The major wintering areas for several regional or jurisdiction-specific banded Great Egret populations have been identified by Byrd (1978) and Coffey (1943, 1948). Egrets banded in colonies on the Atlantic coast, as well as in Ohio, wintered from as far north as New York, but mostly from North Carolina south to Florida and onward through the Caribbean islands. Those banded west of the Great Lakes, in Minnesota, wintered farther to the west in Alabama, Louisiana, Texas, Central America and western Cuba (Byrd 1978). For those egrets

banded in the southern U.S. (in Mississippi, Louisiana, Texas and Oklahoma), some were sedentary, wintering in Louisiana and Texas, while others moved to the western Caribbean (western Cuba and Jamaica), perhaps through the Yucatan Peninsula, and Central and South America (Byrd 1978, summarized in McCrimmon *et al.* 2011). Thus, based on the current study, egrets banded in Ontario appear to winter, in some years, as far north as coastal New Jersey but their main wintering area is North and South Carolina, and, in lesser numbers, from there southward through Florida and the Caribbean islands. In this way, their winter range overlaps considerably with egrets from Ohio and areas of the mid-Atlantic coast (at least New York, New Jersey and Maryland (DVCW unpubl. data)).

The wintering areas for Great Egrets identified in this study can be assigned to 10 of the 43 wintering areas for North American herons defined by Mikuska *et al.* (1998). Of our 34 encounters, 50% occurred in their SE Atlantic Coast wintering area and 20% were just to the north in their Mid-Atlantic Coast wintering area. The rest of the encounters (30%) were distributed among eight of their remaining 41 wintering areas from south Florida (12%) through the Caribbean countries (18%). It would appear that the focal wintering range of Great Egrets banded in Ontario is the 900 km coastal area from SE North Carolina to central eastern coastal Florida; secondary wintering areas lie north and south of this area.



Figure 3. Locations and numbers of Ontario-banded Great Egrets encountered during October to March (2001 - 2013).

NJ = New Jersey\*, VA = Virginia, TN = Tennessee, NC = North Carolina, SC = South Carolina, GA = Georgia, AL = Alabama, FL = Florida, CU = Cuba, JA = Jamaica, DO = Dominican Republic, VI = Virgin Islands.

\* New Jersey: 1 egret encountered during December – February, 2 egrets encountered October, November and March.

The northern edge of the wintering range of Great Egrets in eastern North America is difficult to identify with certainty or consistency as it is known to fluctuate with annual temperature (McCrimmon *et al.* 2011). McCrimmon *et al.* (2011) state that egrets winter as far north as New Jersey and locally in New York. Boyle (2011) states that in New Jersey, the Great Egret is “a scarce winter resident — most migrate in October but a few usually try to winter in the southern coastal salt marshes.” We did not receive any winter records of Ontario-banded birds from coastal New York, and all New Jersey records were from October and December — inconclusive wintering times when at the northern edge of their winter range. Interestingly, two New Jersey records which we did not include in our analysis were wing-tagged birds that were observed leaving the New Jersey shore, flying south out over the ocean, at the Avalon Seawatch (a migration monitoring project) during 21-23 October 2011. Obviously they were not going to be wintering in New Jersey.

The encounters in New Jersey, two in October and one in early December are highly suggestive of egrets migrating through that state in the autumn. With no encounters in January or February, the heart of winter, it seems unlikely that very many egrets overwintered there during this study. However, we did find that nine of eleven encounters from the October – November period occurred in well recognized wintering areas for egrets. The single encounter from Virginia in March is suggestive of a spring migrant, although this bird was an immature,

most of which rarely migrate back to their natal area/colony in their 1st year (CWS unpubl. data). Nevertheless, all four of the encounters from March could represent legitimately wintering birds.

Farther south, the other 30 encounters from Tennessee through the Caribbean appear to be straightforward valid winter range records. The record from Tennessee is unusual for being an inland location; however, the same orange-tagged individual (10D) was identified at the same location in January and March. A second observation in January and another in April (of the same year) when the number on the orange tags could not be read, were likely the same bird. Tennessee is on the periphery of the Midwest wintering site for North American herons (Mikuska *et al.* 1998). The record from Jamaica is exceptional for the speed with which that egret reached that location, 3.5 months from the date of banding.

When considering the distribution and occurrence of encounters in the December-January period, it should be remembered that during the latter half of December and early January there would have been intensive field observations because of the Christmas Bird Counts (CBCs). Four of the 14 encounters during this period (29%), and 50% of the encounters for North Carolina, occurred during the traditional CBC count period. It is somewhat surprising then, that there were only single encounters of marked egrets from South Carolina (23 CBCs in 2012-13), Florida (61 CBCs) and New Jersey (25 CBCs) and none in Virginia (47 CBCs) in those months;



North Carolina, on the other hand, where 50 CBCs were conducted, had five encounters during the CBC period. This may suggest the potential for an unintentional bias away from searching for tagged egrets in some states during CBCs.

