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Dispersal of Nantucket birds

John V. Dennis

This paper concerns Nantucket banding recoveries in relation to distance from the Atlantic Ocean and direction of movement.

Recoveries are of birds banded during an 8-year period (1955-1962). Most banding took place during the fall Operation Recovery period. However, several species which figure importantly in the recovery totals were banded at other seasons. These species included European Starling (*Sturnus vulgaris*), Brown-headed Cowbird (*Molothrus ater*), Common Grackle (*Quiscalus quiscula*), and Red-winged Blackbird (*Agelaius phoeniceus*). The term recovery is used only in the sense of a bird found beyond the place of banding; for example, a bird banded on Nantucket is considered a recovery only when found beyond the confines of the island.

An analysis of 91 recoveries of landbirds banded on Nantucket, off the southeastern coast of Massachusetts, reveals the following distribution in relation to distance from the Atlantic Ocean:

Recovery zone	Number	Percent of total
1. Atlantic Ocean including adjacent coastal waters	4	4.4
2. Atlantic coast of North America including coastal islands	40	44.4
3. West Indies (Cuba and Dominican Republic)	2	2.2
4. Between 5-20 mi (8-32 km) inland from Atlantic coastal waters	14	15.5
5. Over 20 mi (32 km) inland from Atlantic coastal waters	29	32.2
6. South American (Colombia)	1	1.1

Of 90 recoveries, 60 (or $\frac{2}{3}$) fall within the first 4 zones — at-sea, coastal, West Indian, and near-coastal. Certain groups or families show a more coastal recovery distribution than others. The starlings, warblers, and blackbirds show a dominantly coastal recovery pattern, while woodpeckers and finches show a more inland pattern. A number of other families are represented by only one or two recoveries, and, therefore, little can be said about any trend in their recovery distribution in relation to the coast. Single recoveries of Belted Kingfisher (*Ceryle alcyon*) in Florida, Swainson's Thrush (*Catharus ustulata*) in Colombia, Gray Catbird (*Dumetella carolinensis*) in Florida, and Ruby-crowned Kinglet (*Regulus calendula*) in South Carolina were over 20 miles (32 km)

Table 1. The recovery pattern by groups

	Number Recoveries	At-sea and coastal zones	Over 20 miles inland	Percent inland
Starling	20	17	3	15.0
Warblers	8	7	1	12.5
Blackbirds	32	23	9	28.1
Woodpeckers	3	0	3	100.0
Finches	18	8	10	55.5
Other	9	5	4	44.4

inland. Single recoveries of Sharp-shinned Hawk (*Accipiter striatus*) in New York, Mourning Dove (*Zenaidura macroura*) in North Carolina, Blue Jay (*Cyanocitta cristata*) and Brown Thrasher (*Toxostoma rufum*) in South Carolina, and American Robin (*Turdus migratorius*) in Massachusetts were from coastal or near-coastal zones.

Over half the starling recoveries were in the Maritime Provinces of Canada. 3 were from coastal regions of New Brunswick, 1 from the coast of Prince Edward Island, and 6 from the coast or near-coast of Nova Scotia. An 11th recovery was at-sea off Nova Scotia. 2 starling recoveries were in Maine, 6 in Massachusetts, and 1 in North Carolina. The inland recoveries were 1 each in Maine (50 miles [80 km] inland), Massachusetts (40 miles [64 km] inland), and North Carolina (55 miles [88 km] inland).

The warblers showed the most dominant coastal recovery distribution of any group. Two warbler recoveries in the West Indies and one at-sea will be discussed later. A Yellow-rumped Warbler (*Dendroica coronata*) recovery in Maryland, another in Long Island, New York, a Bay-breasted Warbler (*Dendroica castanea*) in Massachusetts, and a Northern Waterthrush (*Seiurus noveboracensis*) in New Jersey were all from coastal zones. The only inland warbler recovery was a Cape May Warbler (*Dendroica tigrina*) in a locality 40 miles (64 km) inland in Pennsylvania.

