1959-1970 No. 71

PROCEEDINGS

OF THE

LINNAEAN SOCIETY

OF

NEW YORK

For the Twelve Years Ending
March, 1970

Date of Issue, December, 1970

The Linnaean Society of New York

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Contents

Supplement To Birds Of The New York Area

JOHN BULL

A continuity of record is important for showing trends in bird life. This supplement attempts to indicate these trends. It is hoped that authors of future lists of the avifauna of the New York area will maintain this continuity and that the lists will appear at frequent intervals, possibly every four or five years. Unless this is done, preparation for the succeeding book will be an overwhelming burden for the next writer. An ever increasing amount of data is bound to accumulate as the number of birdwatchers increases correspondingly.

Although there is an abundance of information on the migrant birds of this region, as well as on the winter visitants, the breeding birds have been woefully neglected. There is always plenty of manpower available when it comes to the Christmas censuses, the winter waterfowl counts, big May days, and running down rarities throughout the year. But when the time comes for taking a breeding-bird census, searching for nests, surveying the colonial breeders, or assisting serious field workers in plotting and mapping the distribution of our less common nesting species, then the average birdwatcher lays aside his binoculars, as he feels there is nothing "exciting" until the fall migration. Nevertheless information obtained about our breeding birds, together with the field work entailed, have their rewards. For example, the data acquired on nesting habits or documentation of increases and decreases of the various species are of far greater significance than the listing of all accidental species that have ever occurred or may occur within the New York City region.

The present treatment of the species account is the same as that found in Bull (1964). By referring to that work the reader will understand the significance of the data contained in this supplement. An asterisk after the species name means that there is specimen evidence for that species. The letter B after the species name indicates that breeding evidence has been obtained. For both maximum counts and early and late dates, the names of observers are omitted unless the counts and dates are of exceptional nature. AMNH=American Museum of Natural History. USNM= United States National Museum.

Records are included from January 1, 1964, through July 31, 1968. In addition there are a few old records of interest, believed to be published here for the first time, and an important breeding record published as long ago as 1920, but subsequently overlooked.

With the exception of the Escape and Hypothetical lists, no species new to the region has been recorded since the end of 1963. A supposed Blue-faced Booby (*Sula dactylatra*) reported on eastern Long Island in September 1965 was later proved to be a Gannet (*Morus bassanus*); see *Ebba News*, 29:72, 1966.

Three species bred in the region for the first known time as follows: Redhead on Long Island in 1965, but see Bull (1964:134); Willet on Long Island in 1966; Red-bellied Woodpecker in northern New Jersey in 1967. There are now (1968) a total of 193 species known to have bred within the area.

Acknowledgments

The writer wishes to thank the members of the Linnaean Society of New York and other bird clubs throughout the area for submitting records and helping to compile certain statistical information. There are also a number of persons who gave much time and effort in assisting me in numerous ways. The help of these individuals is gratefully acknowledged: Geoffrey Carleton, Howard Cleaves, Richard Cohen, Tom Davis, Adrian Dignan, Aline Dove, Eugene Eisenmann, Stanley Grierson, Helen Hays, Wesley Lanyon, Roy Latham, Chris Pineo, William Post, Dennis Puleston, Fred Schaeffer, Robert Sutherland, Walter Terry, Ben Trimble, Guy Tudor, and Neil Ward. To my wife, Edith, I owe thanks for typing and editing manuscript.

Species Account

COMMON LOON (*Gavia immer*)*

50, Captree State Park, Oct. 9, 1962.

RED-THROATED LOON *(Gavia stellata)**

50, Montauk Point, Jan. 26, 1964.

HORNED GREBE *(Podiceps auritus)**

One in breeding plumage, Atlantic Beach, entire summer of 1965.

EARED GREBE *(Podiceps caspicus)**

Regular at Jamaica Bay Refuge since the fall of 1962, with one individual present each season, and two observed on Nov. 20, 1965. Arriving earlier in fall in each succeeding year: 1962—Oct. 11; 1963—Oct. 5; 1964—Sept. 29; departed March 28, 1964. The September and March dates are the earliest and latest recorded by eleven and five days respectively. However, it arrived at Jamaica Bay Refuge, Sept. 6, 1967 (Norse). Also one at Patchogue, March 9-10, 1968 (M. Hemmerick, Puleston, Raynor, and Cooley).

PIED-BILLED GREBE *(Podilymbus podiceps)** B

30, Jamaica Bay Refuge, Oct. 4, 1964.

CORY'S SHEARWATER *(Puffinus diomedea)**

20, south of Ambrose lightship, Aug. 27, 1962. 435 in one hour, Jones Beach, Oct. 16, 1966 (Davis and W. Houston); an exceptionally large number for western Long Island.

GREATER SHEARWATER *(Puffinus gravis)**

14, Jones Beach, May 1, 1965; earliest arrival by three days.

AUDUBON'S SHEARWATER *(Puffinus lherminieri)**

An injured individual was picked up on the beach at Fire Island, opposite Blue Point, July 28, 1967 (C. Kessler); specimen identified by W. E. Lanyon, now in AMNH collection, No. 788362; fifth regional record, all specimens from Long Island.

LEACH'S PETREL *(Oceanodroma leucorhoa)**

Freshly dead bird picked up at Westhampton Beach, July 3, 1965 (Davis); specimen in AMNH collection. There are well over a dozen local specimens. The species is probably a regular offshore migrant, with a few summering individuals present. Two caught in mist nets at night and subsequently banded, Great Gull Island, Aug. 4 and 6, 1967 (D. Cooper).

WHITE PELICAN *(Pelecanus erythrorhynchos)**

Jamaica Bay Refuge, Sept. 26 to Nov. 13, 1964 (numerous observers); eighth known occurrence.

BROWN PELICAN *(Pelecanus occidentalis)**

One observed flying west over the surf at Riis Park, Nov. 3, 1962 (Mayer and Rose); an extremely late date by over a month, eleventh known occurrence.

GANNET *(Morus bassanus)**

800, Montauk Point, Nov. 3, 1963 (Tudor); highest count. Great Gull Island, July 25, 1965 (Cooper and Sutton); third July occurrence, the two previous ones are specimen records. 150 in one hour, Jones Beach, Oct. 16, 1966.

GREAT CORMORANT *(Phalacrocorax carbo)**

Immature found dead, Jones Beach, Sept. 21, 1948 (Sandford); specimen not preserved, but color-photographed; identification confirmed by Ryan. This is the sixth local specimen, all from Long Island, and is the second earliest fall occurrence. The above record has apparently not been published.

17, Pelham Bay, Jan. 22, 1964 (Norse); high number for the locality.

MAGNIFICENT FRIGATEBIRD *(Fregata magnificens)**

Male reported well seen off Fisher's Island, Aug. 20, 1963 (Simmons, *fide* Ferguson); observer previously familiar with the species in Florida and the Bahamas.

Immature, Montauk, July 3, 1965 (Davis and Epstein); latter observer previously familiar with the species in Florida.

Female color-photographed in flight over Great South Bay, near Brookhaven, Sept. 18, 1965 (Puleston); photo on file in AMNH collection. These three reports are the fifth, sixth, and seventh for the region, all from Long Island.

GREEN HERON *(Butorides virescens)** B

Nonbreeding: East Quogue, Jan. 2, 1965 (Wilcox); fourth winter occurrence, all on the south shore of Long Island.

Breeding: 23 nests at Jones Beach (between parking lot no. 4 and the fishing station), summer of 1965; young hatched as late as Aug. 12.

LITTLE BLUE HERON *(Florida caerulea)** B

Nonbreeding: Immature, Lawrence, Dec. 13, 1964 (Berlin, Bull, Glassberg, and Hirschbein); latest fall occurrence by over five weeks. Immature, Speonk, Dec. 27, 1965 (Wilcox and Terry), first local winter occurrence.

Adult, Mt. Kisco, March 28, 1966 (Grierson and D. Junkin); early. Adult, Stony Brook Harbor, March 16, 1968 (D. Sayre); earliest occurrence by two weeks.

Breeding: Three pairs bred at Lawrence marsh, summer of 1965. This species was found breeding at two "new" localities during the summer of 1967: Three pairs each at Oak Beach and Gardiner's Island. It has shown no signs of increasing at the Lawrence colony.

CATTLE EGRET *(Bubulcus ibis)**

This species bred in Rhode Island in 1964 for a further range extension. It is unknown as a breeder along the coast between Rhode Island and southern New Jersey, although nesting inland in southern Ontario since 1962.

The following local occurrences are: **1963**—Jamaica Bay Refuge, May 4-12; Hewlett and Sayville, May 12. **1964**—Brookhaven, Apr. 16-19; Jones Beach, May 9; Jamaica Bay Refuge, May 10; Van Cortlandt Park, May 11; 7, Cheesequake, Middlesex County, N. J.—following a tractor plowing fields; 25, Middletown, Monmouth County, N. J.—observed on a dairy farm, several "riding backs of cows"; both these latter occurrences in early May (*fide* Seeley); one captured alive in a building excavation, lower Manhattan, New York City, Nov. 17 (bird photographed and released).

1965—New City, Rockland County, May 13; 17, Blooming Grove, Orange County, also May 13 (Whitcomb); 32, Holmdel, Monmouth County, N. J., also on May 13 (Sandford); Jamaica Bay Refuge, May 26-30. Note that the above flocks were recorded only at inland localities west of the Hudson River; those in New Jersey occurring not far from the coast; all of the Long Island observations were of single birds only. **1966**—3 summered at Jamaica Bay Refuge. **1968**—1 near Yaphank, L. I., March 26 (H. Halama) is the earliest regional record by nine days.

GREAT EGRET *(Casmerodius albus)** B

The following *breeding* data are at hand for four Long Island colonies:

1964—2 pairs in a mixed heronry at East Moriches; first known breeding record at this locality. Colony abandoned subsequently because of nearby construction (Raynor).

1965—20 plus pairs, Canarsie Pol, Jamaica Bay (Hays *et al.*) 18 pairs in the Jones Beach area (see Green Heron for exact location). 13 nests with young, Fisher's Island; "nests all in sour gum trees" (Ferguson).

1967—15 pairs at Oak Beach (Enders and W. Post) and 3 pairs at Gardiner's Island (many obs.) represent first known breeding occurrences at these localities.

SNOWY EGRET *(Leucophoyx thula)** B

The following data represent some maximum counts and estimates of *nonbreeders,* as well as some winter occurrences—Big fall flight in 1964, both coastal and inland:

40, Orient, Aug. 4 (Latham); large number so far east, no evidence of breeding anywhere along north shore of Long Island.

7, Cornwall, Orange County, Aug. 15 (Jeheber); high number so far inland.

175, East Moriches, Aug. 17 (Raynor).

15, Pelham Bay, Aug. 29 (Sutton); high number for locality.

300, Jamaica Bay Refuge, Sept. 1 (Koeppel), and 250 there, Sept. 26 (Norse).

Other records of interest—Tobay Pond, March 14, 1964, earliest occurrence by one day; 40, same locality, March 28, 1964 (several observers), good early spring count. At least *five* different individuals were reported along the south shore of Long Island during the Christmas count period of 1963-1964, including three birds in central Suffolk County, and one each in southern Nassau County and in the Brooklyn area; heretofore, only one late December occurrence in 1961. 150, Jamaica Bay Refuge, Oct. 28, 1967 (Norse), is late for so many. One at Tobay, Jan. 17, 1967

(Bull and S. Keith) is the first reported midwinter occurrence. Seven birds recorded on the southern Nassau Christmas Count on Dec. 30, 1967, is also unusual.

The following *breeding* data are at hand for three Long Island colonies:

1964—20 pairs in a mixed heron colony at East Moriches; first reported nesting at this locality in 1963 (see Bull, 1964); this colony subsequently abandoned because of nearby construction (Raynor).

1965—150 plus pairs, Canarsie Pol, Jamaica Bay; "early egg date" of May 26 (Hays). 35 pairs, Lawrence marsh (Hays).

1966—10 nests, each with one egg, Lawrence, Apr. 16, the earliest "egg date" for the region.

1967—25 pairs breeding at Gardiner's Island represent a "new" locality.

LOUISIANA HERON *(Hydranassa tricolor)** B

Nonbreeding: Alley Pond, March 9, 1963 (Cohen), earliest occurrence by 13 days; very rare at any time on the north shore of Long Island. One collected on Fisher's Island, Apr. 14, 1963 (Ferguson), specimen in his collection. This is the third local specimen and apparently the only one extant. One color-photographed, Premium Creek, Larchmont, May 28, 1967 (S. Bahrt). 4, Canarsie Pol, Aug. 25, 1965; 6, Jamaica Bay Refuge, Sept. 12, 1964; 4, Tobay Pond, Oct. 13, 1962 (Elliott and Ward), high count for such a late date.

Breeding: A nest with young was found at Canarsie Pol in June 1966 (Johnson, Hays, and Cooper) for the second known regional breeding record.

BLACK-CROWNED NIGHT HERON *(Nycticorax nycticorax)** B

This species has greatly decreased as a breeder in recent years in our region. The nesting colonies are fewer in number and smaller in size than in former years. Land development is believed to be one of the chief causes for decline in the local population. Puleston (*in litto*) states, "becoming scarcer every year; there are very few colonies left at the east end of Long Island."

130 nests at Centre Island, Nassau County in 1964 (Lyman Langdon Audubon Society).

100 pairs on Canarsie Pol, Jamaica Bay in 1965, with a late date for eggs pipping—Aug. 25 (Hays).

100 pairs on Gardiner's Island in 1967.

YELLOW-CROWNED NIGHT HERON *(Nyctanassa violacea)** B

Nonbreeding: Immature, Jan. 2, 1966, and an adult, Dec. 30, 1967,

both in the Jones Beach area, are the sixth and seventh winter regional reports.

20, Tobay Pond, Sept. 13, 1964.

Breeding: In Bull (1964: 106) the statement, "The 1953 Connecticut nest site listed above was the first reported for that state . . ." should have read "1947" to agree with the accompanying table. Mention of the year 1953 was a *lapsus.*

9 nests, Jones Beach area (see Green Heron for exact location) in 1965.

LEAST BITTERN (*Ixobrychus exilis*)* B

One found dead in fresh condition, Brookhaven, Jan. 26, 1964 (Puleston); fifth winter occurrence and the third winter specimen.

Injured individual captured at Seaford, Feb. 17, 1966 (van Sant), but died later that day; specimen in Nassau County Museum of Natural History; sixth winter occurrence and the fourth winter specimen.

GLOSSY IBIS *(Plegadis falcinellus)** B

This species continues to increase in the region, with three new breeding localities reported; observed in much larger numbers since 1962; appearing in a number of localities off Long Island; and arriving earlier and departing later than ever before, with even one winter report.

Nonbreeding: West Long Branch, N. J., March 16, 1963 (Seeley); earliest arrival by nearly one month. Jamaica Bay Refuge, Dec. 31, 1965 (Johnson); latest date by 19 days and first winter occurrence.

Some maximum numbers and inland reports are as follows: 3, Fisher's Island, Apr. 22, 1963, first record for this locality (Ferguson); 7, Cutchogue, Apr. 29, 1964; 29, Jamaica Bay Refuge, May 4, 1963; 6, Hackensack Meadows, May 10, 1964; 1, Sherwood Island, off Westport, Conn., May 25, 1965 (several observers), first local record in the state; 15, Tobay Pond, June 6, 1965 (Cohleach), previously very rare at this locality; 60, Canarsie Pol, Aug. 25, 1965—flying into roost between 6:00 and 6:30 P.M. (Hays); 49, Lawrence Marsh, Aug. 27, 1965—flying into roost between 7:00 and 7:45 P.M. (Hays); 35, Jamaica Bay Refuge, Sept. 7, 1964; 15, Riis Park, Oct. 24, 1965; 16, Lawrence, Apr. 16, 1966; 85, Tobay Pond, Aug. 12 1967 (Enders); 65, Hackensack Marshes, early August 1967 (Boyajian); 1, Katonah, Apr. 5, 1968 (Grierson) very early, and 4, Piermont, May 19, 1968 (Deed), are good inland records.

1968—All time high nonbreeding counts for the region: 185, marshes east of Kennedy Airport, May 5 (Berliner and Hirschbein); 95, Oak Beach marshes, May 6 (W. Post).

Breeding: **1964**—3 pairs bred at Lawrence marsh, second Long Island breeding locality. **1965**—13 pairs bred at same locality (Hays *et al.*). 18 nests, Canarsie Pol; egg dates, May 26 to July 22 (Hays). **1966**—4 nests at Lawrence, 2 with one egg, 2 with two, May 3—earliest egg date for the region; 25 pairs bred there in all. 60 pairs nested at Canarsie Pol. **1967**—70 pairs bred at Canarsie Pol; 44 pairs bred at Lawrence; 1 pair nested at Oak Beach in a mixed heronry (Enders and W. Post)—nest with one young, late June—representing the third known breeding locality. **1968**—At least 12 nests at Jones Beach (near parking field no. 9) July 23, containing eggs and downy young (W. Post), fourth breeding locality.

MUTE SWAN *(Cygnus olor)** B

42, Rockland Lake, N. Y., Sept. 23, 1964 (Hopper).

65, same locality, Feb. 6, 1965 (Brown).

WHISTLING SWAN *(Olor columbianus)**

2, Oyster Pond, Montauk, Oct. 20, 1965; earliest fall occurrence by one day.

20, Troy Meadows, Nov. 6, 1962 (Thorsell).

CANADA GOOSE *(Branta canadensis)**B

1000, flying over Huntington, Sept. 12, 1963 (Alperin); big early flight.

650, Fire Island, Oct. 15, 1962.

Late inland flight in northern New Jersey, May 1, 1965: 450, Hardwick, Warren County; 300, West Milford, Passaic County (both by Wolfarth).

BRANT *(Branta bernicla)**

2000, Moriches Bay, Nov. 22, 1962 (Alperin); large number for date and locality.

10,000, Jamaica Bay, Nov. 21, 1965 (Norse); large number for date.

600, Pelham Bay east to New Rochelle, Dec. 27, 1964 (several observers); large number for locality.

6, Orient, July 18, 1964 (Latham).

4500, Cornwall, Orange County, May 23, 1966.

4500, Highland Falls, Orange County, May 22, 1967.

WHITE-FRONTED GOOSE *(Anser albifrons)**

One present on a pond near Mecox Bay, May 17 to June 6, 1965. The lateness of the date suggests that this individual had probably

escaped from some aviary. Another observed at Mill Neck, Feb. 19, 1968 (Warburton and Connally), was also likely an escaped bird; there is at least one aviary in the area that keeps waterfowl. The species is fairly common in captivity. See account of Cinnamon Teal.