### Case Studies

Three very interesting encounters of the same green-tagged egret (22C) shed some light on movements of individual birds during the winter period. This bird was banded on Nottawasaga Island on 4 July 2011; it was encountered four months later in Cuba on 6 November 2011; however, later, on 30 November 2011 and 9 December 2011, it was encountered again in Monroe Township, Middlesex County, NJ. Thus, it traveled from Nottawasaga Island to Cuba and back to New Jersey during the period from July to November. Travels like this beg the question of what band encounters really tell us. Depending on the date, a bird may be sedentary in an area or it may be on the move (*i.e.* migrating). Normally, an Ontario-banded egret in Cuba on 6 November would be assumed to have reached its wintering area; however, this egret did not settle but kept on moving.

Furthermore, the fact that Ontario-banded migrating juvenile egrets may either get blown off course during autumn migration or otherwise lose their way was illustrated vividly by the three encounters of a red leg-banded egret (27F) during November 2005 through January 2006 on the Azores Islands, 3900 km off the east coast of North America (Weseloh and Moore 2008).

### Summary

Nineteen hundred Great Egrets were banded in Ontario and the New York waters of the Niagara River with field readable leg-bands or patagial wing-tags during the period 2001 – 2012 (inclusive). Thirty-four encounters of these egrets were received from an expanded winter period from October through March. Most encounters came from North and South Carolina but birds were recorded from New Jersey through to the Dominican Republic and Virgin Islands of the Caribbean.

We urge Ontario birders to keep watch for marked egrets; they will be returning to Ontario in the spring of 2014. Please report them to the lead author.

---

### Acknowledgements

We are very appreciative to the more than 100 observers who reported banded or wing-tagged egrets over the years, as well as to the dozens of volunteers who have assisted in banding egrets since 2001. Dan Clark, David Okines, Lesley-Anne Howes and Louise Laurin were especially helpful in the design and/or application of the wing-tags. Cynthia Pekarik and Tania Havelka developed the initial spreadsheets for tracking banding encounters. Louise Laurin provided the data from the CWS Bird Banding Office and answered our many questions. Jeffery Costa designed the map. Jack Hughes commented on an earlier version of this paper. This paper would not have been possible without all of the above team work.

### Literature Cited

**Boyle, W.J. Jr.** 2011. *The Birds of New Jersey: Status and Distribution*. Princeton University Press, Princeton, NJ.

**Byrd, M. A.** 1978. Dispersal and movements of six North American ciconiiforms. Pages 161-185 in *Wading birds*. (Sprunt IV, A., J. C. Ogden, and S. Winckler, Eds.) Res. Rep. No. 7. National Audubon Society. New York.

**Coffey, B.B. Jr.** 1943. Post-juvenile migration of herons. *Bird-banding* 14:34-39.

**Coffey, B.B. Jr.** 1948. Southward migration of herons. *Bird-banding* 19:1-5.

**Dunn, E. H., A. D. Brewer, A. W. Diamond, E. J. Woodsworth and B. T. Collins.** 2009. *Canadian Atlas of Bird Banding*, Volume 3: Raptors and Waterbirds, 1921-1995. Canadian Wildlife Service Special Publication. Catalogue No. CW69-20/2-3-2009E-PDF. Ottawa. <http://publications.gc.ca/pub?id=347558&cs=0>.

**eBird.** 2013. eBird: An online database of bird distribution and abundance. (<http://www.ebird.org>).

**McCrimmon, Jr., D. A., J. C. Ogden and G. T. Bancroft.** 2011. Great Egret (*Ardea alba*), *The Birds of North America Online* (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology; Retrieved from the Birds of North America Online: <http://bna.birds.cornell.edu/bna/species/570>

**Mikuska, T., J.A. Kushlan and S. Hartley.** 1998. Key areas for wintering North American herons. *Colonial Waterbirds* 21:125-134.

**National Audubon Society.** 2000-2012. Christmas Bird Count historical results. (<http://birds.Audubon.org/data-research>).

**Root, T.** 1988. *Atlas of wintering North American birds*. University of Chicago Press. Chicago.

**Sibley, D.A.** 2003. *The Sibley field guide to birds of Eastern North America*. National Audubon Society. Alfred A. Knopf, New York.

**Weseloh, D.V.C. and D. Moore.** 2008. A colour-banded Great Egret from Ontario sighted in the Azores Islands. *Ontario Birds* 26:136-139.

---

*D.V. Chip Weseloh*  
Canadian Wildlife Service  
4905 Dufferin St.  
Toronto, ON M3H 5T4  
E-mail: [chip.weseloh@ec.gc.ca](mailto:chip.weseloh@ec.gc.ca)

*Dave Moore*  
Canadian Wildlife Service  
Canada Centre for Inland Water  
Box 5050, Burlington, ON L7R 4A6

*Tina Knezevic*  
803-4340 Bloor Street West  
Toronto, ON M9C 2A6

## NORTH PERU BIRD TOURS

**Top Birding  
Wildlife and Culture  
Two and Three Week Tours  
starting mid 2014**

**Detlef and Carol Davies**  
Kerikeri, New Zealand  
(64) 9407 3874  
[detlefdavies@yahoo.com](mailto:detlefdavies@yahoo.com)  
[www.birdersrest.com](http://www.birdersrest.com)  
[www.birdingnorthperu.com](http://www.birdingnorthperu.com)

