BULLETIN

OF THE

NORTHEASTERN BIRD-BANDING ASSOCIATION

NOTES ON THE MIGRATION OF YOUNG COMMON TERNS

BY FREDERICK C. LINCOLN

OF all the Terns, there probably is no individual species to which the term "cosmopolitan" may be applied more appropriately than to the Common, or Wilson, Tern (*Sterna hirundo*). At some season of the year an inhabitant of four of the five major land-masses of the earth (Australia being the exception), it is one of the best known of the "sea swallows."

In North America during the breeding season the majority of these birds are found between the thirty-sixth and fortysixth parallels of north latitude, although their entire breeding-range probably extends north to the Arctic coast and south to the coasts of Texas, Louisiana, the Florida keys, and Venezuela. At this season in the Eastern Hemisphere they are found north to Norway, the Caspian Sea, and Turkestan, and south to the Azores, Canary and Madeira Islands, northern Africa, and Lake Baikal.

Their well-known habit of nesting in large colonies has marked them for special study through the application of the banding method, so that on both sides of the ocean they have been banded in large numbers. For the past few years in the United States many breeding areas on the north Atlantic coast and in the Great Lakes have been regularly visited by bird-banders, whose activities have resulted in the marking of 19,995 of these birds.

Despite this large number of potential recoveries, the actual number of returns is disappointingly few, probably because of the relatively small size of the band-carriers and their efficient protection under the terms of the Migratory Bird Treaty Act. This is, in fact, one of the species for which returns have been left entirely to the element of chance, and it is obvious that suitable methods must be developed for the capture of fully adult birds. There is no doubt that this can be accomplished if it is given the requisite attention, for experimental work already done^{*} has shown the possibilities. The bander devising a satisfactory method to take these birds in large numbers will contribute a valuable and important part to the investigation.

The returns now at hand number 52[†] and it seems desirable to present them in a brief summary, as the indications point to a most interesting study when additional material becomes available (see table). In examining the present cases it must be borne in mind that all returns are for birds banded as chicks and the movements of such birds may not accurately reflect those of birds that would be fully adult at the time of banding.

The outstanding record is the celebrated American Bird Banding Association No. 1258, the recovery of which, on the west coast of Africa remains unique among records of North American banded birds, although several gulls banded in Europe have been retaken in American waters. A record of this character is intriguing to the imagination and care must be exercised to avoid deductions that might be premature. As will be observed, however, other records seem to indicate a fairly well defined flyway down the Atlantic coast of the United States, through the West Indies and Lesser Antilles to the South American coast where the most eastern point is not an overly great distance from the coast of Africa. (See Figure 1.)

Returns for terns banded in Massachusetts and New Hampshire and recovered during the first six months of their lives show very little movement, only 5 of 24 being reported from distances sufficient to indicate that they had performed a migratory flight. Fifteen were recovered before they had carried bands for two months. The five exceptions—two being from Long Island, New York, one from Florida, one from Porto Rico, and the fifth from the West French Indies probably represent birds that were flying in company with migrating adults, which if a tenable hypothesis, gives them added importance.

^{*}During the 1926 season Edward S. Thomas, of Columbus, Ohio, was successful in taking several adults at a colony in Lake Erie, by means of simple drop traps.

[†]The bird-banding cooperators whose activities have resulted in these data are: Edwin Beaupre, Franklin P. Cook, L.B. Fletcher, Charles B. Floyd, Mr. and Mrs. John A. Gillespie, Joseph J. Haas, Waiter E. Hastings, John C. Phillips, W.B. Purdy, W.E. Smith, Edward S. Thomas, Winsor M. Tyler, E.U. Ufford, and Francis B. White. Mr. Floyd who has worked at Tern Island, near Chatham, Massachusetts, and Mr. Hastings, who has made several trips each year to Lone Tree Island, Saginaw Bay, Michigan, are almost tied for first place in the number of banded terns to their credit.

Although the principal winter range of the Common Tern in the Western Hemisphere is on the coasts of South America. it does, nevertheless, extend north to Florida; so it seems probable that upon reaching Florida certain individuals are likely to begin dropping out of the migrating flocks. On the other hand, offshoots or branches from the main flyway may exist. Some explanation of this nature is necessary to account for the tern banded on the coast of New Jersey (No. 212268) and recovered at the mouth of the Chumpan River, in Campeche. It is the only one of the Atlantic coast birds that so far has been retaken west of the seemingly normal route through the West Indies to South America.