SNOW GOOSE *(Chen hyperborea)**

130, Blauvelt, Rockland County, Oct. 4, 1963 (Deed).

150, Jamaica Bay Refuge, Oct. 6, 1962 (Mayer and Rose); both big early movements.

150, Jones Beach, Nov. 5, 1962.

700, Troy Meadows, Nov. 12, 1962.

1, Gardiner's Island, June 17-18, 1967.

BLUE GOOSE *(Chen caerulescens)**

4, Jamaica Bay Refuge, Oct. 3, 1964 (numerous observers); earliest fall occurrence by six days.

14, Tobay Pond, Nov. 10, 1963 (Dignan).

FULVOUS TREE DUCK *(Dendrocygna bicolor)**

Six records in 1965, the first since 1962: 1 found dead, but badly decomposed, Mecox Bay, Apr. 25 (McKeever); 3, Jamaica Bay Refuge, May 29 to June 4 (Epstein, Johnson, Marshall, and Bull); 1-3, Overpeck Creek, N. J., Sept. 30 to Oct. 4 (Komorowski, Yrizarry, *et al.*); Van Cortlandt Park, Oct. 31 (Norse); 1 caught by a cat and rescued by J. Haas, near Bellport, L. I., Nov. 12, died later that day (specimen in AMNH collection, No. 785879; second local specimen); 8, East Moriches, Nov. 15, 1965 (Wilcox); largest number reported since December 1962. 1, Secaucus, N. J., May 26, 1966 (A. Barber). Another shot by a hunter on Flanders Bay, eastern Suffolk County, Dec. 18, 1966 (*fide* Wilcox).

MALLARD *(Anas platyrhynchos)**B

Ten pairs bred at Jamaica Bay Refuge in 1965.

GADWALL *(Anas strepera)**B

Nonbreeding: Maxima on Jan. 11, 1964, at three south shore localities (Raynor): 130, Wantagh; 44, Belmont Lake; 52, Patchogue; total of 226. 150, Babylon, Nov. 28, 1963 (Raynor).

Breeding: **1964**—20 pairs, Jamaica Bay Refuge; 10 pairs, Tobay Pond. Female with downy young, Captree Island, Great South Bay, July 11 (Alperin).

1965—Jamaica Bay Refuge, at least 28 broods of young (Hays); pair with downy young, May 16, a very early date (Bull, Eisenmann, and Olrog); early egg date of June 6; female flushed off nest containing seven eggs, July 25 (Bull), a late date; two pairs at Lawrence with downy young (several observers).

Female with six nearly fullgrown young, Fisher's Island, Aug. 15 (*fide* Ferguson); first definite breeding record on eastern Long Island.

2 pairs, Gardiner's Island, June 5 (Lanyon); probably breeding, but no direct evidence. However, on June 2, 1966, a nest with 12 eggs was found in a clump of beach grass (R. C. Murphy, Lanyon, and Bull).

Pair bred at Oakdale in 1968 (R. Giffon).

4 broods of young were raised at Oak Beach in 1968 (W. Post).

The above localities, west to east: Lawrence, Oak Beach, Captree Island, Oakdale, Gardiner's Island, and Fisher's Island, represent six new breeding areas.

PINTAIL *(Anas acuta)** B

100, Jamaica Bay Refuge, Oct. 18, 1964; 600, same locality, Oct. 28, 1967. Pair summered at Tobay Pond in 1965, but no evidence of breeding.

EURASIAN TEAL *(Anas crecca)**

Male shot near Seaford, L. I., Dec. 5, 1962 (collector unknown); specimen in AMNH collection, No. 787422; third local specimen, all from Long Island, but the first since 1900; previously unpublished.

Two males in 1965: 1, Jamaica Bay Refuge, Apr. 9 (Ryan); 1, Tobay Pond, May 2 (Davis and Schaeffer).

Male wintered at Hempstead Reservoir, 1966-1967 (numerous observers).

Male remained at Jamaica Bay Refuge to at least May 14, 1967 (many observers), latest date by one day.

GREEN-WINGED TEAL *(Anas carolinensis)** B

Nonbreeding: Maxima—100, Jamaica Bay Refuge, Sept. 4, 1964.

1965, New Jersey—450, Overpeck Creek, Oct. 30 (Lohrer); 650, Oradell Reservoir, Nov. 25 (Clark); these are the highest numbers reported since 1949 and the largest numbers at any time in northern New Jersey.

Breeding: 2 broods of downy young, Jamaica Bay Refuge, summer of 1963 (Norse); 7 adults summered there in 1965, but no breeding evidence found.

BLUE-WINGED TEAL *(Anas discors)** B

Nonbreeding: Winter of 1964-1965, at least three different occurrences: 3, including a male, Jamaica Bay Refuge, Dec. 26 (Enders and Heath); 1, East Moriches, Dec. 29 (Stoutenburgh); 1, Hemp-

stead Reservoir, Jan. 3 through February (many observers). This species is ordinarily very rare in winter.

Breeding: 1965—4 broods, Jamaica Bay Refuge (Hays). 2 broods at Lawrence with downy young as late as Aug. 7, a new breeding locality (many observers). 1967—Pair and 3 young, Carlstadt, N. J., June (Boyajian), additional nesting locality.

CINNAMON TEAL *(Anas cyanoptera)*

Adult male present at Jamaica Bay Refuge from May 20 to July 18, 1964 (many observers); photographed in color; possibly summered, but no proof obtained as it assumed eclipse plumage shortly after July 18; this individual was observed several times courting female Blue-winged Teal. This is the second occurrence in the New York City region, the previous report in 1957 at Massapequa State Park—an individual that possibly was an escape (for details, see Bull, 1964: 471). This species has been reported more frequently in recent years in the east, but is still very rare. However, still another male present at Mill Neck during the spring and summer of 1968, as well as a male European Widgeon during the same period, were known to have escaped from a nearby aviary. See also account of White-fronted Goose at same locality.

SHOVELER *(Spatula clypeata)** B

20, including 10 males, Central Park Reservoir, all January 1963 (Messing). 2 males, Prospect Park, June 6, 1964 (Raymond); latest spring occurrence by 10 days. 2 pairs summered at Jamaica Bay Refuge in 1965, but no breeding evidence obtained. 300, Jamaica Bay Refuge, Nov. 20, 1966 (Norse), the highest local number reported.

EUROPEAN WIDGEON *(Mareca penelope)**

Male, Jamaica Bay Refuge, remained to at least May 22, 1968 (many observers); latest regional date by eight days.

AMERICAN WIDGEON *(Mareca americana)** B

At least one pair summered at Jamaica Bay Refuge in 1965, but breeding not proved.

REDHEAD *(Aythya americana)** B

Ten broods containing at least 70 young hatched (50 reached flight stage), Jamaica Bay Refuge, summer of 1965 (Hays); definitely established as a breeding species at this locality.

RING-NECKED DUCK*(Aythya collaris)**

Male, Jamaica Bay Refuge, all June and July 1968 (many observers); casual in summer.

CANVASBACK *(Aythya valisineria)**

Pair summered at Jamaica Bay Refuge in 1964; casual in summer.

175, Jamaica Bay Refuge, Nov. 10, 1964.

650, Jerome Reservoir, Feb. 16, 1965.

GREATER SCAUP *(Aythya marila)**

7000, Jamaica Bay Refuge, Nov. 15, 1964. 21 summered at Jamaica Bay Refuge in 1965.

COMMON GOLDENEYE *(Bucephala clangula)**

Female summered at Jamaica Bay Refuge in 1963.

2200, Heckscher State Park, Dec. 28, 1963 (Heath); high number for the south shore.

BARROW'S GOLDENEYE *(Bucephala islandica)**

Adult male found alive, but badly oiled, collected on Fisher's Island, March 22, 1963 (Ferguson), specimen in his collection; only the third known local specimen; latest record by one week.

Adult male, off Wolfe's Pond, S. I., from Dec. 11, 1965 to Feb. 6, 1966 (Wolfarth, Cleaves, and numerous other observers). This species is very close to its southern known limits here.

BUFFLEHEAD *(Bucephala albeola)**

This species has increased in recent years, occurring in numbers in certain localities where it was previously reported as rare. In some places it is decidedly more numerous than the Common Goldeneye. The reverse was true 30 to 40 years ago. The following maximum estimates bear this out, particularly along the south shore of Long Island: 600, Clason Point, Bronx County, Dec. 22, 1963; 300, Shinnecock Bay, Dec. 28, 1963; 360, Jamaica Bay Refuge, March 28, 1964; 120, same locality, May 8, 1964, late for so many; female, same locality, Aug. 8, 1964, very rare in summer; 94, Captree Island, Nov. 5, 1964; 1000, Jamaica Bay Refuge, Nov. 21, 1965 (Norse). This last represents a high "count" for the region. 200, Jamaica Bay Refuge, May 14, 1966; late for so many.

HARLEQUIN DUCK *(Histrionicus histrionicus)**

Five wintered at Orient, 1962-1963; 5 (4 males), Point Lookout, winter of 1963-1964. Male, Orient, May 23, 1965 (Cantor); casual this late—by over a month. Male, Montauk, Oct. 20, 1965 (Raynor); earliest fall arrival by 13 days. During the winter of 1967-1968 this species was present in record numbers; at least 16 individuals were observed at Point Lookout, approximately half being adult males. They permitted close approach and many people were able to secure close-up pictures. On a number of occasions some of the birds came out of the water and sunned themselves on the rock jetties. A few individuals remained at this lo-

cality well into May, the latest observation being on May 26, 1968 when three were seen (Connally and Dove). This is the latest record for the region by three days. See May 23 observation (above).

COMMON EIDER *(Somateria mollissima)**

Three immature males, Montauk, Oct. 4, 1965 (Nielsen); earliest fall arrival by over one month, except for one casual early September report.

KING EIDER *(Somateria spectabilis)**

Three males, Gardiner's Island, June 2, 1966 (Bull); extremely late.

Female, Jamaica Bay Refuge, summer of 1968 (many observers).

WHITE-WINGED SCOTER *(Melanitta deglandi)**

175, Orient, Aug. 28, 1963 (Alperin), early for so many.

100 summered between Orient and East Marion in 1964 (Alperin).

30,000, Montauk Point, Jan. 20, 1968 (Boyajian and Tudor).

RUDDY DUCK *(Oxyura jamaicensis)**B

Nonbreeding: 520, Jerome Reservoir, Nov. 15, 1963. 900, Jamaica Bay Refuge, Nov. 24, 1964.

Breeding: 26 pairs bred at the Jamaica Bay Refuge in 1965 (Hays).

HOODED MERGANSER *(Lophodytes cucullatus)** B

Nonbreeding: 100, Jamaica Bay Refuge, Nov. 17, 1963; 100, Quogue, Dec. 1, 1963. Female summered at Jamaica Bay, both in 1963 and 1964; 2 females summered there in 1965.

Breeding: Female and 4 unfledged young, Katonah, N. Y., June 19, 1966 (Grierson); the nest was in a Wood Duck box. There was also one sterile egg, now in AMNH collection. This is the second known breeding record in the area.

TURKEY VULTURE *(Cathartes aura)** B

75 at roost, Bear Mountain Park, late March 1964 (Pembleton). Hempstead Reservoir, Jan. 3, 1965 (Wollin *et al.*); very rare in winter on Long Island.

BLACK VULTURE *(Coragyps atratus)**

One flying over, Far Rockaway, July 6, 1966 (Bull). What may possibly have been the same individual was found shot at Central Islip on July 8; it was taken to the Quogue Wildlife Sanctuary, but died later that same day. Specimen now in AMNH collection, No. 786123.

GOSHAWK *(Accipiter gentilis)**

Adult, Mt. Peter, Orange County, Oct. 2, 1966; earliest fall record by one day.

BROAD-WINGED HAWK *(Buteo platypterus)** B

The following counts and estimates are of interest in view of either the location or the number involved:

17, Greenwood Cemetery, Brooklyn, Aug. 16, 1963 (Nielsen); early flight.

3700, Montclair, N. J., Sept. 16, 1965; high number for the locality.

Note the following estimates, all on Sept. 20, 1962, at three different localities: 1600, Westport, Conn.; 2500, Van Cortlandt Park, N. Y.; 2000, Montclair, N. J.

ROUGH-LEGGED HAWK *(Buteo lagopus)**

Big flight year, 1964-1965: 7, Fresh Kills, S. I., Nov. 15; 8, South Haven, Dec. 29; 10, Jones Beach and 15, Orient peninsula, both on Feb. 6; Brookhaven, May 21 (Puleston and Raynor), latest occurrence by eight days.

GOLDEN EAGLE *(Aquila chrysaetos)**

Immature, South Haven, L. I., Dec. 26, 1962 to Jan. 6, 1963 (Puleston and Raynor); well observed, direct comparison with two immature Bald Eagles, the latter wintering at the same locality. The Golden Eagle is casual on Long Island. Adult, Paterson, N. J., Apr. 6, 1965 (Wolfarth); very rarely *reliably* reported in spring Immature, Jones Beach, Oct. 27, 1967 (Ward, Wollin, *et al.*).

BALD EAGLE *(Haliaeetus leucocephalus)** B

All Christmas counts combined indicate a marked decrease in New York City region: 1962 (8); 1963 (4); 1964 (0). On both the Putnam County and Peekskill-Croton Point Christmas counts, only *one* was observed within three years (1963-1965). In former years as many as a dozen had been observed at *one time* at Croton Point alone!

Immature, Jamaica Bay, Dec. 26, 1965 into February 1966 (numerous observers); first reported as an adult Golden Eagle by several people on the basis of "feathered tarsi," an almost worthless field mark under any circumstances.

MARSH HAWK *(Circus cyaneus)** B

12, Jones Beach, Jan. 5, 1965. 25, Fire Island, Oct. 6, 1967 (Ward); large number, has become scarcer in recent years.

OSPREY *(Pandion haliaetus)** B

Nonbreeding: One well observed on the shore near Greenwich,

Conn., Dec. 30, 1962 (several observers). Another, Jones Beach, Jan. 13, 1968 (L. Morgan). Very rare in winter.

Breeding: The following breeding data are at hand: 1963—6 nests on Fisher's Island (Ferguson) and 20 nests on Sandy Hook (Stout), produced *no* young. 1965—at least 30 adults observed, with several ground nests containing eggs but *no* young, Gardiner's Island (Lanyon); only *one* young raised at Orient (Latham); *4* young raised on Sandy Hook (Stout). 1968—slightly better—*16* young reported on Gardiner's Island (Swoger and Trimble).

PEREGRINE FALCON *(Falco peregrinus)** B

12, Fire Island, Sept. 28, 1963 (several observers); 23, same locality, Oct. 6, 1967 (Ward, *et al.*); highest regional count.

All local nest sites were reported to be deserted at least since the late 1950's; even the adults were reported to be absent from the eyries.

PIGEON HAWK *(Falco columbarius)**

110, Jones Beach, between 8:30 A.M. and 3:00 P.M., Oct. 12, 1962 (Ward); high count for the region.

During the winter of 1964-1965, reported from five localities by experienced and reliable observers as follows: Shinnecock Hills, Dec. 30 (Raynor); Atlantic Beach, Jan. 3 (Bull and Heilbrun); Patchogue, Jan. 9 (Puleston); Jones Beach, Jan. 23 (Ward); 2 at Orient, Feb. 6 (Puleston and Raynor). The bird seen at Atlantic Beach was pursuing a small flock of Sanderlings and Dunlins.

SPARROW HAWK *(Falco sparverius)** B

300, Jones Beach, Oct. 12, 1962 (Ward); note Pigeon Hawk count the same day. Good coastal migration on Sept. 25, 1965: 500, Westhampton Beach in three hours (Yeaton *et al.*); 1000, Fire Island, "all day count" (Davis *et al.*). 108 at Mt. Peter, Oct. 2. 1966 (S. Bailey), is the highest count for an inland locality.

Several species of breeding hawks have become drastically reduced in numbers or virtually extirpated as *breeders* in the local region within the past dozen years or more. In the latter category the Bald Eagle and Peregrine Falcon have literally disappeared. In the former category the Osprey has been reduced to pitifully low numbers, and both the Sharp-shinned and Cooper's Hawks nest much less commonly than a dozen years ago. In certain inland areas the Red-shouldered Hawk is reported progressively scarce as a breeder. Widespread use of pesticides has been a contributing factor (proved in a few instances), and the further deterioration of suitable habitat and other human disturbances point to a dismal future for these birds.

BOBWHITE *(Colinus virginianus)** B

Nest with 8 eggs, Manorville, Sept. 14, 1967 (Raynor); latest regional egg date by three weeks.

TURKEY *(Meleagris gallopavo)* B

According to a letter from Robert Gardiner to Geoffrey Carleton, dated Oct. 28, 1964, "The wild turkey was introduced [on Gardiner's Island] about ten years ago [1954]. There were about 500." On a survey of this locality June 5-6, 1965, Lanyon reported that Turkeys were "doing well" and were observed in a variety of habitats, including mowed fields. At least 40 were observed there on Dec. 30, 1967 (many observers).

One seen near Newfoundland, Passaic County, N. J., Nov. 12, 1965 (Stepinoff).

CLAPPER RAIL *(Rallus longirostris)** B

60 plus pairs on 190 acres of salt marsh on the bay islands north of Tobay Pond, summer of 1965 (R. Johnson).

VIRGINIA RAIL *(Rallus limicola)** B

Six nests found at Oak Beach salt marshes, summer of 1968 (Enders and W. Post).

YELLOW RAIL *(Coturnicops noveboracensis)**

Immature picked up in a dying condition, Pelham Bay marshes, Aug. 27, 1959 (Sandford); specimen not preserved, but examined by Ryan; earliest fall arrival by two days; record not previously published.

Adult caught alive in a small grassy plot at the foot of Manhattan Bridge, New York City, Oct. 18, 1962 (Cohen); taken to Far Rockaway where it was banded by Mrs. J. Bull and then released at Jamaica Bay Refuge (see *Kingbird,* 17: 2-3, 1967).

During the fall of 1966, 3 individuals were reported; 2 caught alive and 1 found dead, dates ranging from Oct. 9 to Nov. 24; another found dead on Oct. 8, 1967. Three were from Long Island, the fourth from the Bronx.