Three members of the blackbird family supplied 32 recoveries. 19 Brown-headed Cowbird recoveries were from 7 Atlantic coastal states and the Gulf of St. Lawrence. 5 recoveries were over 20 miles (32 km) inland; 14 were 25 to 85 miles (40 to 137 km) inland. 9 Red-winged Blackbird recoveries were from 5 coastal Atlantic states. 2 were inland (50 and 70 miles [80 and 113 km], respectively) and all the rest were coastal. Of the 4 Common Grackle recoveries, 2 each were in Virginia

and North Carolina. One Virginia recovery was coastal and the other 40 miles (64 km) inland. Both North Carolina recoveries were approximately 35 miles (56 km) inland.

Woodpeckers are represented by 2 winter recoveries in Georgia of Yellow-bellied Sapsuckers (*Sphyrapicus varius*) at points 25 and 40 miles (40 and 64 km), respectively, from the Atlantic coast, and a spring recovery of a Northern Flicker (*Colaptes auratus*) banded on 18 September 1957; recovered at Clova, Quebec on 15 May 1958. Clova is 190 miles (306 km) north of Ottawa and about 400 miles (644 km) from the Gulf of Maine.

Finch recoveries are rather evenly distributed between coastal zones and inland. Of 18 recoveries, 1 was in Texas, 1 in Ontario, 1 in Quebec, and the remaining in 8 eastern states. The White-throated Sparrow (*Zonotrichia albicollis*) provided an at-sea recovery and 3 inland recoveries — all within 30 to 40 miles (48 to 64 km) of the coast. The White-crowned Sparrow (*Zonotrichia leucophrys*) provided 4 inland recoveries, 1 in Ontario, 1 in Quebec, 1 in Pennsylvania, and 1 in Texas; all were over 80 miles (128 km) inland. The Texas recovery was 350 miles (563 km) inland from the Gulf of Mexico. The Evening Grosbeak (*Coccothraustes vespertina*) also revealed an inland recovery distribution. Of 2 recoveries, 1 was 135 miles (217 km) inland in Pennsylvania and the other 120 miles (193 km) inland in North Carolina. A Song Sparrow (*Melospiza melodia*) recovery in Florida was 30 miles (48 km) inland and a second recovery in Virginia was coastal. A Savannah Sparrow (*Passerculus sandwichensis*) recovery in Georgia and another in Virginia were coastal. A Purple Finch (*Carpodacus purpureus*) recovery in Maine was coastal as were single recoveries of Rufous-sided Towhee (*Pipilo erythrophthalmus*) and Dark-eyed Junco (*Junco hyemalis*) in Massachusetts.

The 4 at-sea recoveries are of special interest and represent birds that were picked up at sea or flew into boats. (See Table 2.)

The eastward movement of the Palm Warbler was most unexpected. Normally, small landbirds are seen leaving in a northwesterly direction during the fall. An eastward movement would be suicidal. The exact date of

Table 2. At-sea recoveries

European Starling 552-78029: banded 24 February 1958; recovered 9 April 1958; hit mast of fishing boat in Bay of Fundy (44°40'N 65°54'W) off Digby, Nova Scotia.
Palm Warbler 33-47911: banded 13 September 1962; recovered later the same month (date unknown), on a U.S. Naval vessel approximately 145 mi (233 km) east of place of banding (41°15'N 67°12'W).
Brown-headed Cowbird 59-178142: banded 7 September 1960; recovered 19 March 1961 by small vessel engaged in seal hunting and at a point 20 mi (32 km) west of the Magdalen Islands in the Gulf of St. Lawrence (47°50'N 62°45'W).
White-throated Sparrow 26-171352: banded 12 May 1959; recovered at daybreak 31 May 1959 on the deck of Cross Rip Lightship, Nantucket Sound, 19 mi (31 km) northwest of place of banding (41°25'N 70°20'W).

this recovery was unstated as were details concerning probable time when the bird first came aboard.

A northwesterly route of departure is not unexpected in spring. The White-throated Sparrow recovered on Cross Rip Lightship would appear to have been following a normal departure pattern.

Most recoveries occurred too long after banding to permit conclusions regarding probable route of departure. 7 recoveries of birds banded in spring were short-term enough to give some indication of probable direction taken (Table 3).