The two returns for the Island of Trinidad (Nos. A. B. B. A. 54886 and B. S. 375323) were both captured at the season when breeding activities were under way at their natal colonies, by which it may be assumed that they were sexually immature, incapacitated, or had joined the small colonies of this species that breed in such southern latitudes (Aruba and Bonaire Islands, Venezuela). It should be noted that while one of these birds was only eight or nine months old when retaken. the date of banding of the other was nearly two years previ-The case of No. 382247, taken on the coast of Venezuela. ous. also is in this class, and in the writer's opinion supports a belief that the Common Tern does not breed until it is at least two years old. No. 430079, taken at Mayaguez, Porto Rico, early in October, almost certainly represents a bird in winter quarters.

In connection with the statement that these terns do not breed before they are two years old, reference is made to the case of No. 384246, which was taken at Fogo, Newfoundland, almost a year to the day after banding, and which would appear to furnish contradictory evidence. This may, however, merely represent a bird that had performed the northward migration in company with adult birds, and in lack of supporting evidence, should not be taken to indicate a return flight to breeding-grounds. The record for No. 212894, retaken in the region where it was banded, lends strength to this theory, as this bird was three years old when it was recovered.

An examination of the returns from birds banded in the Great Lakes region suggests two possible lines of flight, one of which would seem to connect with the Atlantic coast flyway (possibly in the vicinity of Long Island), while the other follows down the interior to the Gulf coast, where, branching



FIG. 1. Flights made by banded Common Terns. The straight lines are not intended to represent the actual courses taken by the birds, but merely to connect points of banding and recovery. The broken lines indicate theoretical routes that probably were followed and that seem to harmonize with the data available. again, one line goes eastward to the peninsula of Florida and thence south, the other keeping to the west and down the coast of Mexico. It is admitted that this suggested route of fall migration is largely theoretical and may be partly or wholly disproved when additional records are received.

Of the 20 cases of recovery for Great Lakes birds, only three are for the Atlantic coast, all of which were retaken in the fall of the year in which they were banded. One, at Fire Island, New York (No. 265944), clearly indicates a flight almost directly eastward, while the others, at Wabasso, Florida (No. 400283), and Fowey Rock Lighthouse (No. 400-770), probably represent birds that reached the Atlantic coast in a similar manner. It is suggestive that two other Florida returns (Nos. 400388 and 271807) are both from points on the west coast, and while the distance between the east and west coasts is insignificant for a bird with such remarkable powers for sustained flight, it is equally probable that the point of recovery was reached from the west after a southward flight on an interior flyway, such as the Mississippi Valley. This interior route would seem to offer the logical explanation for the flights represented in the cases of the returns from La Grange, Texas (No. 270846), and Carmen. Campeche (270162).

RETURNS FROM BANDED COMMON TERNS

Place of banding, No., and date	Date Retaken	Locality
MASS., CHATHAM:		
404101: July 13, '26	Sept. 20, '26	Fla., St. Augustine.
403937: July 12, '26	Sept. 28, '26	F.W.I., Fort de France.
403571: July 12, '26	Nov. 15, '26	Mass., Barnstable.
280771: June 13, '24	Aug. 24, '24	Billingsgate Is.
280464: June 12, '24	Aug. 1, '24	Boston (60 mi. N.)
433002: July 6, '26	Aug. 26, '26	Brewster.
434736: July 7, '26	Aug. 22, '26	Cape Cod Bay,
434247: July 7, '26	Aug. 16, '26	Duxbury.
434486: July 7, '26	Aug. 13, '26	Do.
433659: July 6, '26	Aug. 17, '26	E. Brewster.
435460: July 8, '26	Aug. 11, '26	Halfmoon Is.
434781: July 7, '26	July 24, '26	Harwichport.
280559: June 13, '24	Aug. 5, '24	North Eastham.
383695: July 9, '25	Aug. 16, '25	Orleans.
403497: July 12, '26	Aug. 20, '26	Provincetown.
434956: July 7, '26	Aug. 24, '26	South Boston.
434533: July 7, '26	Aug. 16, '26	South Harwich.
318131: July 14, '24	Sept. 2, '24	Swampscott.
404509: July 16, '26	Nov. 6, '26	West Dennis.
384246: July 7, 25	July 5, 26	Nfld., Little Fogo Is.