BLACK RAIL *(Laterallus jamaicensis)** B

One netted and banded, Oak Beach, May 4, 1968 (Enders and W. Post); at this locality three more were trapped and banded during that summer, but no nests were discovered despite intensive search.

PURPLE GALLINULE *(Porphyrula martinica)**

One on a small pond near the Poundridge Reservation, May 13 to June 17, 1963 (Augustine and many others).

Adult caught alive by a dog along the Elizabeth River near Union, N. J., May 21, 1964; bird had a broken leg, but was otherwise in good condition; color photographed and banded by Knorr; after the leg had healed the bird was released in the Great Swamp, about 15 miles west of place of capture, June 14, 1964. Brookhaven, May 19, 1965 (Puleston and Raynor).

Immature picked up alive, but injured, on the Westhampton golf course, Sept. 23, 1965; taken to the Quogue Wildlife Sanctuary where it died on Sept. 27. This specimen in AMNH collection, No. 785878, first local fall record; this bird may have been driven north by hurricane "Betsy" on Sept. 18. Previous latest date—July 27.

One filmed in color, Montclair, N. J., Oct. 24, 1966 (M. Kuhnen). Adult found freshly killed on road at Montauk, Nov. 18, 1967 (M. Hemmerick); the latest report, specimen now in AMNH. These last two records are the second and third fall occurrences for the region.

AMERICAN COOT *(Fulica americana)** B

Nonbreeding: Large numbers reported at Jamaica Bay Refuge during the fall of 1966: 500 on Oct. 26 and 750 on Nov. 1. These are exceptionally high estimates for the west end of Long Island. For discussion, see Bull (1964: 181).

Breeding: About 15 pairs bred at the Jamaica Bay Refuge in 1965; also a nest with eggs there on Aug. 25, an extremely late date.

This species, as well as Common Gallinule, Pied-billed Grebe, and several species of ducks decreased substantially at the refuge because of lowered water levels due to the prolonged drought of 1962-1965.

AMERICAN OYSTERCATCHER *(Haematopus palliatus)** B

Nonbreeding: Adult banded at Moriches Inlet, June 7, 1963 (Wilcox), was shot by a duck hunter on Great South Bay opposite Patchogue, Oct. 20, 1964.

Now arrives regularly the last week in March; earliest recent spring date—March 26, 1967 at Short Beach (Kleinbaum). One old casual date of March 9, 1880 (Bull, 1964: 182).

Breeding: **1965** summer distribution: one breeding pair each at Cartwright Island and Shinnecock Inlet; one pair each at Moriches Bay and north of Tobay Pond on bay islands, but no evidence of breeding; at least six birds on Gardiner's Island, possibly bred, but no definite evidence (Lanyon). Early egg date—May 26. **1966:** 14 pairs, Gardiner's and Cartwright Islands, June 18; two downy young on July 2; Shinnecock and Moriches Bays, one pair

each with three and two young respectively; nest with two eggs, island north of Tobay Pond, June 12. **1968**: One "territorial" pair each at Grass and Fox Islands, north of Oak Beach. The islands in the bay north of the Jones Beach strip are the first known breeding localities on western Long Island.

LAPWING *(Vanellus vanellus)**

Near Montauk, Dec. 3-18, 1966 (many observers); photographed by J. Trimble, Dec. 7; photo on file in AMNH. This is the *third* record for Long Island. For reasons why the 1910 "record" is believed an error, see Bagg (*Living Bird*, 6: 87-89, 1967).

PIPING PLOVER *(Charadrius melodus)** B

Nest with two eggs, Jones Beach, Apr. 18, 1968 (D. Cooper); earliest egg date by six days.

AMERICAN GOLDEN PLOVER *(Pluvialis dominica)**

200, Hackensack Meadows, Sept. 30, 1963 (Komorowski).

2, Jamaica Bay area, March 31, 1965; equals earliest date; also 2 there, Apr. 9.

RUDDY TURNSTONE *(Arenaria interpres)**

400, Jamaica Bay Refuge, Aug. 4, 1964 (Koeppel); high fall count. 200, Moriches Inlet, Aug. 17, 1963.

This species has increased in winter in recent years, as may be seen by the following: **1962**—12, Montauk, Dec. 29; **1963-1964**—3, Staten Island, Dec. 21; Clason Point, Dec. 22; Short Beach, Dec. 29 to March 14; Shinnecock Inlet, Jan. 18; **1964-1965**—2, New Rochelle, Dec. 26; 11, Staten Island, Dec. 27; 3 Shinnecock Inlet, Jan. 23; 12, Great Kills, S. I., Feb. 27. A flock of 25 wintered at the last locality, **1967-1968** (Daly), the highest number recorded in winter.

AMERICAN WOODCOCK *(Philohela minor)** B

6, Jones Beach, Sept. 22, 1963 (Gochfeld); early flight.

9, East Moriches, Dec. 26, 1963 (Raynor); either good late flight, or winter birds.

COMMON SNIPE *(Capella gallinago)** B

30 (including a flock of 19 feeding on open mud flat), Mecox Bay, Jan. 12, 1964 (Raynor); unusual numbers for winter.

UPLAND PLOVER *(Bartramia longicauda)** B

7, near Sayville, Apr. 28, 1963 (Puleston and Raynor); good spring count.

6, Kennedy Airport, Aug. 12, 1965 (Holgersen).

45, Mitchel Field, Aug. 11, 1967 (Cioffi and Wolk) undoubtedly represent both local breeders and migrants. At least seven pairs bred in 1967.

SPOTTED SANDPIPER *(Actitis macularia)** B

1965 breeding data: 7 nests with eggs, Great Gull Island (Hays); at least 20 breeding pairs, Fisher's Island (Ferguson).

SOLITARY SANDPIPER *(Tringa solitaria)**

Idlewild, Apr. 4, 1965 (Mayer); earliest arrival by three days.

WILLET *(Catoptrophorus semipalmatus)** B

Nonbreeding: Winters north to Virginia. The first local winter occurrence for the New York City region was made when an individual was reported at Moriches Bay, Dec. 27, 1962 (Wilcox).

Lawrence, Apr. 16, 1968 (D. Cooper), is the earliest *spring* arrival by three days.

Cornwall, N. Y., Aug. 23, 1965 (several observers); very rare inland in our region. At least a dozen birds summered on the bay islands north of Tobay Pond in 1965, with even some "display" observed, but no breeding evidence was obtained (R. Johnson). *Breeding:* **1966**—3 nests were found on small islands north of the area from Zach's Bay east to Tobay Pond—one on June 4 containing four eggs, another on June 12 with two eggs, and a third on June 30 with four eggs (Davis, R. Johnson, *et al.*); color photos taken. This represents the first known breeding in New York State. **1967:** At least 12 pairs were on "territory" on the islands in the bay north of the Jones Beach strip. **1968:** Nest with four eggs, Tiana Beach (Wilcox), is an additional breeding site.

GREATER YELLOWLEGS *(Totanus melanoleucus)**

1000, Jamaica Bay Refuge, Sept. 27, 1965 (Norse); high local count.

LESSER YELLOWLEGS *(Totanus flavipes)**

10, Lawrence marsh, June 26, 1965 (several observers); southbound? migrants.

PURPLE SANDPIPER *(Erolia maritima)**

200, Jones Inlet, May 17, 1966 (Trimble); not only the highest local number ever reported, but also a very late date for such a number.

CURLEW SANDPIPER (*Erolia ferruginea*)*

1966: 1 in partial breeding plumage, Tobay Pond, Sept. 3 (Levine); 2, Jamaica Bay Refuge, Sept. 13 (Schaeffer). **1967:** 1 in breeding plumage, Jamaica Bay Refuge, July 31 (Ryan).

SHORT-BILLED DOWITCHER *(Limnodromus griseus)**

3000, Moriches Bay, July 13, 1963 (Tudor); high fall count.

28, Lake DeForest, Rockland Co., Aug. 10, 1965 (Deed); rare inland in our area.

STILT SANDPIPER *(Micropalama himantopus)**

2, Spring Valley, N. Y., Sept. 12, 1964 (Gamble); fourth inland occurrence locally. Oak Beach, Apr. 23, 1968 (W. Post); very rare in spring and second earliest arrival.

BUFF-BREASTED SANDPIPER *(Tryngites subruficollis)**

The date of Aug. 3 in Bull (1964: 214) represents a bird struck by a plane at Kennedy Airport, Aug. 3, 1963; specimen now in USNM collection (R. H. Laybourne, *in litt.*). This is the earliest fall occurrence in the region. One picked up dead on road, Jamaica Bay Refuge, Oct. 1, 1962 (Wiley); specimen in AMNH collection.

MARBLED GODWIT *(Limosa fedoa)**

5, Moriches Inlet, July 16, 1963 (Puleston); arriving in numbers earlier than formerly. 4, Jamaica Bay Refuge, Dec. 9, 1962 (Backstrom), latest fall occurrence by 20 days; also two late December records.

South Amboy, N. J., June 6, 1965 (Black); sixth spring occurrence and the first June report.

HUDSONIAN GODWIT *(Limosa haemastica)**

Jamaica Bay Refuge, July 6, 1963; early fall arrival.

11, Moriches Inlet, July 24, 1965; 17, same area, Aug. 18, 1962. Within the past ten years this species has outnumbered the Marbled Godwit locally.

RUFF *(Philomachus pugnax)**

Hackensack Meadows, May 12, 1963, and May 21, 1966 (Black); third and fourth local occurrences in spring away from Long Island; now reported annually along the coast both spring and fall —at least one each year.

Elizabeth, N. J. reservoir, Oct. 3-24, 1948 (Brown, Edwards, Eynon, *et al.*). This observation was omitted deliberately (Bull, 1964) as it lacked the names of qualified observers in Fables (1955: 35). Dr. Alfred E. Eynon (*in litt.*) has kindly sent me details of this observation. The date of Oct. 24 is the latest fall occurrence for the region, and the only known inland report in fall.

AMERICAN AVOCET *(Recurvirostra americana)**

Jamaica Bay Refuge, Sept. 22 to Oct. 2, 1965 (many observers); another there, Oct. 26 to Nov. 13, 1966 (Norse, *et al.*); first local records since 1962.

RED PHALAROPE *(Phalaropus fulicarius)**

Female found dead at Tobay Pond, Apr. 3, 1965 (Snyder), specimen in AMNH collection; second earliest specimen and third earliest occurrence.

One, color photographed, Montauk Point, Jan. 28, 1967 (R. Erasmus) and observed by Astle, Yeaton, *et al.*; color photos on file, AMNH. This is the first authenticated winter record for the New York City region.

WILSON'S PHALAROPE *(Steganopus tricolor)**

Jamaica Bay Refuge, Apr. 27, 1963, Apr. 25, 1964, and Apr. 24, 1966; previous early date—May 8. 8, Hackensack Meadows, Aug. 24, 1963 (Black *et al.*); high count. 3 summered at the Jamaica Bay Refuge in 1964; although copulation was observed, no breeding evidence was obtained.

PARASITIC JAEGER *(Stercorarius parasiticus)**

Two well observed off Rocky Point, Suffolk County, July 20, 1967 (Cashman); extremely rare on Long Island Sound.

SKUA *(Catharacta skua)**

One well observed from a boat, Cox's Ledge, off Montauk Point, June 11, 1967 (B. and J. Trimble); observers previously familiar with this species. For description, see *Kingbird*, 17: 245, 1967. This represents only the fifth known regional occurrence, all from Long Island, and the first report in 30 years.

ICELAND GULL *(Larus glaucoides)**

6, Croton Point, Jan. 26, 1963.

GREAT BLACK-BACKED GULL *(Larus marinus)** B

Nonbreeding: 500, Jamaica Bay, Nov. 21, 1965; 3000, Spring Creek garbage dump, Jamaica Bay area, Dec. 26, 1964 (Heath); 2000, Edgemere garbage dump, Jamaica Bay area, Feb. 7, 1965 (Bull and Pineo); this and preceding count high. 100 plus, Hudson River, off Cornwall, N. Y., Feb. 13, 1965 (Treacy), high inland count. Note that these last three estimates occurred during the winter of 1964-1965.

Breeding: 4 breeding pairs, Captree State Park, summer of 1963 (Kallman); still rare as a breeder on the west end of Long Island. However, at least 17 pairs bred there in 1968 (Davis).

LESSER BLACK-BACKED GULL *(Larus fuscus)**

North Arlington, N. J. garbage dump (Wolfarth)—1, Dec. 16, 1962 to Jan. 1, 1963, when it was joined by another on the latter date; both remained until Jan. 20, 1963. One photographed on the ice with Great Black-backed and Herring Gulls, Central Park Reservoir, March 6, 1963 (Post); photo examined by Carleton who confirmed the identification. Adult, Fresh Kills, S. I., garbage dump, late February, 1967 (Grant).

HERRING GULL *(Larus argentatus)** B

The following *breeding* data are at hand: **1963**—1000 pairs, Captree State Park (Kallman); increase due to new sand fill for Fire Island bridge. **1964**—105 nests, Swinburne Island, Lower New York Bay, June 3 (Cleaves and Polevoy); some nests contained eggs, many pipping, other nests had downy young. **1965** — 247 nests, Canarsie Pol, May 26 (Johnson, Hays, and Bull); birds nesting in grassy areas and under bayberries; grass fire occurred in June; after fire, 46 nests were counted, gulls renesting (Hays). 500 plus nests, Fisher's Island (Ferguson); observer stated that the "Great Black-backed Gull is increasingly common in summer around Herring Gull colonies, but is not yet known to nest."

BLACK-HEADED GULL *(Larus ridibundus)**

Second-year female collected at South Amboy, N. J., June 20, 1963 (Frohling), specimen in AMNH collection, No. 785785; only known specimen for the New York City region and for the state of New Jersey.

6, Moriches Inlet, Nov. 22, 1964 (Raynor and Puleston); direct comparison with Bonaparte's Gulls; very high count away from metropolitan New York; 3 there through Jan. 4, 1965 (many observers).

6, Hackensack Meadows, near Secaucus, Feb. 13, 1965 (Urner Club). 3, South Amboy, May 30, 1965 (Black); formerly rare this late.

BONAPARTE'S GULL *(Larus philadelphia)**

1500, Mamaroneck harbor, Jan. 3, 1965 (Stepinoff); good number for locality and date.

LITTLE GULL *(Larus minutus)**

4 immatures, South Amboy, N. J., June 22, 1964 (Black) and 5 there, July 27 (Bloor). Adult, Kennedy Airport, Oct. 6, 1965 (Bull). Adult, Montauk, Nov. 27, 1965 (Raynor); first reported occurrence at this locality. Adult, Jamaica Bay Refuge, most of June, 1967 (many observers), photographed by Swoger.

IVORY GULL *(Pagophila eburnea)**

Immature studied at close range both at rest and in flight, Coney Island, Feb. 13, 1964 (Ryan); observer, who had seen the species once before, observed the blackish spotting in the plumage. This is the first known Long Island occurrence in 20 years and the sixth record for the New York City region.

SABINE'S GULL *(Xema sabini)**

Immature well observed, Montauk Point, Nov. 25, 1967 (R. Paxton, P. Opler, and L. Morgan); this is the tenth known Long Island occurrence and the latest record by over five weeks. See *Kingbird*, 18: 27, 1968.

GULL-BILLED TERN *(Gelochelidon nilotica)**,

Hackensack Meadows, Oct. 3, 1962 (Cantor and Norse); first local occurrence away from the coast; latest record by 17 days, except for one casual late November date.

2 adults, Oak Beach, most of June 1968 (Enders and W. Post); no proof of breeding.

FORSTER'S TERN *(Sterna forsteri)**

One in nonbreeding plumage, Jamaica Bay Refuge, May 23, 1965 (Eisenmann, Bull, *et al.*); very rarely reported in spring.

COMMON TERN *(Sterna hirundo)** B

Nonbreeding: 50, Piermont, Aug. 13, 1966, and 23, Cornwall, May 23, 1967, are high numbers for inland areas.

Breeding: The following breeding data are at hand: **1963**—6000 pairs, Moriches Bay (Raynor); many of the nests subject to predation. **1964**—400 pairs, Cartwright Island (Raynor). **1965**—800 pairs, Short Beach (Davis). **1967**—1400 pairs, Great Gull Island (D. Cooper, Hays *et al.*).

ROSEATE TERN *(Sterna dougallii)** B

The following *breeding* data are at hand: **1963**—100 pairs, Moriches Bay (Raynor); nests subject to predation. **1964**—20 pairs, Cartwright Island (Raynor). **1965**—10 pairs, Cartwright Island (D. Cooper, Hays, *et al.*).

The data provided by G. Cant and reported (Bull, 1964: 246 and 249) for Great Gull Island in 1962 are erroneous. Mr. Cant has since amended his report to include the presence of *both* Common and Roseate Terns that year.

SOOTY TERN *(Sterna fuscata)**

Adult banded on the Dry Tortugas, Fla., May 11, 1964, was reported as captured off Staten Island, Aug. 13, 1964 (*fide* W. B. Robertson).

2, Mecox Bay, Sept. 8, 1965 (Wilcox).

BRIDLED TERN *(Sterna anaethetus)**

A wing found at the base of the jetty at Short Beach, Jan. 22, 1967 (Ward) was confirmed as this species by Bull and K. C. Parkes and is now in the AMNH collection, No. 786360. By what means and how long the bird was in the area is purely conjectural. This is the second specimen and the third occurrence for the New York City region.

LEAST TERN *(Sterna albifrons)** B

Immature, Jamaica Bay Refuge, daily until Oct. 10, 1965 (many observers); latest occurrence by one day.

ROYAL TERN *(Thalasseus maximus)**

2, Jamaica Bay Refuge, June 23, 1964 (Enders); 3, same locality, June 20, 1965 (Black).

28, Great Kills, S. I., Oct. 24, 1965 (Barber); 65, Deal, N. J., Oct. 25, 1965 (Seeley); Sandy Hook, N. J., Nov. 21, 1964 (Wolfarth), very late.

Now lingering later and occurring in larger numbers than formerly.

CASPIAN TERN *(Hydroprogne caspia)**

5, Mecox Bay, June 4, 1962 (Wilcox); latest spring date by two days.

12, Belmar, N. J., Nov. 7, 1964 (Brooklyn Bird Club); late. 1 seen on the Hudson River off Cliffside, N. J., Dec. 6, 1967 (Boyajian), is the latest date by 13 days.

BLACK TERN *(Chlidonias niger)**

2, Jamaica Bay Refuge, May 3, 1967 (Dove), is the second earliest date for the region.