Of the 7 short term spring recoveries, 4 indicate a departure to the west (all cowbirds), 1 a departure to north (cowbird #58-170050), 1 a departure to the northeast (European Starling #552-78055), and 1 a departure to the northwest (White-throated Sparrow #26-171352). All recoveries in this group are coastal, insular, or at-sea with the exception of the cowbird recovery at Bradford Center, Maine, a community about 60 miles (97 km) inland and to the north of Nantucket.

Recoveries in the fall offer a clue to probable direction of departure and, in general, lend support to visual observations which showed a dominant westerly or northwesterly departure. Table 4 shows short term fall recoveries of birds reported found within approximately 1½ months of banding or less.

Of 11 short term fall recoveries, 4 indicate a departure to the west or northwest, 6 suggest the accepted southwesterly movement along the eastern coastal plain, and

Table 3. Short term recoveries of Nantucket birds banded in spring

Species	Band No.	Date banded	Date recovered	Place
European Starling	552-78055	8 March 1958	8 May 1958	Point Sapin, N.B., Can.
Brown-headed Cowbird	58-169753	20 April 1960	26 April 1960	Block Island, RI
Brown-headed Cowbird	58-169680	13 April 1960	18 April 1960	Middletown, RI
Brown-headed Cowbird	57-147434	14 April 1960	19 April 1960	Middletown, RI
Brown-headed Cowbird	58-169800	11 April 1961	7 May 1961	Martha's Vineyard, MA
Brown-headed Cowbird	58-170050	11 April 1962	26 May 1962	Bradford Center, ME
White-throated Sparrow	26-171352	12 May 1959	31 May 1959	Cross Rip Lightship, MA

Table 4. Short term recoveries of Nantucket birds banded in the fall.

Species	Band No.	Date banded	Date recovered	Place banded
Mourning Dove	543-91735	29 October 1958	22 December 1958 (letter of)	Jacksonville, NC
Bay-breasted Warbler	25-89182	28 August 1957	29 September 1957	Boston, MA
Cape May Warbler	25-14304	4 September 1956	25 October 1956	Near Marcane, Oriente, Cuba
Cape May Warbler	28-66798	4 September 1962	11 September 1962	Mt. Airy, PA
Brown-headed Cowbird	56-157305	13 September 1958	27 October 1958	Branford, CT
Red-winged Blackbird	582-86358	10 August 1960	25 August 1960	Martha's Vineyard, MA
Savannah Sparrow	29-42529	1 September 1960	29 October 1960	Sapelo Island, GA
Dark-eyed Junco	28-81401	7 October 1958	31 October 1958	New Bedford, MA
White-crowned Sparrow	26-171449	13 October 1958	7 November 1958	Greencastle, PA
White-throated Sparrow	25-177097	3 October 1957	6 November 1957	Glenolden, PA

Table 5. Short term foreign recoveries made during the spring.

Species	Band No.	Date banded	Date recovered	Place banded
European Starling	512-47316	11 March 1958	7 April 1958	Chatham, MA
Red-winged Blackbird	532-73669	3 April 1957	3 May 1957	North Eastham, MA
Brown-headed Cowbird	53-158408	25 March 1955	1 June 1955	Near Cape May, NJ
Brown-headed Cowbird	56-161164	17 April 1958	17 May 1958	Middletown, RI
Brown-headed Cowbird	56-147254	17 April 1958	23 April 1958	Middletown, RI
Brown-headed Cowbird	56-161158	17 April 1958	23 April 1958	Middletown, RI
Brown-headed Cowbird	56-161714	22 March 1959	28 April 1959	Middletown, RI
Brown-headed Cowbird	59-116814	17 April 1960	20 April 1960	Block Island, RI
Brown-headed Cowbird	57-191548	3 April 1959	30 April 1959	Ledyard, CT
Purple Finch	60-61778	15 March 1959	1 May 1959	Ledyard, CT
Purple Finch	62-35935	11 April 1959	5 July 1959	Cumberland Mills, ME

1, the Palm Warbler at sea (see Table 2), implies a surprising easterly departure. Recoveries farther south, such as the 6 listed here, offer little, however, in the way of evidence regarding immediate departure on leaving the island. Birds leaving the island in a westerly or northwesterly direction would be expected later to orient their flight in a southwesterly direction in conformity with the coastline.