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RETURNS FROM BANDED COMMON TERNS Continued

Place of banding,	Date	.
No., and date	Retaken	Locality
404225: July 15, '26 433796: July 6, '26 382247: July 4, '25	Oct. 8, '26 Aug. 22, '26	N. Y., Fort Hamilton.
433796: July 6, '26	Aug. 22, '26	Southampton.
382247: July 4, '25	Apr. 24, '26	Venez., Carupano.
MASS., MUSKEGET IS.:	- /	, _
430079: June 3, '26	Oct. 12, '26	P. R., Mayaguez.
ME., EASTERN EGG ROCK:	,	
*1258: July 3, '13	Aug. '17	S. Nigeria, Niger R. Delta.
MICH., LONE TREE IS.:		
271807 July 11 '25	Nov 3. '25	Fla., Pensacola.
271807: July 11, '25 270162: July 13, '24 259453: Aug. 5, '23 271710: July 11, '25 270905: July 11, '26	Nov. 3, '25 Oct. 19, '24	Mex., Carmen, Campeche.
$250452 \cdot Aug = 5'22$	Sent 30, 22	Mich., Bay City.
209400. Aug. 0, 20 971710. July 11 '95	Sopt. 15, 25	Do.
271710, July 11, 25 270005, July 17, 206	Sept. 10, 20	
372295: July 17, 20	Sept. 10, 20	Do.
401729: Aug. 1, 20	Oct. 1, 20	Langsville.
401197: Aug. 1, 26	Oct. 30, 26	Mt. Clemens.
271710: July 11, '25 372295: July 17, '26 401729: Aug. 1, '26 401197: Aug. 1, '26 271681: July 11, '25 401647: Aug. 1 '26	Oct. 18, 25	Saginaw Bay.
401647: Aug. 1, '26	Oct. 25, '26	Do.
270811: July 13, '24	Oct. 19, '24 Sept. 30, '23 Sept. 15, '25 Sept. 16, '26 Oct. 1, '26 Oct. 30, '26 Oct. 18, '25 Oct. 25, '26 Sept. 8, '24 Nov. 10, '24	Ont., Sarnia.
271681: July 11, 25 401647: Aug. 1, '26 270811: July 13, '24 270846: July 13, '24	Nov. 10, '24	Tex., La Grange.
MICH., ST. CLAIR FLATS:		
317634: Aug. 9, '24	Sept. 18, '24	Ohio, Port Clinton.
370292: July 20, '25	Aug. 8, '25	Ont., Wheatley.
N. H., SEABROOK:	0 ,	,
467343: July 9, '26	July 13, '26	Mass., Lawrence.
259918: Aug. 2, '24	Aug. 7, '24	Mass., Newburyport.
N. J., ANGLESEA:		
375323: Aug. 23, '25	May 16, '26	B. W. I., Trinidad.
212268: Aug. 5, '23	Jan. '24	Mex., m. of Chumpan R.
N. J., BRIGANTINE IS.:	0 an. 21	Mex., m. or onumput in
*54886: July 27, '20	May 20, '22	B. W. I., Trinidad.
N. J., LITTLE BEACH IS.:	Way 20, 22	D. W. I., Himaaa.
212894: Aug. 9, '23	July 22, '26	N. J., Little Egg Harbor.
OHIO om DUT is the second	July 22, 20	IV. J., LIUNC Egg Harbor.
OHIO, STARVE IS.: 400770: July 23, '26	Nov. 20, '26	Fla., Fowey Rock Light-
400770. July 23, 20	1000. 20, 20	
400000 T1 99 196	Sent 96 196	house.
400898: July 23, '26	Sept. 26, '26 Aug. 26, '26	Ohio, Ashtabula.
400923: July 23, '26	Aug. 26, 26	Huron Light Station.
ONT., BAY OF QUINTE:	1 1 100	N N D L /
104872: July 14, '22	Aug. 15, '22	N. Y., Rochester.
ONT., BIG CHICKEN IS.:	17 00 100	
400388: July 24, '26	Nov. 26, '26	Fla. Dunedin.
400283: July 24, '26	Nov. 23, '25	Wabasso.
ONT., SALMON IS.:		
265944: July 19, '24	Aug. 27, '24	N. Y., Fire Is. Inlet.
265946: July 19, '24	Aug. 8, '24	Ont., West Lake.

*A.B.B.A. number.