BLACK SKIMMER *(Rynchops nigra)** B

Nonbreeding: Jamaica Bay Refuge, Apr. 14, 1965 (Dove); earliest occurrence by 12 days. Prospect Park, Apr. 22, 1965 (Yrizarry); second earliest date—see above. 2000, east pond at Jamaica Bay Refuge, Sept. 29, 1965 (Bull); high count. 100, same locality, Nov. 15, 1964 (many observers).

2 on Hudson River off Englewood, Dec. 26, 1964 (Barber); first winter occurrence away from the outer coast.

6, Central Park, June 28, 1968 (Bull).

Breeding: 1963—120 pairs, Short Beach and Meadow Island (several observers). 200 pairs, Moriches Bay (Raynor); many nests subject to predation. 1964—3 pairs, Cartwright Island (Raynor). 1965—150 pairs, Robins Island, Great Peconic Bay (*fide* R. C. Murphy).

NOTE: Space limitations preclude the inclusion of detailed gull, tern, and skimmer breeding information here; it will be published at a later date.

RAZORBILL *(Alca torda)**

One collected at Quogue, L. I., May 11, 1963 (van Sant), specimen in AMNH collection; latest specimen and second latest record. Another seen from a boat 30 miles southeast of Montauk Point, July 2, 1966 (B. and J. Trimble), is only the third regional summer occurrence and the first for July.

Recorded every month of the year.

COMMON MURRE *(Uria aalge)**

Stranded, oiled bird photographed at Short Beach, Jan. 26, 1965 (Friton and Rafferty); photo examined by Carleton who confirmed identification; perhaps the same bird at Sea Girt, N. J., Feb. 13-24, 1965 (Abraitys and Seeley).

THICK-BILLED MURRE *(Uria lomvia)**

An unprecedented "flight" of this species occurred along the ocean front during the late *summer* of 1966. At least seven individuals were found alive, but oiled, sick, and/or exhausted both on the bay and ocean sides of the barrier beach of Long Island; also one specimen from coastal New Jersey. Five birds eventually died and are now in the AMNH collection. One bird was "autopsied" and found to have a "liver abscess and coccidiosis" (report of the Cornell Univ. Duck Research Laboratory at Eastport, L. I.). The Long Island localities from east to west: Wainscott, Westhampton Beach (2 birds), Fire Island at Smith's Point (2 birds), and Fire Island Pines. The New Jersey specimen was found at Sandy Hook. Dates ranged from July 25 to Aug. 30, with three during the last week in August. Previous extreme dates for the region were: Nov. 13 to Apr. 2. In addition, another dead bird was sent to the AMNH from Oakdale, L. I., taken on Apr. 15, 1968. Some of these birds were in good condition, others had the wings and tail badly worn. At least two were in "full" breeding plumage, the others in "winter" plumage.

MOURNING DOVE *(Zenaidura macroura)** B

600 plus, Kennedy Airport, Aug. 8, 1965 (Bull); scattered groups feeding in the fields near the runways; no mortality noted.

YELLOW-BILLED CUCKOO *(Coccyzus americanus)** B

Specimen in AMNH collection, No. 185484, Raritan, N. J., Apr. 16, 1889 (Southwick); earliest record by three days, but casual before the end of April, and ordinarily rare prior to mid-May. This specimen record not previously published.

One caught by a cat, Babylon, Oct. 31, 1962 (Alperin).

Albino caught alive in yard of T. Eicher at Arverne, Queens County, Nov. 29, 1965; bird could fly, but had a broken leg and was greatly emaciated; it died the next day; specimen in AMNH collection, No. 785880; latest occurrence by 18 days.

GREAT HORNED OWL *(Bubo virginianus)** B

Three pairs nested in the Glen Cove-Mill Neck-Oyster Bay area in 1968 (Heck).

SNOWY OWL *(Nyctea scandiaca)**

Arrived in the region at two Long Island localities on Oct. 12, 1964, equaling the previous earliest date.

7 trapped and banded, Jones Beach, Dec. 5-6, 1964 (Cohen).

5, Kennedy Airport, December 1964 to February 1965 (Bull); one of these killed by plane.

LONG-EARED OWL *(Asio otus)** B

Nest with five eggs, Morgan's Point (Fresh Kills section), S. I., Apr. 12, 1947 (H. F. Flamm); bird incubating eggs, flushed when observer was within ten feet of nest site; nest was in sasafrass tree, about twelve feet up in a deserted crow's nest; area formerly tenanted by Black-crowned Night Herons and more recently by crows. This information contained in a letter from Flamm to Howard Cleaves, dated Aug. 10, 1965. This represents the first definite breeding record in the New York City region since 1944 and the first known nesting record for New York City proper. This information is published here for the first time.

Pair with two fledged juveniles in spruce grove, Gardiner's Island, June 18, 1967 (many observers); in 1968 the pair raised three young (Swoger and Trimble).

SHORT-EARED OWL *(Asio flammeus)** B

22, Hackensack Meadows, Oct. 27, 1963 (Niosi).

SAW-WHET OWL *(Aegolius acadicus)** B

Nonbreeding: Bronx Park, May 1, 1965 (Peszel); third latest spring date (see Bull, 1964: 277). Great flight, autumn of 1965, especially on western Long Island—many netted and banded at Tobay Beach (Davis and Schaeffer), Atlantic Beach (Cohen), and near Huntington (Lanyon *et al.*); total of 55 banded at these three netting stations between Sept. 30 and Nov. 10. The largest number banded was 15 on Oct. 17, including 6 each at Tobay and Atlantic Beach, the daily maxima for these localities; 5 birds on Oct. 31 was the maximum for Huntington. Of great interest is the fact that at these three localities, the nets were left up all

night, all birds being captured between dusk and dawn. *None* of the birds was reported injured in any way, and many of the individuals were found lying "quietly" in the pockets of the nets. However, two netting stations on eastern Long Island—where the nets were *not* opened during the nights—failed to capture a single individual; thus we have no idea as to the extent of the flight on eastern Long Island. Four were dead along the road in the Jones Beach area, including one on Sept. 28 (second earliest fall occurrence), and at least eight others found alive, mostly in the city parks. Another aspect of this flight was the fact that not a single one of more than 65 netted individuals was previously banded; neither were any bands found on a dozen dead birds nor on eight more live ones—all found along the coast during January, 1966. The probable total for Long Island alone amounted to over 70 individuals.

In **1967**, 26 individuals were counted in several pine groves from Cedar Beach to Oak Beach, Oct. 29 (Ward, *et al.*), but *none* the following week.

Breeding: Two breeding records on the south shore of Long Island in 1966 and 1968. Note that 1965 was a very large flight year; there was a smaller flight during the fall of 1967. These breeding records are the first in the region since 1879 when there had also been a flight the previous year. An injured juvenile with traces of natal down found perched on a fence at Westhampton Beach, July 21, 1966 (Puleston), died the same day; now a specimen in the AMNH collection, No. 786124.

Full details of 1968 breeding on Long Island may be found in the *Kingbird* (18: 143-144, 1968) and *Ebba News* (31: 174-177, 1968), both articles by Fred Schaeffer and illustrated with excellent photographs. In brief, a female was found incubating six eggs in a nest box at Tobay Sanctuary, Apr. 20, 1968. On May 5, there were three eggs and three downy young and on May 11, one egg (infertile) and five downy young; the juveniles, which were nearly fledged by May 30, were banded on the last date. The remaining egg was forwarded to the AMNH collection. The habitat was described by Schaeffer as, "coastal scrub, with low *Phragmites*, medium-sized bayberry bushes, poison ivy, and high tide bushes *(Baccharis)*. About 100 feet to the north of the nest box are extensive salt marshes."

COMMON NIGHTHAWK *(Chordeiles minor)** B

One netted and banded, Tobay Beach, Oct. 17, 1964 (Davis and Schaeffer); late. Another seen, Jones Beach, Oct. 22, 1966 (many observers) is the latest date except for early November dates.

CHIMNEY SWIFT *(Chaetura pelagica)** B

50, Pelham, Aug. 2, 1962 (Darrow); early migrating flock.

RUBY-THROATED HUMMINGBIRD *(Archilochus colubris)** B
15, Fire Island, Aug. 31, 1963 (Cohen).

BELTED KINGFISHER *(Megaceryle alcyon)** B
10, Jones Beach, Oct. 1, 1963 (Gochfeld).

RED-BELLIED WOODPECKER *(Centurus carolinus)** B
The first definite breeding evidence for this species in the New York City region was obtained when a pair successfully nested and produced at least one young at Bernardsville, Somerset County, N. J., during the summer of 1967 (R. C. Rosche).

RED-HEADED WOODPECKER *(Melanerpes erythrocephalus)** B
Immature wintered at Marine Park, Brooklyn, 1964-1965.

YELLOW-BELLIED SAPSUCKER *(Sphyrapicus varius)** B
20, woods near Freeport, Apr. 15, 1965 (Levine, Ward, *et al.*); usually rare in spring along the coast.

EASTERN KINGBIRD *(Tyrannus tyrannus)** B
Orient, Apr. 17, 1964 (Latham); very early. Early spring flight in 1966: 4 each at Forest Park and Jones Beach on Apr. 24 (many observers).

900 plus, Riis Park, Aug. 29, 1965 (Davis); unusually high number; "observed between sunrise and late morning, mostly loose flocks of 5 to 20 birds."

GRAY KINGBIRD *(Tyrannus dominicensis)**
Bound Brook, N. J., Sept. 30, 1962 (Conn); one observed at close range—at rest and in flight, detailed description submitted. A southerly coastal storm occurred prior to the observation. This is the seventh local occurrence.

WESTERN KINGBIRD *(Tyrannus verticalis)**
Riis Park, Dec. 26, 1964 (several observers).

SCISSOR-TAILED FLYCATCHER *(Muscivora forficata)**
A report of one seen at Riverdale, N. Y., May 21, 1957 (Kallman) was inadvertently omitted (Bull, 1964: 292).

Adult well described, Short Beach, May 11, 1964 (Koster). Quogue, May 27, 1965 (Puleston and Terry).

An individual observed at Gilgo Beach, Sept. 11 (Davis and Enders); Tobay Beach, Sept. 12 (Ward and Wollin); and Jones Beach, Sept. 16, 1965 (Levine) was undoubtedly the same bird.

Myiarchus sp.
A flycatcher of this genus was observed feeding on the berries of Boston Ivy at Babylon, Dec. 19 and 26, 1965 (Eckelberry). Regarding the possibility of confusing the Great Crested Flycatcher with other members of this genus, see Bull (1964: 293). The Great Crested Flycatcher is very rare after mid-October.

EASTERN PHOEBE *(Sayornis phoebe)** B
85, Jones Beach, Oct. 5, 1963; 40, same locality, Oct. 13, 1962.

YELLOW-BELLIED FLYCATCHER *(Empidonax flaviventris)**
2, Central Park, May 8, 1964 (Norse, Tudor, *et al.*); earliest arrival by five days; an early spring movement—eleven reports from the city parks to May 18. The following data are from birds netted and banded near Huntington by Lanyon *et al.*: **1963**—19 from Aug. 17 to Sept. 14, with a maximum of 4 on Aug. 25. **1964**—26 from Aug. 15 to Sept. 20.

ACADIAN FLYCATCHER *(Empidonax virescens)** B
An individual mist-netted on Great Gull Island, June 20, 1968 (Schaeffer), was carefully measured and the wing formula noted; also confirmed by Parkes. The bird was photographed, banded, and released. It was either an exceptionally late migrant or a vagrant.

TRAILL'S FLYCATCHER *(Empidonax traillii)** B
Nonbreeding: The following data are taken from birds netted and banded near Huntington by Lanyon *et al.*:

1963—31 from Aug. 15 to Sept. 5, with a maximum of 5 on Aug. 24.

1964—24 from Aug. 11 to Sept. 9, with a maximum of 4 on Aug. 21.

Individuals netted and banded on Great Gull Island, June 2, 6, 9, and 11, 1966, and June 15, 1968 (Schaeffer), indicate that this species is one of the latest spring migrants in the region, although eggs have been recorded locally as early as June 12.

Breeding: 5 nests from five to seven feet off the ground, Van Cortlandt Park in 1963 (Heath and Zupan). **1965**—2 pairs bred at Rye Lake-Kensico area (Arbib); 2 pairs bred at Jamaica Bay Refuge (Mayer and Norse). At least 3 breeding pairs at Tobay; 1 individual netted and banded by Lanyon on June 9—bird responded to playback of "fitz-bew" song type.

At least 8 pairs bred in a two mile stretch of the Hackensack Marshes south of Overpeck Creek, N. J. in 1967 (Boyajian). This represented an increase of at least 2 pairs over 1966.

LEAST FLYCATCHER *(Empidonax minimus)** B

The following data are from birds netted and banded near Huntington by Lanyon *et al.*: 1963—30 from July 23 to Sept. 11, with a maximum of 4 on Aug. 25. 1964—37 from Aug. 1 to Sept. 11, with a maximum of 4 on Aug. 19.

One netted and banded at Tobay Beach, Oct. 9, 1965 (Davis and Schaeffer); latest occurrence by five days.

OLIVE-SIDED FLYCATCHER *(Nuttallornis borealis)**

One observed well, Prospect Park, May 4, 1968 (Yrizarry); earliest occurrence by four days. A strong flow of tropical air on May 3 was probably responsible for the early arrival.

BARN SWALLOW *(Hirundo rustica)** B

400, Orient, Aug. 1, 1965 (Latham); large early movement.

PURPLE MARTIN *(Progne subis)** B

Nonbreeding: Male, Montauk, March 9, 1963 (Puleston and Raynor); earliest occurrence by three days; this is extraordinary. The March 12 date (see Bull, 1964: 309) is based on a specimen. The third earliest date is March 27. A male, Jamaica Bay Refuge, Oct. 9, 1966 (Norse), is the latest occurrence by three days.

Breeding: 75 pairs bred at Princess Bay, S. I. in 1964 (Cleaves); a high number for this locality—previous high of 64 pairs in 1959.

BLUE JAY *(Cyanocitta cristata)** B

3, eight miles off Jones Beach, June 7, 1964 (Linnaean Society pelagic trip).

BLACK-BILLED MAGPIE*(Pica pica)**

Short Beach, Apr. 4, 1964 (several observers).

2, Fire Island, Oct. 2, 1964 (Ward and Pembleton); birds observed flying westward. Gilgo Beach, Apr. 25, 1965 (Davis, Dignan, and Sutherland).

COMMON RAVEN *(Corvus corax)**

Storm King Mountain, Sept. 7, 1964 (Jeheber, Pembleton, and Treacy). Sandy Hook, May 31, 1965 (Stout); 2, near Delaware Water Gap, New Jersey side of the Delaware River, July 11, 1965 (Reid); north of Peekskill, Sept. 13, 1965 (Gochfeld). Mt. Peter, Oct. 2, 1966 (S. F. Bailey).

All observers were previously familiar with the species in the field.

FISH CROW *(Corvus ossifragus)** B

77, Pelham Bay Park, Dec. 27, 1964 (Russak and Stepinoff); heard calling at roost.

BOREAL CHICKADEE (*Parus hudsonicus*)*

Light flight in late autumn of 1965: Van Cortlandt Park, Oct. 31 (Norse); New Rochelle, Nov. 8 (Stepinoff); Montauk Point, Nov. 28 to Dec. 11 (Puleston, Sutherland, and others).

TUFTED TITMOUSE *(Parus bicolor)** B

Nonbreeding: The following data are taken from 1964-1965 Long Island Christmas counts—total of 38, all on western Long Island, of which 31 were reported in the north portion, from Queens County (1) through Nassau County (23) to western Suffolk County, Smithtown, etc. (7). These figures are correlated with the breeding distribution on Long Island, the center of which is chiefly at or near north shore localities. On the other hand, only 7 were reported in the south portion, from Kings County (3) through Nassau County (3) to extreme southwestern Suffolk County, Babylon, etc. (1).

Breeding: Additional breeding localities on Long Island as of 1964—Queens County—Cunningham Park, Alley Pond Park; Nassau County—Sands Point, Port Washington, Manhasset, Roslyn, Mill Neck, Hempstead, Roosevelt, Seaford; Suffolk County—Smithtown.

As of 1967—Suffolk County—Northport.

Also bred in Central Park in 1968, first definite record.

WHITE-BREASTED NUTHATCH *(Sitta carolinensis)**B

6 netted and banded, Tobay Beach, Sept. 25, 1965 (Davis and Schaeffer).

14, Jones Beach, Oct. 5, 1963 (several observers); good coastal movements, where ordinarily only one or two individuals are seen.

RED-BREASTED NUTHATCH *(Sitta canadensis)**

Fisher's Island, June 22-25, 1965 (Ferguson).

6, Inwood Hill Park, May 23, 1966, is a good number for the date.

BROWN CREEPER *(Certhia familiaris)** B

Nonbreeding: One seen from a boat off Montauk Point, Aug. 13, 1966 (Plunkett and Trimble), is the earliest fall regional report by 15 days.

Breeding: Pair observed feeding nestlings, between Haverstraw and New City, Rockland County, late May 1965 (Steffens). The nest was behind some bark on a dead stub in deciduous woodland. This is the first definite breeding record for Rockland County, although the species has bred in the adjacent Orange County section of Harriman Park.

Nest with five eggs, between Lake Oscaleta and Lake Rippowam in northeastern Westchester County, June 15, 1965 (Grierson); late egg date and first known breeding record for that county. The most interesting feature of this record was the location of the nest; according to Grierson (*in litt.*), ". . . the nest is behind the shutter of a house rather than the traditional loose-bark location. The house in question belongs to Mr. and Mrs. Donald Wood and is in a hemlock grove. The Woods tell me that the bird has nested for the past several years, but did not realize it was an unusual record and site." Nest in AMNH collection.

HOUSE WREN *(Troglodytes aedon)** B
One carefully observed on Gardiner's Island, Dec. 30, 1967 (Cashman and Trimble). They also saw Winter and Carolina Wrens the same day.

WINTER WREN *(Troglodytes troglodytes)** B
15, Inwood Hill Park, Oct. 11, 1965 (Norse).

CAROLINA WREN *(Thryothorus ludovicianus)** B
15, Gardiner's Island, Dec. 30, 1967 (Cashman and Trimble).

LONG-BILLED MARSH WREN *(Telmatodytes palustris)**B
6 wintered at Oak Beach, 1967-1968 (Enders and W. Post).

SHORT-BILLED MARSH WREN *(Cistothorus platensis)** B
Three pairs bred in Great Piece Meadows, Essex County, N. J., summer of 1965 (Marx). This species has become increasingly scarce within recent years.