With only 3 exceptions, all 11 short-term fall recoveries were at-sea, coastal, or insular. The Cape May Warbler at Mt. Airy, PA was 70 miles (113 km) inland, the White-throated Sparrow at Glenolden, PA was 75 miles (121 km) inland, and the White-crowned Sparrow at Greencastle, PA was over 200 miles (322 km) inland.

Further information on movement in spring and fall is provided by a number of foreign recoveries on Nantucket of birds banded elsewhere. Table 5 shows short-term foreign recoveries made during the spring.

Three of the above (European Starling #512-47316; Red-winged Blackbird #532-73669; and Purple Finch #62-35935) indicate movement to Nantucket from the north. It is unlikely that a cowbird, as seen in #53-158408 banded near Cape May, would embark upon a long over-water flight from New Jersey or Long Island.

Therefore it is presumed that this bird flew north to reach New England and then east to reach Nantucket. The remaining recoveries are of birds banded within 100 miles (161 km) of Nantucket and all indicate movement to Nantucket from the west.

It is of interest that 3 of the cowbirds providing evidence of an eastward movement were banded the same day (17 April 1958) at the same Middletown, Rhode Island banding station. Two were captured 6 days later at a Nantucket banding station and the third 30 days later at the same station. These recoveries provide good evidence of flock cohesion in the cowbird.

Cowbird #59-116814 provided a record of the shortest time interval between banding and recovery. This bird, banded on Block Island on 17 April 1960, was captured 3 days later on Nantucket. The distance between place of banding and place of recovery was approximately 70 miles (113 km).



Only one short-term foreign recovery is available for the fall, and it indicates movement from west to east (the opposite of expected movement at this season). This was a Yellow-rumped Warbler (#26-22468) banded 7 Sept. 1957 at Middletown, Rhode Island and recovered 10 Sept. 1957.

The main movement to the island in the spring appears to be from the west. Birds banded on Block Island, Martha's Vineyard, and in coastal Rhode Island have appeared on Nantucket very soon after banding. There is also an indication of movement to Nantucket from the north in spring. This movement appears to reach Nantucket by way of the outer or eastern tip of Cape Cod. Birds flying from Monomoy Island to Great Point on Nantucket would have a crossing of 8 miles. A more hypothetical route would be from the northwest across Nantucket Sound to Nantucket. Birds reaching Nantucket from this quarter would have an over-water flight of approximately 25 miles (40 km).

In the spring, when it is assumed that birds are reaching Nantucket from the north and west, several opposite currents of movement are present. Recoveries of birds banded on Nantucket at such western localities as Martha's Vineyard, Block Island, and Middletown, Rhode Island, indicate a substantial movement in this direction. The few recoveries to the north indicate movement in this direction as well.

While the main interest of this report was with relatively local movement, mention should be made of the few recoveries that have been received from the tropics. These give a clue as to the final winter destination of some of the fall migrants that pass through the island. The Cape May Warbler recovery from Oriente Province, Cuba has been cited. Another Cape May Warbler, #25-01070, banded on Nantucket on 6 September 1955, was recovered at Julia Molina, the Dominican Republic, on 11 January 1957. A Swainson's Thrush, #26-171230, banded on Nantucket on 21 September 1958, was recovered near Moniquira, Colombia (pers. comm. on 11 December 1958). This locality is north of Bogota and about 260 miles (420 km) from the Caribbean.

Summary

The 91 recoveries of landbirds banded on Nantucket during the period 1955-1962 were analyzed with respect to distance of place of recovery from the Atlantic and coastal waters. Three-fourths of all recoveries fell within 4 zones described as at-sea, coastal, near-coastal, and West Indian. The European Starling, warblers, and blackbirds showed a dominantly coastal recovery pattern. Single at-sea recoveries were provided by the European Starling, Palm Warbler, Brown-headed Cowbird, and White-throated Sparrow.

Banding recoveries in spring indicate a pronounced easterly movement toward Nantucket from neighboring islands and coastal regions. There was also a reverse movement at this season through the same area. There were also indications, through banding recoveries, of movement from Nantucket. There were fewer short term fall recoveries, but departure seemed to be chiefly toward the west and northwest. There was one fall record of a bird arriving from the west and, as indicated by a recovery of a bird landing on a ship, a probable eastward departure.

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