MOCKINGBIRD *(Mimus polyglottos)** B
Nonbreeding: 1964-1965 Christmas counts—an unprecedented total of 320 birds on all counts in the region, of which 230 were reported in New Jersey alone (180 in the central counties of Hunterdon, Somerset, adjacent Morris, and Monmouth and 50 in the northern portions of that state). 90 were tabulated in the balance of the region as follows: 60 from Long Island (half of these from Nassau County), 18 from mainland New York and Staten Island, and 12 from Connecticut (southwestern Fairfield County).

Breeding: 1963—Two "new" breeding localities in Rockland County—Tappan and Orangeburg.

1964—Breeding locally in numbers on Long Island, including ten plus pairs in the vicinity of Levittown, Nassau County, alone (E. Morgan).

1965—Two pairs breeding at Idlewild, Queens County (Mayer). Pair feeding young at nest, Far Rockaway, Queens County;

the three young fledged and left nest on July 17 (Sorman). Pair bred at Glen Cove, Nassau County. Also bred in at least two localities on Fire Island, Suffolk County: Saltaire and the Sunken Forest.

1967—At least three pairs bred in eastern Bergen County and one pair at Katonah, Westchester County.

1968—One pair bred at Pleasantville, Westchester County; nest with 3 eggs, May 5, 2 unfledged juveniles, May 12 (Curnen).

CATBIRD *(Dumetella carolinensis)** B

24 breeding pairs in 20 acres, Van Cortlandt Park, summer of 1963 (Heath and Zupan).

VARIED THRUSH *(Ixoreus naevius)**

The bird reported at the Bellport, L. I., feeder (Bull, 1964: 337), remained until Jan. 17, 1964.

One at Orient, Apr. 17, 1964 (Latham); first known spring occurrence.

Male present at the Merrill feeder, Bedford Hills, N. Y., Jan. 30 to Feb. 3, 1966; photographed in color by S. L. Pierson, photos on file—AMNH collection.

WOOD THRUSH *(Hylocichla mustelina)** B

Orient, Apr. 17, 1965 (Latham); earliest occurrence by three days. 8 netted and banded, Tobay, Sept. 26, 1965 (Davis and Schaeffer).

HERMIT THRUSH *(Hylocichla guttata)**B

Big early flight on Apr. 18, 1965: 50, Inwood Hill Park (Norse); 36, Van Cortlandt Park (Horowitz).

SWAINSON'S THRUSH *(Hylocichla ustulata)**

Orient, Apr. 24, 1965 (Latham); earliest occurrence by three days.

EASTERN BLUEBIRD *(Sialia sialis)** B

30, Mount Kisco, Jan. 10, 1965.

WHEATEAR *(Oenanthe oenanthe)**

One carefully studied and described in detail, Tobay Sanctuary, Sept. 18, 1967 (W. Farren), see *Kingbird*, 18: 26, 1968. Another described to the writer, seen at Van Cortlandt Park, June 8, 1968 (O. Goelet and S. Koelle). The species was also reported in late May, 1968, outside the region near Guilford, Conn. by several people.

BLUE-GRAY GNATCATCHER *(Polioptila caerulea)** B

Nonbreeding: One netted and banded, Tiana Beach, Oct. 29, 1965 (Wilcox); late.

Breeding: The following breeding data are at hand: **1963**—Two "new" breeding localities for Rockland County: Blauvelt and Pomona. **1965**—One "new" breeding locality for Orange County; West Point, bird incubating, May 31, a late egg date (several observers). **1966**—Pair bred near Nyack, Rockland County; "new" locality. **1968**—Pair feeding unfledged juveniles, Caumsett State Park, Lloyd's Neck, Suffolk County, June 20 (Connally and Dove), is the first known breeding record for western Long Island.

GOLDEN-CROWNED KINGLET *(Regulus satrapa)**
15, Inwood Hill Park, Apr. 12, 1965.

RUBY-CROWNED KINGLET *(Regulus calendula)**
Jamaica Bay Refuge, May 31, 1965; latest spring occurrence by one day.

140, Jones Beach, Oct. 5, 1963.

Large flight on Oct. 12, 1964, all birds netted and banded, as follows: 75, near Huntington (Lanyon and Willis); 56, Tiana Beach (Wilcox); 30, Atlantic Beach (Cohen); 25, Tobay Beach (Davis and Schaeffer).

WATER PIPIT *(Anthus spinoletta)**
200, Jones Beach, Nov. 14, 1964.

BOHEMIAN WAXWING *(Bombycilla garrulus)**
One with a flock of Cedar Waxwings, Port Washington, Nov. 19, 1962 (Dove); earliest occurrence by four days. This is a very rare species in our region.

CEDAR WAXWING *(Bombycilla cedrorum)** B
700, Riis Park, Oct. 1, 1967.

WHITE-EYED VIREO *(Vireo griseus)** B
5 netted and banded, Sandy Hook, N. J., Sept. 14, 1963 (Frohling). Good flight in the fall of 1964: 7, Northport, Sept. 6 (Mudge); 4 netted and banded, Brookhaven, Sept. 13 (Puleston and Terry); Tiana Beach, Oct. 20 and 28, one netted and banded each day (Wilcox)—both the latest occurrences for the region by three and eleven days respectively.

YELLOW-THROATED VIREO *(Vireo flavifrons)** B
One netted and banded, Tobay, Oct. 18, 1964 (Davis and Schaeffer); latest occurrence by six days.

One observed at Freeport, Apr. 21, 1968 (Ward and Hirschbein); earliest date by four days.

SOLITARY VIREO *(Vireo solitarius)** B

Islip, Dec. 10, 1967 (Trimble), with a flock of Black-capped Chickadees. This is the latest fall occurrence by nine days.

PHILADELPHIA VIREO *(Vireo philadelphicus)**

Five reliable reports, spring of 1964, dates ranging from May 17 to 24, with 3 on May 17; ordinarily very rare in spring, usually occurring in late May.

WARBLING VIREO *(Vireo gilvus)** B

One in song, Van Cortlandt Park, Apr. 24, 1964 (Stepinoff); earliest date by four days.

4 netted and banded, Tobay, 1965 (Davis and Schaeffer): 2, Sept. 4; 2, Sept. 5.

1 netted and banded, Tiana Beach, Sept. 9, 1965 (Wilcox), and 1, Sept. 25, 1963.

Late fall flight in 1967 on coastal Long Island, all birds netted and banded as follows: Brookhaven, Sept. 26 (Puleston and Terry); Atlantic Beach, Oct. 1 (Cohen); Tobay Beach (Davis and Schaeffer)—3 Sept. 23, and one each on Oct. 22 (color photographed) and Oct. 30. These last two represent the latest known occurrences in the region by seven and fifteen days respectively. This species is ordinarily rare in fall, especially along the outer coast.

BLACK AND WHITE WARBLER *(Mniotilta varia)** B

Orient, Apr. 3, 1967 (Latham); earliest spring arrival by one week.

30, Inwood Hill Park, Apr. 30, 1965.

27 netted and banded, near Huntington, Aug. 20, 1964 (Lanyon). 23 netted and banded, Tobay, Sept. 26, 1965 (Davis and Schaeffer). Atlantic Beach, Nov. 23, 1965 (Cohen) and Manhasset, Nov. 29, 1964 (Dunning); these are the latest fall occurrences by nine and fifteen days respectively.

Cold Spring Harbor, Dec. 27, 1964 (Taylor); second winter occurrence.

A specimen in the AMNH collection, No. 439946, was taken at Bronx Park, Dec. 2, 1906 (R. C. Murphy); latest fall occurrence by three days, except for two early winter reports. This specimen record is published here for the first time.

PROTHONOTARY WARBLER *(Protonotaria citrea)**B

Jones Beach, Aug. 23, 1962 (Levine).

One netted and banded, Tiana Beach, Sept. 13, 1962 (Wilcox and Terry); another netted and banded, Brookhaven, Sept. 28,

1966 (Puleston and Terry) and two more at the latter locality, Oct. 1 and 4, 1967.

Male, Babylon, Oct. 13-15, 1963 (Eckelberry). Previous latest regional date was Sept. 22 (Bull, 1964: 361). This species is rarely reported in fall.

SWAINSON'S WARBLER *(Limnothlypis swainsonii)*

One carefully studied, Bronx Botanical Garden, May 6, 1963 (Carleton, Hackett, Horowitz, Maguire, and Post); second occurrence in the region. It would be most desirable to obtain a specimen or color photograph to establish beyond any doubt its occurrence locally.

WORM-EATING WARBLER *(Helmitheros vermivorus)** B

Nonbreeding: 7 netted and banded, near Huntington, July 11 to Sept. 9, 1963 (Lanyon); the July 11 date is very early, as the species is not known to breed at this locality.

7, Inwood Hill Park, Aug. 2, 1963 (Norse); 5, Central Park, Aug. 9, 1964 (Plunkett).

Breeding: In Bull, 1964: 362, I stated that this species is a very rare breeder on the north shore of Long Island, but neglected to state that, according to Cruickshank (1942: 373), ". . . is an extremely rare and erratic breeder on the wooded slopes along the north shore between Bayside and Port Jefferson." It would be desirable to ascertain actual breeding localities today in this area.

BLUE-WINGED WARBLER *(Vermivora pinus)** B

1963—12, Inwood Hill Park, Aug. 2 (Norse); 12, Bronx Park, Aug. 9 (Maguire).

"LAWRENCE'S" WARBLER *(Vermivora "lawrencei")** B

Van Cortlandt Park, summer of 1963 (Schmidt *et al.*); male mated to Blue-winged Warbler and observed feeding young.

TENNESSEE WARBLER *(Vermivora peregrina)**

7, Far Rockaway, May 28, 1967 (Bull), a very late spring.

Prospect Park, Nov. 7, 1962 (Yrizarry); Jamaica Bay Refuge, Nov. 15, 1964 (Cantor, Norse, and Willis); latest occurrences by nine and seventeen days respectively.

ORANGE-CROWNED WARBLER *(Vermivora celata)**

Yaphank, May 24, 1963 (Puleston); latest spring occurrence by two days.

8 netted and banded, Tiana Beach, Oct. 1-28, 1963 (Wilcox and Terry).

1 picked up dead, Verona, N. J., March 5, 1965 (Van Deusen); first winter specimen for New York City region, specimen in AMNH collection.

NASHVILLE WARBLER *(Vermivora ruficapilla)** B

Nonbreeding: 5, Prospect Park, Sept. 13, 1964 (Yrizarry).

5 netted and banded, Tiana Beach, Sept. 15, 1964 (Wilcox); 17 netted and banded near Huntington, from Aug. 12 to Oct. 10, 1965 (Lanyon); maximum of 4, Aug. 31.

One remained at the Ruppert feeder, Lloyd's Neck, L. I., from Jan. 5 to Feb. 7, 1967 (numerous observers); also photographed. It was not seen again after a blizzard on the last date. The bird was observed to eat suet. This is the third winter occurrence in the region.

Breeding: Silloway (1920: 95) records the following information concerning the breeding of the Nashville Warbler near Bear Mountain, N. Y.: "This warbler was first seen on July 28 [1919], in the Bear Mountain region, on the old Queensboro road. A male and female were observed, both feeding active young recently from the nest." He further states that, "This record indicates that the Nashville Warbler is a summer resident of the Bear Mountain region of the [Palisades Interstate] Park." Subsequent writers on the ornithology of this region apparently overlooked this breeding record. Very few nests of this species have been found in the New York City region. A current detailed breeding survey would seem to be in order.

PARULA WARBLER *(Parula americana)** B

Brooklyn, Apr. 6, 1963 (Cashman); second earliest spring occurrence. 12, Far Rockaway, May 28, 1967; very late spring.

One struck a window, Port Chester, Dec. 13, 1962 (Cook); latest fall occurrence by four days; specimen in collection of Yale University Peabody Museum.

One observed eating suet at feeding station, Noyack, L. I., up to Dec. 23, 1965 (Wilcox and others). This is the first known local winter occurrence.

YELLOW WARBLER *(Dendrocia petechia)** B

One struck the Empire State building, Oct. 11, 1962, specimen in AMNH collection, No. 701818; latest regional occurrence. This specimen was determined as *D. p. rubiginosa* by A. R. Phillips and Bull, and represents the first definite occurrence of this far western subspecies in the region. For discussion of subspecies, see Bull (1964: 373).

7 netted and banded, Brookhaven, Sept. 11, 1965 (Puleston and Terry).

MAGNOLIA WARBLER *(Dendroica magnolia)** B

10, Far Rockaway, May 28, 1968; very late spring.

One old specimen, hitherto unpublished, in the AMNH collection, June 18 (year?) represents either the latest spring migrant by seven days, or a summer vagrant. It occurred where the species does not breed—Hartsdale, Westchester County.

One netted and banded near Huntington, July 25, 1964 (Lanyon); earliest fall occurrence by ten days.

1964—45, Prospect Park, Sept. 13 (Yrizarry); 63 struck the Empire State building, Sept. 14 (Clement).

10, Jones Beach, Oct. 5, 1963.

CAPE MAY WARBLER *(Dendroica tigrina)**

Peekskill, Nov. 10, 1962 (Magee); latest *fall* occurrence by five days, except for a Dec. 5 record.

BLACK-THROATED BLUE WARBLER *(Dendroica caerulescens)**B

75, Watchung Ridge, south of Verona, N. J., May 12, 1965 (Eynon), a high number.

12 struck the Empire State building, Sept. 14, 1964 (Clement).

20, Hawthorne, N. Y., Sept. 21, 1963 (Howe). Male at feeder, Brookhaven, Dec. 27, 1962 (Stoutenburgh); second winter occurrence.

MYRTLE WARBLER *(Dendroica coronata)**

556 netted and banded, Tobay Beach, Oct. 16, 1965 (Davis and Schaeffer), and 698 banded there on Oct. 22, 1967. At least 2500 were estimated there on this last date.

TOWNSEND'S WARBLER *(Dendroica townsendi)*

Singing male, Central Park, May 4, 1963 (Cantor, Gilbert, *et al.*); Cantor examined skins at AMNH (see *Linnaean News-Letter,* 18, April 1964).

Male, Bronx Park, May 9, 1964 (six observers). These are the second and third spring occurrences.

Male, Hewlett Harbor, Nov. 10, 1963 (Berliner, Sloss, *et al.*); first definite local fall occurrence and the fourth report for the New York City region.

It is highly desirable to obtain a specimen to establish definitely its occurrence here.

CERULEAN WARBLER *(Dendroica cerulea)** B

Immature netted, banded, and color photographed, Tobay Beach, Aug. 6, 1967 (Davis).

One struck the Empire State building, Sept. 14, 1964 (Clement); very rare in fall.

BLACKBURNIAN WARBLER *(Dendroica fusca)** B

1964—17 struck the Empire State building, Sept. 14 (Clement); a high number for fall. 5, Inwood Hill Park, Sept. 30 (Norse).

YELLOW-THROATED WARBLER *(Dendroica dominica)**

Riis Park, Sept. 18 and 19, 1965 (Mayer, Rose, Swayer, *et al.*).

One netted and banded, Tiana Beach, Oct. 6, 1962 (Wilcox and Terry); the latest occurrence. These are the fifth and sixth fall occurrences, all of them coastal.

CHESTNUT-SIDED WARBLER *(Dendroica pensylvanica)** B

Central Park, Apr. 16, 1967 (H. and B. Dresher); earliest occurrence by nine days.

16 struck the Empire State building, Sept. 14, 1964 (Clement); high count for fall.

BAY-BREASTED WARBLER *(Dendroica castanea)**

25, Oakdale, L. I., Sept. 28, 1964 (Alperin).

PRAIRIE WARBLER *(Dendroica discolor)** B

5 netted and banded, Tobay, Sept. 25, 1965 (Davis and Schaeffer).

West Long Branch, N. J., Nov. 26, 1962 (Seeley); very late.

Montauk, Dec. 2, 1967 (R. Paxton and T. Chase); latest fall occurrence by three days.

One well observed at East Moriches, Dec. 26, 1967 (Stoutenburgh), is the first known winter occurrence for the region.

PALM WARBLER *(Dendroica palmarum)**B

5, Oak Beach, Jan. 2, 1965 (Tudor and L. Morgan).

10, Captree Christmas count, Dec. 31, 1966.

OVENBIRD *(Seiurus aurocapillus)** B

Wyckoff, N. J., Nov. 25 to Dec. 15, 1964 (Stearns); latest occurrence except for three late December dates.

One remained at the Cooke feeder, Lloyd's Harbor, L. I., from Jan. 26 to Feb. 19, 1968 (numerous observers). This is the fourth winter occurrence in the region and the first midwinter report.

Specimen in AMNH collection, No. 230251, picked up dead in New York City, Apr. 10, 1927 (exact locality and collector not given), not previously published. Apr. 10, as shown in Bull (1964: 388) as the earliest date, represents two Rockland County observations, one in 1954, the other in 1957.

NORTHERN WATERTHRUSH *(Seiurus noveboracensis)*B

Prospect Park, Nov. 15, 1962 (Yrizarry); latest *fall* occurrence by 13 days, except for a Nov. 30 report.

The following maxima are at hand: **1964**—55, Prospect Park, Sept. 13 (Yrizarry); high count. Of 45 waterthrushes netted and banded near Huntington in fall (Lanyon), only *two* were Louisiana Waterthrushes. Of 94 banded at three south shore netting stations in fall, *none* were Louisianas; of these 94 birds, 73 were banded at Brookhaven, between Aug. 14 and Oct. 5 (Puleston and Terry). **1965**—114 netted and banded at Brookhaven, Aug. 1 to Oct. 14 (Puleston and Terry); maximum of 6, Aug. 6; 12, Aug. 12; and 16, Sept. 8.

One well observed at Mill Neck, Dec. 26-27, 1965 (Dunning, Astle, and four other observers from Lyman Langdon Audubon Society); first local winter occurrence.

LOUISIANA WATERTHRUSH *(Seiurus motacilla)** B

4 netted and banded near Huntingdon, fall of 1962 (Lanyon); also July 24 and Aug. 30, 1964; 1 netted and banded, Brookhaven, Aug. 4, 1965 (Puleston and Terry); 1 observed at Mecox Bay, Aug. 31, 1963 (Raynor).

Note that this species is very rare on the south shore of Long Island at any time.

KENTUCKY WARBLER *(Oporornis formosus)** B

Spring of 1963—at least three different individuals were observed in Central Park: male, May 19; female, May 27-28; singing male, May 31, the latest spring date by three days.

One netted and banded, Brookhaven, Aug. 17, 1967 (Puleston and Terry) is the earliest fall occurrence by two days; immature male netted and banded near Huntington, Aug. 26, 1966 (Lanyon); male netted, banded, and color photographed, Atlantic Beach, Sept. 19, 1965 (Cohen).

Note that this species is very rarely reported in fall.

CONNECTICUT WARBLER *(Oporornis agilis)**

Inwood Hill Park, Aug. 15, 1962 (Norse); earliest fall arrival by two rays. Male carefully studied, Bronx Park, May 11, 1965 (Ryan); extremely rare in spring—earliest occurrence by two days. There was a heavy flight of birds that day; singing male well studied, Central Park, June 3, 1967 (Plunkett) is the latest spring departure date by five days.

MOURNING WARBLER *(Oporornis philadelphia)**

12 netted and banded near Huntington, Aug. 20 to Sept. 10, 1964 (Lanyon *et al.*); an unusual number—more individuals than an

observer would see in fall in a dozen years—proof that this secretive species is not as rare in fall as believed.

3 netted and banded, Brookhaven, Aug. 16 to Sept. 30, 1965 (Terry and Puleston); rare on the south shore.

Male found dead on Barnard College campus, New York City, Oct. 6, 1964; specimen in AMNH collection. Another specimen picked up dead, Jones Beach, Oct. 9, 1966 (Dove), AMNH collection, is the latest specimen record. Manorville, Oct. 19, 1963 (Raynor); latest occurrence by one week.

YELLOWTHROAT *(Geothlypis trichas)** B

1964—55, Prospect Park, Sept. 13 (Yrizarry); 71 struck the Empire State building, Sept. 14 (Clement)—only 6 were adult males.

YELLOW-BREASTED CHAT *(Icteria virens)** B

4 netted and banded, Tiana Beach, Sept. 25, 1964 (Wilcox).

Atlantic Beach, Nov. 19, 1967 (Cohen); latest fall occurrence by 19 days, excepting wintering individuals.

HOODED WARBLER *(Wilsonia citrina)** B

One netted and banded, Tobay, Oct. 18, 1964 (Davis and Schaeffer); latest fall occurrence by nine days, except for one November and one early December report.

WILSON'S WARBLER *(Wilsonia pusilla)**

10, Prospect Park, Sept. 16, 1964 (Yrizarry); good number for fall. Jones Beach, Nov. 10, 1963 (Wollin); Brighton Beach, Nov. 12, 1966 (Ferster); both very late occurrences.

CANADA WARBLER *(Wilsonia canadensis)** B

Nonbreeding: Good early movement, spring of 1964: 25, Central Park, May 7 (Post and Tudor); 55, Van Cortlandt Park, May 13 (Gochfeld).

74 netted and banded near Huntington, Aug. 6 to Sept. 8, 1963 (Lanyon *et al.*), with a maximum of 24, Aug. 25; 27 banded there, Aug. 13, 1964.

Jones Beach, Oct. 31, 1964 (Heck); latest fall occurrence by two days, except for one mid-November report.

Breeding: Pair with young, Silver Lake Park, north of White Plains, summer of 1964 (Bowen); a considerable southward extension of the breeding range in the New York City region.

AMERICAN REDSTART *(Setophaga ruticilla)** B

111 struck the Empire State building, Sept. 14, 1964 (Clement); only 21 of these were adult males.

Staten Island, Nov. 30, 1965 (Weingartner); latest *fall* occurrence by one week.

There is one late December record.

BOBOLINK *(Dolichonyx oryzivorus)** B

100 plus, Lattingtown, L. I., May 16, 1967 (Dove); very high spring number. Hackensack Meadows, Nov. 10, 1963 (Boyajian); latest occurrence by eight days, except for one late November specimen record.

EASTERN MEADOWLARK *(Sturnella magna)** B

1964—200, Jones Beach area, Oct. 20 (Dove); 50, Tobay Beach, Nov. 1 (Davis).

WESTERN MEADOWLARK *(Sturnella neglecta)*

Singing bird, Hamptonburgh, Orange County, from May 20 to June 10, 1967 (many observers).

YELLOW-HEADED BLACKBIRD *(Xanthocephalus xanthocephalus)**

Half as many occurrences during the three year period, 1963-1965, as all previous records combined. Note that all of the following seven individuals were at feeding stations:

1963—male at feeding station, Harrison, N. Y., Apr. 1-3 (Tauber); female at feeder with Red-winged Blackbirds, Westhampton Beach, Aug. 18-19 (Harrison); female at feeder, Boonton, N. J., Dec. 22 (Thorsell), second winter report. 1964—male at feeder, Long Valley, Morris County, N. J., Jan. 16 (Babson and Lester), third winter occurrence; male at feeder, banded and color photographed near South Amboy, N. J., Nov. 12 (Knorr), the latest *fall* report by twelve days (but see below); photo on file, AMNH collection. 1965—male at feeder, Wood-Ridge, N. J. Feb. 9 (Pallas), fourth winter occurrence; female at feeder, banded and color photographed near South Amboy, N. J. Nov. 30 to Dec. 17 (Knorr)—latest fall report (see above)—photo in AMNH collection. 1966 — Female captured on a boat off Long Branch, N. J., Sept. 17 (Seeley), was caged, fed, and released Sept. 22.

Note that of the eight occurrences listed above, six were from New Jersey.

RED-WINGED BLACKBIRD *(Agelaius phoeniceus)** B

900, Riis Park, Aug. 29, and 3000, Nov. 2, both in 1965 (Davis).

ORCHARD ORIOLE *(Icterus spurius)** B

Adult male, Brookhaven, Apr. 20, 1965 (Puleston), and Apr. 22, 1963 (Puleston); earliest date by five days, the second one by three days.

Immature male, Riis Park, from Nov. 20 to Dec. 11, 1966 (numerous observers). On the last date the bird was mist-netted, banded, meticulously examined, measured, and finally released. For a detailed description, see Davis (*Kingbird*, 17: 84, 1967). The occurrence is by far the latest for the New York City region; previous latest date—Sept. 27.

BALTIMORE ORIOLE *(Icterus galbula)** B

200, Tobay Sanctuary, Aug. 22, 1965 (Dignan); flocks up to 10-15 flying overhead; these are the largest numbers ever reported locally.

BULLOCK'S ORIOLE *(Icterus bullockii)*

The immature male (or female) previously reported at a feeder in Eastport, L. I., and first observed, banded, and photographed in December 1963 (Bull, 1964: 481-482), was present until March 4, 1964, and observed by many people (see also *Ebba News*, 27: 58, 1964).

A highly colored male was present at the Sternberg feeder, Woodmere, L. I., from early January to Apr. 2, 1966. This bird was color photographed by Dignan, *et al.*, and was observed by more than 200 birdwatchers. Color photos on file, AMNH collection. It is highly desirable that a specimen be taken to substantiate the occurrence of this western form in the northeast. As far as I know, there is no specimen extant from the northeastern United States. More important than merely establishing its occurrence here, is the matter of whether a specimen is "pure" *bullockii*, or represents a hybrid *galbula* x *bullockii*. This can be settled only by means of specimen evidence.

BOAT-TAILED GRACKLE *(Cassidix mexicanus)*

The first corroborated record for the New York City region was made at Far Rockaway, Long Island. A male with yellow irides appeared at the adjacent Berman and Sorman feeders in early April of 1967, remained in the vicinity for seven months, and was last seen that year on Nov. 3. Remarkably, it arrived at precisely the same spot "with Common Grackles and Red-winged Blackbirds" on March 10, 1968, and stayed in the general vicinity at least through June of 1968. Many observers studied it and several photographs were taken. In the vicinity of the two feeding stations are sizable salt marshes where the bird went to roost for the night. The Boat-tailed Grackle was also attracted to a white pine tree in which several pairs of Common Grackles had their nests. Repeated attacks by the smaller birds (especially the males) did not deter it from approaching the Common Grackles' nests nor did they succeed in driving it out of the tree. Once airborne,

however, the Boat-tailed took off with the male Common Grackles in close pursuit. Whether the Boat-tail was after the eggs and/or young, or whether it was attracted to the female Common Grackles (as suggested by some), was not ascertained. After the breeding season both species fed side by side at the feeders without any observed "animosity." Attempts to capture the bird for banding were unsuccessful.

WESTERN TANAGER *(Piranga ludoviciana)**

This species should be shifted from the "casual" category to "very rare". **1962**—Park Ridge, N. J., Sept. 29 (Komorowski). **1963**—female, Jamaica Bay Refuge, May 4-17 (Stepinoff, Carleton, Tudor, et al.). **1965**—Inwood Hill Park, Sept. 30 (Norse). Jones Beach, Oct. 3-31 (Arbib, Dignan, Wollin, et al.). Quogue Sanctuary, Nov. 25 (Tetrault and O'Hare), detailed description submitted. **1966**—male, Jones Beach, Sept. 17 (Dignan). Female present at Riis Park from Nov. 12 to Dec. 26 (many observers) when it was found dead, apparently a victim of the Dec. 24 snowstorm; specimen now in AMNH collection, No. 786269. This is the first Long Island specimen and the second for the region.

Extreme dates: Fall—Sept. 17 through December; spring to May 12 (specimen), May 17 and 20, but casual at this latter season. Sight reports in August are not confirmed.

SCARLET TANAGER *(Piranga olivacea)** B

25, Inwood Hill Park, Sept. 13, 1964 (Norse).

Adult male netted and banded, Tobay Beach, Nov. 1, 1964 (Davis and Schaeffer); late. Northport, L. I., Nov. 15, 1967 (Mudge); second latest regional occurrence.

SUMMER TANAGER *(Piranga rubra)**

Spring of 1965—five different individuals, dates ranging from Apr. 23 to May 28. Female, Central Park, Sept. 10, 1963 (Messing). Female netted, banded, and color photographed, Atlantic Beach, Sept. 15, 1965 (Cohen)—very rare in fall. Adult male netted and banded, Atlantic Beach, June 3, 1967 (Cohen); late.

CARDINAL *(Richmondena cardinalis)** B

Prior to the late 1950's, this species was very rare on Long Island along the beaches of the south shore and at the eastern end. The following data are of interest in this respect: 7 at one feeding station, Orient, winter of 1963-1964 (Latham); 10, Montauk Christmas count, Dec. 26, 1964; at least two pairs bred on Gardiner's Island, summer of 1965 (Lanyon); three pairs bred on Fire Island, between Ocean Beach and Point o' Woods, summer of

1965; 1 netted and banded, Tobay Beach, Oct. 20, 1965 (Davis and Schaeffer); 5 netted and banded, Atlantic Beach, Sept. 6 to Oct. 24, 1965 (Cohen).

ROSE-BREASTED GROSBEAK *(Pheucticus ludovicianus)** B

Nonbreeding: 18 males, Atlantic Beach, May 1, 1966 (Cohen); very high number for such an early date. A warm front "colliding" with a cool stationary air mass, produced a dense fog which was believed to have caused this flight, many of the birds having been grounded.

Male at a Port Washington feeder, from Nov. 18 to Dec. 5, 1967 (M. Matera). This is the latest regional occurrence by one day.

Breeding: This species is a rare or uncommon breeder anywhere on Long Island. Nest with eggs, Port Washington, Nassau County, May 18, 1965 (Lyman Langdon Aud. Soc.). Nest with eggs, June 6, 1965, and with young, June 12, Noyack, eastern Suffolk County (Puleston)—first known breeding record on eastern Long Island. Nested near Huntington, summer of 1967 (Lanyon), juveniles fledged, July 18.

BLACK-HEADED GROSBEAK *(Pheucticus melanocephalus)*

"Subadult" male at the Wisner feeder, Elberon, N. J., Jan. 29 to March 28, 1965 (numerous observers), also photographed; first definite local occurrence since the early spring of 1960, and at least the tenth time in the region. A specimen is highly desirable, both to confirm occurrence in the northeast, and also to ascertain if any hybrid "blood" is present. The Rose-breasted and Black-headed Grosbeaks frequently interbreed where their ranges meet in the west.

BLUE GROSBEAK *(Guiraca caerulea)**B

One at a feeder, East Marion, L. I., Nov. 9-14, 1965 (Raynor).

Jones Beach, Dec. 15, 1963 (Garland), latest occurrence by 20 days; observer familiar with the species, both locally and in the south.

INDIGO BUNTING *(Passerina cyanea)** B

Riis Park, Nov. 14, 1964 (Davis and Schaeffer); latest *fall* occurrence by one day, except for one early December record.

DICKCISSEL *(Spiza americana)** B

Early flight, *fall* of 1962—Chappaqua, Westchester County, Aug. 6-12 (Warren), banded on latter date; earliest fall occurrence by twelve days. Jones Beach, Aug. 18 (Ward).

Big flight, *fall* of 1963 — at least 50 individuals along the coast of Long Island, dates ranging from Aug. 31 to Nov. 5 (on the last date, 3 at the Ferguson feeder, Fisher's Island); maxima—14 in one flock, Montauk Point, Sept. 28 (Yeaton *et al.*); 6 in one flock, Smith's Point, near Mastic, Sept. 29 (Dignan); 4, Jones Beach, Oct. 26 (several observers).

Winter: 2 wintered at Long Island feeders, 1962-1963—1 each at East Marion and East Moriches; 6 wintered at Long Island feeders, 1963-1964—1 each at Brooklyn, Freeport, Plandome, Center Moriches, Eastport, and Shinnecock Hills.

Four *spring* migrants in 1963—New Milford, Bergen County, N. J., May 6 and Colt's Neck, Monmouth County, N. J., May 12 (both by Seeley); Fisher's Island, May 15 (Ferguson); Riis Park, May 18 (Tudor *et al.*). Also one at St. Paul's churchyard, lower Manhattan, May 20, 1966 (Harrison).

The Dickcissel was first reported as a spring migrant in 1962.

EVENING GROSBEAK *(Hesperiphona vespertina)** B

Inwood Hill Park, Sept. 6, 1966 (Norse); earliest fall occurrence by 15 days. The following Long Island maxima are at hand: 150, Locust Valley, Nov. 5, 1965 (Astle); 80, Oakdale, Dec. 28, 1963; 150 banded, Blue Point, winter of 1963-1964 (Terry); 160, Eastport, Feb. 12, and 100 there, Apr. 14, 1964 (Wilcox). 100 plus remained at a Brookhaven feeder to May 7, 1966 (Puleston). The species has greatly increased on the south shore, chiefly at feeding stations, and is also lingering later in numbers each year. One at Orient, July 3, 1964 (Latham) is the only known local summer occurrence, other than two casual breeding records.

PURPLE FINCH *(Carpodacus purpureus)** B

The following two old *breeding* records are published here as *breeding* records for the first time: Nestling taken in Central Park, July 6, 1888 (Richardson), specimen in AMNH collection, No. 35164. The occurrence was reported by Griscom (1923: 261) merely as "one summer record, a juvenal male collected . . ." and by Carleton (1958: 53) as ". . . (young male . . .)." Immature male, recently fledged, West Orange, Essex County, N. J., July 23, 1898 (Van Rensselaer), specimen in AMNH collection, No. 365562. It is obvious that Griscom did not examine these two specimens, otherwise he certainly would have included them as *breeding* records.

HOUSE FINCH *(Carpodacus mexicanus)**B

Nonbreeding: The following data indicate further increase and spread in the New York City region since 1961: First definite record for Orange County: One at Cornwall, Oct. 25, 1962 (Treacy).

1962—virtually unknown in the Jones Beach area. 1964—established in the Jones Beach area, especially in the vicinity of the fishing station, and around the bathing pavilions; also several pairs at Tobay Pond. 1965—although widespread in the region, it was not reported from Central Park (Carleton), Gardiner's Island (Lanyon), or Fisher's Island (Ferguson). First known occurrence for Prospect Park: 3, Oct. 10, 1963 (Raymond). Late December 1964 Christmas counts as follows: New Jersey—Sussex County (none); northwestern Hunterdon County, 40; New York State (except Long Island)—Rockland County, 4; northwestern Westchester County, 15; extreme eastern Long Island—Orient, 17 (first record); Montauk, 25 (not definitely reported between 1958 and 1964). Note that these areas are peripheral portions of the New York City region.

Of interest are two Christmas counts to the east of our region, also in 1964: New London, Conn. 4; Newport area, southern R. I., 5 (first state record).

The House Finch has increased also in coastal New Jersey in Monmouth County: 30 plus at a feeder near Long Branch, Jan. and Feb., 1963 (Seeley); 30, Sandy Hook, Nov. 24, 1963, and 150 there, Nov. 21, 1964 (Wolfarth).

Flocks up to 50 or more have been banded at inland feeders in the winter of 1964-1965: Somerville, Somerset County, N. J.; Chappaqua, northern Westchester County, N. Y. This indicates to some extent the recent increase away from Long Island.

As many as 223 were banded at Atlantic Beach in March 1965 alone (Cohen). 1966—reported from Central Park (Carleton). *Breeding:* Reported to be double brooded near Huntington, L. I. (Lanyon and Gill), and at Westfield, N. J. (Stearns).

In 1965 this species nested in broken street lamps, both in Bronx Park and in Van Cortlandt Park (various observers).

In 1967 one pair bred at Sandy Hook, N. J. (Boyajian and Plunkett).

In 1968 at least one pair bred in Central Park near the Metropolitan Museum of Art (*fide* R. Pasquier).

PINE GROSBEAK *(Pinicola enucleator)**

Male, Jamaica Bay Refuge, Oct. 8, 1962 (Gochfeld); earliest fall occurrence by 17 days.

PINE SISKIN *(Spinus pinus)** B

Large early flight along the outer coast, fall of 1965: 700, Fire Island, Oct. 13; 350, Tobay Beach, Oct. 17; 600, Tiana Beach, Oct. 19 and 1000, Oct. 25. The "peak" usually occurs in early November.

AMERICAN GOLDFINCH *(Spinus tristis)** B

Two fledged near Huntington, Sept. 24, 1964 (Lanyon); late.

RED CROSSBILL *(Loxia curvirostra)** B

Nonbreeding: Big flight, fall of 1963, especially along the outer beaches: 200, Riis Park, Nov. 16; 150, Jones Beach, Nov. 28. Big flight also, late fall of 1965.

Breeding: Pair observed building nest in pitch pine, near Yaphank, Suffolk County, Apr. 2, 1964 (Puleston and Raynor), but neither birds nor nest were seen on Apr. 7. There are only two previous records of breeding in our region, both many years ago. Note that this attempted nesting occurred during a flight period, as usually happens with this species; also April is the month when Red Crossbills had eggs on two previous occasions; apparently the species is an early breeder.

WHITE-WINGED CROSSBILL *(Loxia leucoptera)**

Big flight, fall of 1963 (see Red Crossbill above): 100, Prospect Park and 110, Riis Park, both on Nov. 25. Big flight also, late fall of 1965.

RUFOUS-SIDED TOWHEE *(Pipilo erythrophthalmus)** B

A male of one of the western "Spotted" forms was present at a Bellport, L. I., feeder from Dec. 3, 1964 to Feb. 1, 1965 (numerous observers); photographed in color (Puleston), photo in AMNH collection.

LARK BUNTING *(Calamospiza melanocorys)**

Riis Park, Sept. 6, 1964 (Robben and Hirshberg); for details, see *Kingbird*, 15: 23, 1965.

Westhampton Beach, Oct. 17, 1965 (Raynor); details submitted.

Short Beach, Sept. 10, 1966 (Ward, Levine, Davis, *et al.*) and later photographed in color (Daly).

Riis Park, Sept. 24, 1967 (Brennan, Daly, and O'Hare); for details, see *Kingbird*, 18: 61, 1968.

These are the sixth to ninth occurrences for the region, all on Long Island. Six of these nine occurrences took place in September. Note that nearly half of these records were in the last four consecutive years, whereas all previous five records took place over a period of more than 70 years. The species should, therefore, be removed from the "accidental" to the "casual" category.

IPSWICH SPARROW *(Passerculus princeps)**

3 netted and banded, Tiana Beach, Oct. 16-25, 1963 (Wilcox and Terry).

GRASSHOPPER SPARROW *(Ammodramus savannarum)** B

Winter: One at a feeder, Hewlett Harbor, L. I., Dec. 29, 1963 (Berliner, Sloss, *et al.*). In 1967 there were three winter reports as follows: one at an Oak Beach feeder, Dec. 21 (Davis and W. Post); two at Mitchel Field, Dec. 30 (Dignan and Levine); one at a feeder, Quogue Wildlife Sanctuary, from Dec. 25, 1967, to Jan. 7, 1968 (Helms, Raynor, *et al.*). The species is very rare in winter in this region.

Breeding: About 20 breeding pairs, Gardiner's Island, June 1965 (Lanyon); at least 30 pairs were estimated there in 1967 (many observers). A nest with four eggs at Mitchel Field, Aug. 6, 1967 (Darrow) is very late; the nest contained four unfledged juveniles on Aug. 19.

HENSLOW'S SPARROW *(Passerherbulus henslowii)** B

One netted and banded, Tiana Beach, Oct. 9, 1963 (Wilcox and Terry); two more netted and banded, Brookhaven, Oct. 9, 1964 and Oct. 6, 1967 (Puleston and Terry); rarely reported as a migrant. One at the Gilmore feeding station, Patchogue, Dec. 26, 1963 to Jan. 14, 1964 (Puleston and Terry); well seen and described in detail to Carleton; first known winter occurrence in the New York City region. The species is reported to winter as far north as South Carolina, very rarely to Maryland.

SHARP-TAILED SPARROW *(Ammospiza caudacuta)** B

8, Oak Beach marshes, winter of 1967-1968 (Enders and W. Post); density determined by mist-netting, color marking, and recapture.

SEASIDE SPARROW *(Ammospiza maritima)** B

44, Oak Beach marshes, winter of 1967-1968 (Enders and W. Post); density determined by mist-netting, color marking, and recapture.

Note the comparative abundance of this species and the Sharp-tailed Sparrow (above).

For an entirely different account of relative winter status, see Bull (1964: 448 and 452).

LARK SPARROW *(Chondestes grammacus)**

Immature male collected, Fisher's Island, Sept. 30, 1963 (Ferguson), specimen in his collection; this is the eighth local specimen, but apparently only the second one extant.

Montauk, Nov. 27, 1965 (Raynor); late *fall* occurrence.

One well observed in a weedy field with Tree and White-throated Sparrows, Pleasantville, N. Y., Dec. 5-18, 1965 (Augustine and Howe); latest *fall* occurrence by three weeks.

One carefully studied near Long Branch, N. J., Jan. 2, 1965 (Sandford); third *winter* occurrence.

One photographed near Mastic, L. I., from Dec. 26, 1967, to Jan. 5, 1968 (Puleston and Raynor), is the fourth *winter* occurrence in the region.

OREGON JUNCO *(Junco oreganus)**
An individual described as a male was observed at Riis Park, Apr. 2, 1967 (Norse). This is the latest regional occurrence by one day.

TREE SPARROW *(Spizella arborea)**
150, Carmel, N. Y., Jan. 4, 1964 (Little).

CLAY-COLORED SPARROW *(Spizella pallida)**
Riis Park, Sept. 7, 1963 (Cantor); earliest fall date. One netted and banded, Tiana Beach, Sept. 10, 1963 (Wilcox and Terry).

HARRIS' SPARROW *(Zonotrichia querula)*
Adult at the Helms feeder, Quogue Wildlife Sanctuary, Oct. 31 to Nov. 3, 1965, photographed by Puleston; photo in AMNH collection. An immature was netted and banded at Brookhaven, Oct. 28, 1966 (Puleston and Terry) and photographed by Puleston (see *Kingbird*, 17: 190, 1967). These are the fourth and fifth local occurrences of this western species, and the first corroborated records.

WHITE-CROWNED SPARROW *(Zonotrichia leucophrys)**
Jones Beach, Sept. 21, 1963 (Kleinbaum); earliest fall occurrence by two days.

40, Jones Beach, Oct. 5, 1963; 100 plus, same locality, Oct. 22, 1966.

6, Jamaica Bay Refuge, May 28, 1967 (Heath); a very late spring.

Jamaica Bay Refuge, June 3, 1965 (Koeppel); latest spring occurrence by three days.

5, Montauk, Dec. 30, 1967 (Raynor), "in one flock"; rare in winter.

WHITE-THROATED SPARROW *(Zonotrichia albicollis)**
1200, Jones Beach, Oct. 5, 1963; note flight same day and locality of previous species.

650, Greenwood Cemetery, Brooklyn, May 10, 1964.

1 summered at Orient, 1964 (Latham).

FOX SPARROW *(Passerella iliaca)**
Blooming Grove, N. Y., Sept. 24, 1964 (Earl); earliest fall occurrence by six days.

LINCOLN'S SPARROW *(Melospiza lincolnii)**

One netted and banded, Great Gull Island, June 10, 1968 (Schaeffer and Parkes); latest spring departure by three days.

10, Jones Beach, Oct. 1, 1963 (Tudor and Ward); high count.

The following maxima are at hand for Brookhaven (Puleston and Terry):

15 netted and banded, Sept. 7 to Oct. 28, 1964, with 3 on Sept. 26.

19 netted and banded, Sept. 14 to Oct. 29, 1965, with 3 on Oct. 29.

22 netted and banded, Sept. 19 to Oct. 22, 1967, with 6 on Oct. 6.

One well observed, Baychester, Bronx County, Dec. 22, 1963 (Tudor and Horowitz); extremely rare in winter.

SWAMP SPARROW *(Melospiza georgiana)**B

Total of 1352 netted and banded, Brookhaven, all of October, 1964 (Puleston and Terry), with as many as 445 in three days as follows: 117, Oct. 19; 219, Oct. 20; 109, Oct. 21.

SONG SPARROW *(Melospiza melodia)**B

160, Jones Beach, Oct. 5, 1963; note large numbers of White-crowned and White-throated Sparrows, same date and locality.

LAPLAND LONGSPUR *(Calcarius lapponicus)**

Overpeck Creek, N. J., Oct. 2, 1965 (Cantor and Norse); earliest fall report by one day.

SNOW BUNTING *(Plectrophenax nivalis)**

One netted and banded, Tiana Beach, Oct. 1, 1963 (Wilcox and Terry); earliest fall occurrence by two days.

Escapes

The following species are considered to have escaped from captivity. For a full discussion on this subject, see Bull (1964: 468-474).

AMERICAN FLAMINGO *(Phoenicopterus ruber)**

A "very pink" bird was observed at Shinnecock Inlet, Sept. 3 to Oct. 12, 1965 (numerous observers). Within the past few years several Flamingos have been reported in the northeast, both bright- and dull-plumaged individuals. The mere fact that highly colored birds of this species have been seen in the wild is not proof that they wandered from tropical localities. The species is common in captivity. Zoos and aviaries keep brightly colored

Flamingos and from time to time a few do manage to escape. This has definitely been proved in at least two instances: The Toledo, Ohio, zoo lost two birds during the fall of 1964. Subsequently one was seen on the upper Hudson River. Within the past few years, the Florida exhibit at the New York World's Fair had Flamingos on exhibit including bright pink individuals. A check there in 1965 indicated that one or more had also made good their escape. During the summer and autumn of 1964 Flamingos were reported at Brigantine Refuge in New Jersey, near Old Lyme, Conn., and in western and eastern Massachusetts. The source of these individuals could easily have been one of the places mentioned above. The Bronx Zoo and the Sterling Forest Gardens, Tuxedo, N. Y. also keep Flamingos.

SHELD DUCK *(Tadorna tadorna)*

One at Islip, L. I., early summer of 1965. This Palearctic species is often kept in captivity. Because of the season it is highly unlikely that it was a wild bird. Waterfowl are particularly prone to escape and are always suspect.

TUFTED DUCK *(Aythya fuligula)*

In February 1966 a male, discovered by Lohrer and observed later by others, was present on the Hudson River, below the George Washington bridge, both on the Manhattan and New Jersey sides. The same or another male was present in this general area during the winters of 1966-1967 and again in the winter of 1967-1968 and was seen by numerous observers. For reasons why this species is considered an escape, see Bull (1964: 471-472).

BRAMBLING *(Fringilla montifringilla)**

Male, Kennedy Airport, Feb. 11, 1965 (Ryan); another male at a feeder, Branchville, Sussex County, N. J., Apr. 20-22, 1965 (Cherepy and Truex). See Bull (1964: 474) for placing this species in the probable-escape category. As with other members of the family Fringillidae, this species is often caged. Also Kennedy Airport receives daily shipments of various exotic birds, and in some instances birds have been known to escape.

In an even more improbable category are two southwestern United States and Mexican resident species—the White-necked Raven (*Corvus cryptoleucus*) and Lichtenstein's or Black-throated Oriole (*Icterus gularis*). An individual of the former species was present during most of the summer of 1965 at Roslyn, L. I., and one of the latter species was found frozen to death at Stuyvesant Oval in lower Manhattan, Jan. 20, 1965. These were definitely escaped birds. A few White-necked Ravens were brought to Long Island as captives a few years ago, and the oriole is a not uncommon bird in captivity. The dead oriole was sooted and appeared

olive-green when found; after it was washed it turned bright yellow. For details, see Ryan (*Linnaean News-Letter*, 19: May 1965). Individuals of the Bar-headed Goose (*Anser indicus*) from central Asia and the White-cheeked Pintail (*Anas bahamensis*) from the Bahamas to Patagonia have been reported at Jamaica Bay on several recent occasions. These are considered escapes also. A male and supposed female Cinnamon Teal observed at Mill Neck, and known to have escaped from an aviary in the spring of 1968, are also in this category.

Hypothetical List

FORK-TAILED FLYCATCHER *(Muscivora tyrannus)*
One well observed at West Orange, N. J., May 29, 1967 (Ryan). This is the third report for the region. The species is still on the hypothetical list pending further confirmation.

GRAY JAY *(Perisoreus canadensis)*
A bird, reported to be this species, was at the Pearl feeding station, Amawalk, N. Y., Nov. 24, 1965; the observer was previously familiar with the species in Maine. According to Grierson (*in litt.*), the same or another was at the Payton feeder in nearby Somers, N. Y., and was "present for some weeks." The observer had field experience with the species in Canada. This essentially resident Nearctic species is extremely rare south of the Adirondack Mountains and northern New England even in late fall and winter. In absence of specimen or photographic evidence, this species remains on the hypothetical list. Other reports by inexperienced observers of birds seen at other seasons are probably nothing more than immature or dirty shrikes, or young Mockingbirds. Within the past few years other supposed Gray Jays have been reported from northern New Jersey and northern Westchester County, but no confirmation was obtained.

BLACK-THROATED GRAY WARBLER *(Dendroica nigrescens)*
Male, Katonah, N. Y., Aug. 9, 1962 (Russell); observer previously familiar with the species in Arizona.

Male, Central Park, Sept. 21, 1963 (Huber); studied in detail at close range, even the yellow lores noted. These two observations are the second and third for the region.

The species is still on the hypothetical list in absence of further confirmation.

These species are still awaiting substantiating evidence in the form of either specimens, recognizable photographs, or observations by *three* or more *competent* and *reliable* people *per observation* for at least *one* of the observations.

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Aerial View of Great Gull Island

Great Gull Island Reports

Great Gull Island, Its History and Biology

Lois Hussey Heilbrun

Location

Great Gull Island is seven miles east northeast of Orient Point, Suffolk County, N. Y. It is an irregularly shaped, rocky island, one of the chain of islands that forms the eastward extension of the Harbor Hill Moraine that runs along the northern part of Long Island. Situated in the "Race," the main entrance from the eastward to Long Island Sound, Great Gull lies between Plum Island, three miles to the west, and Little Gull Island, less than half a mile away. In an area well known for its treacherous rocks, tides and currents, often fog-bound and storm-lashed, and lacking a harbor, landing at Great Gull Island is frequently difficult or impossible.

History

The island was purchased in 1803 by the Government for $800.00 for the lighthouse keeper on neighboring Little Gull to use as a garden. But gardening proved largely unsuccessful because of the great number of meadow mice and, to quote the keeper (1827), Frederick Chase, it was "the foulest piece of land I ever saw without exception." However, he did manage to raise some crops such as broom corn, and he mentions gathering clover, wild turnip, and charlock. He recorded in his Journal for 1833 that a team of oxen was taken to the island for the summer for plowing and hauling. He also recorded how, during February and March when the lighthouse cistern was dry, water was hauled from a well in a hollow back from shore on the larger island; and that later that same year (1833) a hurricane drove salt water into the well. Driftwood, gathered along the shore, was an important source of fuel on Little Gull, especially when storms delayed the arrival of the supply sloop.

In the years that followed the purchase, Great Gull became famous for the large number of terns that nested there. Unfortunately, tern feathers found favor in women's eyes and thousands were killed for milliners, and eggers accounted for many more. Chase recorded taking 3388 eggs himself in one year (1830) from the colony on Great Gull. That was the year he was building a

house on the larger island and, perhaps, was there more, and had more opportunity to collect eggs. In 1829 he had collected 1085 eggs, and in 1828, 2678 eggs.

In the summer of 1889 (July 8-16) Frank M. Chapman and William Dutcher went to Little Gull and Great Gull to study the tern colony and to collect jaegers. It was Chapman's first visit to a breeding colony of Common Terns. At that time Great Gull was reported to be the only place on or near Long Island where terns were nesting. In spite of its isolation and relative inaccessibility it, too, was in danger of disappearing. Almost daily someone would stop at the island to collect eggs or shoot terns. Dutcher reported 3000 to 4000 Common Terns and no more than twenty Roseate Terns nesting on the beach and on the grassy upland: "The terns seemed to have no choice between the beach or upland, as eggs were quite as common in one locality as the other." The year before (1888) Dutcher's son, Basil Hicks Dutcher, reported 5000 Common Terns nesting at the west end of the island where he found four or five nests on the upland, and more than eighty nests on the shore. He saw only five Roseate Terns. By 1893 the number of terns had decreased to about 1000.

William Dutcher interested the Linnaean Society in saving the colony, and the Society, together with the A.S.P.C.A. and the West Side Natural History Society, raised funds early in 1894 to pay for a warden. Upon the recommendation of the Society, the State Game Commissioners appointed Henry P. Field, one of the keepers on Little Gull, a Special Game Protector. That first year the number of terns increased by at least one half. By 1895 there were 3500 terns, and in 1896 Field reported 14,000 terns.

The next year saw the beginning of Fort Michie. A visitor in 1897 (Aug. 26-Oct. 1), J. H. Reed, reported, after interviewing men stationed there during the nesting season, that the terns were restricted to the two extreme ends of the island, about 500 pairs at each end. The birds nested on bare patches of sand, in grassy areas, and among the large boulders along the beach. The eggs were collected by visitors as well as by the laborers who had to supply their own food. Very few eggs, if any, were left to hatch that year. More than half the terns were driven away during the summer, and in late September the last ones left. For the next fifty years Fort Michie served as part of our East Coast defenses guarding the approach to Long Island Sound. After World War II the fort was considered obsolete.

Acquisition by American Museum of Natural History

In the *Linnaean News-Letter*, October, 1948, an article mentioned that Plum Island and Gull Island were being offered for

sale by the Army. "Gull Island is the smaller of the two, being some 17 acres in extent. During the summer of 1947, member Robert De Mars, in the course of a breeding bird survey for the Society, visited this island, and reported that it no longer was suitable habitat for gulls and terns, but that with the proper maintenance might once again become a valuable breeding ground. . . .

"Apparently the State of New York will have first priority in acquiring these islands, and the Society might well discuss actions that might be taken, either as a group, or individually, to suggest to the proper State authorities that the islands become part of the State lands, and be maintained as sanctuaries."

The official appraisal for the War Assets Administration, dated Nov. 27, 1948, gives the Value Estimate of Great Gull Island as $3,800.00 (land $1700; improvements $610; installations $1490). The appraiser, A. D. McKeige, stated: "No determinable use can be established for the subject property mainly because of the problem of transportation and the lack of water." In his report he mentioned that all efforts to drive artesian wells were apparently unsuccessful, and that the Army had transported fresh water to the island, there storing it in two large concrete reservoirs.

On Feb. 7, 1949, Christopher K. McKeever and Richard H. Pough represented the Society and the American Museum of Natural History on a visit to Great Gull with a group from the War Assets Administration.

Role of Linnaean Society of New York

On March 31, 1949, it was announced that the Museum's bid had been accepted at a 100% public benefit discount. The Museum received title on June 13, 1949. In *Natural History*, June, 1949, Robert S. Arbib, Jr., President of the Linnaean Society, announced the acquisition, saying that "Although the Museum will have title to the island, the Linnaean Society of New York has volunteered to plan and carry out research work and assume the costs of administration. . . .

"Immediate plans for the island center around the effort to establish the common tern as a breeding bird once again, and this summer experiments with decoys will be carried out. Some changes in the island will probably be necessary, such as demolition of certain army structures and the planting of trees and shrubs, but this work will be delayed until the breeding season is ended.

"Later work may include banding and other migration studies, bird behavior studies, and possibly efforts to induce other

species such as the osprey, petrel, and eider to nest on the island. Population research on small mammals is being considered, and several eastern universities have expressed interest in the island as a site for other natural history studies."

Gull Island Committee

As reported in the May, 1949, *News-Letter,* the first meeting of the Gull Island Committee was held on May 4 with Chairman McKeever presiding. "Permanent members of the Committee will include the chairmen of the museum's departments of Animal Behavior, Conservation, and Birds, and the President of the Society. Four other members will be yearly appointees of the Society from its members. . . .

"For the present a large sign is to be erected at the base of the large dock, informing the public that the island is now a research laboratory belonging to the American Museum, and that trespassing is forbidden without authorization. A project for the creation and placing of plaster tern decoys has been started, and it is hoped that this experiment may help induce the first nucleus of the tern colony to take up residence."

Gull Island Fund

The Society established a Gull Island Fund to be used in maintaining the island and in developing it as a sanctuary and research station, and to reimburse the Museum for the charges incident to transferring title from the government to the Museum. A plea for contributions was made in the June, 1949, *News-Letter.* It was announced in the October, 1949, *News-Letter* that more than $550.00 had been collected; and that "the Museum has now decided to bear the entire cost of the acquisition of the island, which means that one of the two stated purposes of the fund will not be valid.

"The Committee has decided, in view of this development, to notify all donors to the fund that if they so desire, their contribution will be refunded."

Official Trips to the Island

1949 June 14-15. The first official trip to the island was made by T. Donald Carter, John C. Pallister, and Hobart M. Van Deusen of the Museum's staff. They made a general survey of the island, and collected insects and house mice. It was ascertained that the Gull Island Meadow Mouse *(Microtus nesophilus)* had

become extinct during the Army's occupation of the island, during which time the small fresh-water swamp had been destroyed. The type specimen of the mouse had been collected Aug. 6, 1888, by B. H. Dutcher. A decade after its discovery Arthur H. Helme reported that the mouse "is apparently extinct, as I could find no signs of them on the island in 1898." The party found no toads. Chapman, in 1889, had remarked on the immense number of toads on Great Gull where there were no snakes to hold them in check. Fourteen species of birds were seen: Common Tern, Roseate Tern, Black-crowned Night Heron, Osprey, Herring Gull, Spotted Sandpiper, Song Sparrow, Red-winged Blackbird, Bank Swallow, Tree Swallow, Chimney Swift, cormorant, Horned Lark, and Barn Swallow. Van Deusen banded an immature Song Sparrow. (No return.)

Survey of Plants

August 13. Dr. W. T. Helmuth of East Hampton made a survey of the plants, finding 155 angiosperms and 1 fungus. He also recorded 31 algae from the waters around the island; 75 mollusks, crustaceans, sponges, bryozoans, and other marine species; 32 insects; 13 birds. Among the flowering plants, White Melilot, Yellow Melilot, Queen Anne's Lace, and Chicory were abundant; 30 other species were common: Small Crab Grass, Large Crab Grass, Starved Panic Grass, Sweet Vernal Grass, Red-top, *Agrostis maritima*, Couch Grass, Sour Grass, Curly Dock, Narrow-leaved Goosefoot, Wild Pepper-grass, Wild Tongue-grass, Wild Radish, Alsike Clover, *Trifolium repens*, Scarlet Pimpernel, Common Milkweed, Greater Bindweed, Black Bindweed, Blue Toad Flax, Great Plantain, Sea-beach Plantain, Rugel's Plantain, Ribwort, Common Dandelion, White-top Aster, Daisy Fleabane, Canada Fleabane, Low Cudweed, and Yarrow. The 121 other species were recorded as being very rare, rare, uncommon, or tolerably common.

In his report he stated that "In spite of the superficial quality of the 'survey,' a few general conclusions can be safely made. Obviously, 'foreign' plants of a weedy sort, plus native plants generally regarded as 'weeds,' greatly predominate. Such wild, non-weeds as were found were mostly confined to a small area in the north-central part of the island, and the greater part of these grew on the north-sloping side of a 'hill' formed by soil, of a poor, sandy-loam character placed there by the Army as protection for a gun emplacement. Nowhere were there any real trees or tall shrubs, in the non-technical sense.

"Of the 155 species of Flowering Plants noted, 32 species were native 'non-weeds,' 36 were 'weeds,' but essentially North

American in origin, and 87 were weeds of foreign origin—European, Asiatic, South American, etc.—or, of the total number of species noted 20.6% were native non-weeds, 23.2% native 'weeds' and 56.1% 'foreign' weeds.

"Many common and widespread species found on the mainland were totally absent on Gull Island, at least at this season. It is perhaps not strange that no Pteridophytes were found, for the almost uniform habitat on the island is quite unsuitable to most of them—with the exception of the Common Field Horsetail *(Equisetum arvense)*. It was, however, somewhat surprising not to find any Poison Ivy at all, (although this plant may have been systematically eradicated by the Army during its long occupancy of the island), no *Persicaria*, *Phytolacca*, and many others. The extraordinary scarcity of most common halophytes and sea-beach plants found almost everywhere on the mainland coast is no doubt due to the fact that the island is everywhere surrounded by large rock-fragments (excepting a thin strip of sandy, low beach at the extreme west end of the island)."

Preparation of Site for Colony

1950 April 30. On the first trip sponsored by the Committee, Arbib, McKeever, Thomas Higgins, and others removed some of the debris, burned the wooden tower located on top of the easternmost gun emplacement, and burned two piles of old lumber and creosoted logs at the middle and west end. They placed plaster of paris tern decoys (made by T. S. Pettit) in an open area just west of the large metal flagpole. McKeever reported in the May, 1950, *News-Letter* that the Army had removed the large coal pile that had been near the east end of the island; that there was further evidence of vandalism; and that "it will probably be desirable to construct a fence across the pier near the shoreline so that anyone who is fishing on the pier cannot get on the Island. . . ."

"About the only land birds seen were a song sparrow, sparrow hawk, flicker, robin, and swallow (sp?). A few red-breasted mergansers and herring gulls were around the island; a few cormorants flew over; and an unidentified flock of small sandpipers flew past the island."

Plant Survey and Bird Census over 4-week Period

June 25-July 22. Lois J. Hussey, and Catherine M. Pessino spent four weeks on the island, reporting on the birds and other life, collecting plants and insects, and keeping track of the numerous boats which stopped at the island.

Topography

B. H. Dutcher in 1888 described Great Gull as "composed of sand, with a shore line and broad outlying reef of rocks. The surface of the island is hilly, having an altitude of probably twenty-five feet at its highest point, and is covered by a growth of coarse grass, with here and there a small clump of bushes. In a hollow on the north side of the island is a small fresh-water swamp, dry and overgrown with cat-tails in the fall."

One may add to the above description the high bank on the south side of the island where Bank Swallows nested (Wm. Dutcher, 1889) and several pools in one of which he (W. D.) saw three Black-crowned Night Herons.

Reed adds to this composite view of the island as it was prior to the erection of the fort: "The main land rises abruptly from the beach, with a perpendicular bank from ten to fifteen feet high; its surface is treeless, but is clothed with a coarse growth of grass and wildflowers, and a few small patches of shrubs or low bushes." At low tide the rocks at the east end "stand well out of the water, and present a very conspicuous appearance, with their white caps, stained and streaked with the excrement of the terns, from their constant use as resting places from year to year."

In 1950 the 400-foot dock, the two large gun emplacements, the numerous buildings of all sizes and materials, the roads and the railroad tracks, were the most conspicuous features. The perpendicular banks, the swamp and pools were gone. The "hills" were man-made. More rocks, huge chunks of granite, had been dumped along the shore. The area we called the meadow (at the waist of the island), and the level expanse at the west end, were clearly marked as to where barracks and other structures had recently stood. It was from these level areas that soil had been removed to form breastworks for the gun emplacements erected some fifty years earlier.

Terns

Except for June 26 when one Black Tern was seen, only Common and Roseate Terns were observed. The first week the Roseates far outnumbered the Common; the other three weeks this was reversed. There was a marked increase in numbers of terns during the period. The first week there were 100 terns; by the last week the number had increased to 400. The terns fished from the docks, and from the rocks around the island. There always seemed to be an abundance of launces for them to eat. Fish

flights, posturing, and parading were observed. The birds arrived at daybreak and left at dusk. They seemed to fly in from all directions, possibly from colonies on Plum, Gardiner's, and along the Connecticut shore. The terns constantly chased the Ospreys, Kingfishers, and Black-crowned Night Herons which frequented the island; they did not chase the gulls.

There were always a few Common Terns in nonbreeding plumage. In one group on June 26 we counted one Black Tern, 29 Roseate, 21 Common (4 nonbreeding plumage); on June 30 we counted in one group 14 Roseate, 47 Common (two nonbreeding plumage); on July 14 in one group, 6 Roseate, 37 Common (eight nonbreeding plumage). On July 20 one immature Common Tern was seen in a mixed flock of Common and Roseates at the east end. The rocks at the east end always had more terns than any other point around the island.

The twelve decoys put out in April were in good condition though somewhat mud-spattered, and largely obscured by vegetation. The terns showed no interest in them.

Nesting Species

Nesting species were Killdeer, Spotted Sandpipers, Redwings, and Song Sparrows. One pair of Killdeer was nesting at the west end. On July 10 three, possibly four, young were observed scurrying about. On June 27 and 28 the only other Killdeer seen were driven off by the nesting birds.

Five pairs of Spotted Sandpipers were nesting: (1) south side of meadow by remains of coal pile; (2) near end of long dock (sounded alarm whenever anyone came ashore); (3) at far west end; (4) by concrete pump house; (5) by large corrugated metal building at west end. From 2-5 young were observed with each pair.

Five pairs of Redwings were nesting: (1) by metal flagpole; (2) by large corrugated metal building at west end; (3) (4) (5) in meadow. One nest (#2) in chicory only 8″ above the ground had four very young birds in it; all young had left the other nests. The Redwings in the meadow chased the Ospreys which flew over the area almost daily.

Five pairs of Song Sparrows were observed all with young out of the nests: (1) near metal flagpole; (2) by brick residences; (3) near site of coal pile; (4) on northwest side; (5) by gun emplacement.

In our report to the Society we mentioned the need for posting the island at several locations along the shore, erecting a

fence across the dock, controlling vegetation in the level areas where there were dense growths of chicory and melilot four to six feet high, and boarding up the brick quarters for future habitation.

Vegetation

Chicory and melilot were the most abundant plants on the island, and were hosts to many insects. In addition to the Chicory and melilots, Mullein, Docks, Yarrow, Black-eyed Susans and Oxeye Daisies covered the meadow and west end. On the slopes of the gun emplacements were tangles of Pasture Rose, grasses, clumps of Bayberry, and Bindweed. There was one small stand of Beach Grass on the north side of the meadow. The Bayberry, which Helmuth had found to be "decidedly rare and restricted for this normally ubiquitous species," was found to be spreading. Oxeye Daisy, Black Medic, Purple Clover, Hop-clover, and Rabbit's Foot Clover were common; Helmuth had found them uncommon (first 3) and tolerably common. Poison Ivy, Common Field Horsetail, *Persicaria*, various mosses, lichens, ferns, and other plants were added to Helmuth's list, 47 additions in all.

Vegetation Control

September 9. McKeever and others visited Great Gull to clear an area for nest sites for terns. Few birds were in evidence. As reported in the October, 1950, *News-Letter*, "A small patch of overgrown sand was used as an experiment in plant growth control. It was saturated with an inhibitory solution, and will be checked for growth next Spring. However, this method seems prohibited by high cost, and future efforts will be directed towards burning with flame throwers, and other methods. Efforts to interest persons in demolition of some of the superfluous structures and equipment on the island for their salvage value continues."

1951 April 28-29. McKeever, Hussey, Pessino, and others visited Great Gull to clear land for nest sites, and to post the island. As reported in the June, 1951, *News-Letter*, "it was found that the big storm of last November has wrecked part of the dock, making landings in any but the calmest weather hazardous. This may be a blessing in disguise, since it will serve to deter unauthorized visits. [This has not proved to be the case, and landings are made at two shore points.]

"The work consisted of various experiments designed to inhibit the growth of vegetation on the flat areas of the island, the

demolition of the corrugated metal shack at the west end, and the posting of "POSTED" signs at various places around the shoreline. Several test areas were cleared, one with flame throwers and chemicals, one with flame-throwers alone, and one with flame-throwers following which a thin layer of sand was spread to form a simulated beach. Decoys made by Hussey and Pessino in the form of plaster of Paris terns were set out in lifelike positions at several likely locations.

"A good flight of birds was in evidence during the two days, especially on April 29th. . . . Steady movements of Double-crested Cormorants were observed, and there were flights of Canada Goose and Loon. The total island list for the trip was 37 species." **May 26.** Misses Hussey and Pessino stopped at the island for a few hours, recording 23 species of birds including a pipit and a Wilson's Plover; they discerned no interest in nesting on Great Gull on the part of the few terns (8 Common, 3 Roseate) seen about the island.

The area in the meadow which had been burned over a month earlier had less chicory than neighboring areas. The barest area was the one on the north side of the meadow where sand had been spread after first using flame-throwers. The area (west of the metal flagpole) which had been burned over lightly, then spread with borax, was withered and brownish in part; Chicory, melilot, grass, Yarrow, and Seaside Goldenrod were coming up, though less densely than in adjacent areas. We spread the remaining borax on two patches of Poison Ivy, and found a small stand of Royal Fern, a new plant for the island's list. The plastic-sprayed signs placed in exposed positions in April had weathered away.

June 22. Misses Hussey and Pessino stopped for an hour at the island, found that Spotted Sandpipers, Killdeer (one pair), Song Sparrows, and Redwings were nesting; saw no terns anywhere about. The plants in the meadow were less advanced than the year before (June 26), and there seemed to be fewer Redwings nesting there. In other areas on the island there appeared to be a thicker growth of plants than in 1950. The boraxed area at the west end was browner than on May 26, and there was a thick mat of dead plants covering the ground. The leaves on the Poison Ivy showed some effects of the borax which was spread in May, but the plants were not dead. Both observers felt that although it by no means stopped all growth, the borax method of inhibiting plant growth would seem to be simpler than the other methods tried.

December 10. McKeever and Pough, Dr. Robert Cushman Murphy, and Wayne M. Faunce, Vice-Director of the Museum, visited

Great Gull with Captain Malloy, an oysterman from New London, who was interested in doing salvage work on the island. McKeever announced in the February, 1952, *News-Letter* that "An agreement has been signed and work is now underway which should level, as far as it is feasible, all the buildings with the exception of the three brick houses in the center of the Island and the fire control tower immediately south of them. The fortifications themselves will not be demolished.

"An inspection of the areas controlled last spring was made on this visit but it was not too easy to assess precisely the results of that work. It was hard to make out the area which had merely been burned over, there was so little difference from the rest of the Island. It seemed a little less weedy and more grassy. The most marked difference in the vegetation was where the concentrated borax had been applied after the vegetation had been slightly burned and it is believed that the process, or a new DuPont chemical of much greater strength called CMU will be used in pattern clearing of level areas next spring.

"At the time of the visit to the Island, no land birds were seen anywhere on the Island, though the body of a long-dead Junco was found. Five Purple Sandpipers were noteworthy, as was the presence of a small flock of American Mergansers among a large flock of Red-breasted Mergansers.

"With the island cleaned up next spring, there is a much better chance of the terns nesting there. In addition other research work can be undertaken. If any volunteers wish to undertake projects there, the Committee will be glad to cooperate in every way. It is likely that some Museum endowment funds will be available in support of any suitable projects."

1952 April 5-6. Six members and friends of the Society, including McKeever, Hussey, and Pessino, spread CMU (a DuPont weed killer) in the north meadow and in two areas on the west end of the island, areas first marked off in 75-foot strips. Other areas were burned off, or covered with a layer of sand. The boraxed areas from the preceding year showed some signs of retardation, but not many. The Malloys were carrying out salvage operations on the island, and planned to leave by May 1, returning in September after the nesting season had ended.

May 24. During a morning spent on the island, Misses Hussey and Pessino found that Redwings, Song Sparrows, Spotted Sandpipers, and Killdeers were nesting; counted 8 female Redwings and 4 males; found one Song Sparrow nest with 5 eggs; one Spotted Sandpiper nest with 2 eggs; saw one pair of Killdeer and 2 young; saw a pair of Northern Yellowthroats and a pair of Towhees, but did not find any nests; and saw only 4 Common Terns

for a total of 17 species of birds. The chemically treated areas were quite brown and somewhat bare. The Malloys had wrecked the concrete tower at the west end, and had boarded up the two brick residences.

June 8. Misses Hussey and Pessino stopped at Great Gull for an hour, finding only 4 Common Terns (flying over) and 7 other species, including the four regularly nesting ones.

June 20-28. Misses Hussey and Pessino planned to transport 20 ten-day-old Common Terns from a nearby colony to Great Gull, to raise them there in hope that another year the birds would return to form the nucleus of a colony. This had been done successfully with ducks but had never been tried with terns. To carry out the experiment a constant supply of small fish was required, as many as 800 a day. Two years before there had been large schools of launces about the docks, but in 1952 only a few fish were seen. None was seen around the shore.

As soon as we landed we commenced to fish, and did so part of each day there, but with no luck. All the various methods suggested beforehand were tried. H. P. Hart of Waterbury, Conn., had agreed to come out on the 21st to take us for the terns; he came on the 21st, 22nd, and 28th, by which date we were certain we couldn't continue the experiment that year.

Terns Visit the Island

We were encouraged, though, by the behavior of the terns, behavior not observed before on the island. Each evening from about 5 P.M. to sunset, groups of from 2 to 17 Common Terns would fly over the island, swoop low over the ground, hover over different areas, and chase other birds from the areas that the terns seemed to examine so closely.

These small groups were part of the 100-200 terns, mostly Common, a few Roseate, which rested on the rocks at the west and east ends of the island each afternoon and evening. No terns spent the night on the island. In 1950 (June 25-July 22) terns fished from the docks, and all around the island. In 1952 (June 20-28) none fished from the docks, only between Great Gull and the two neighboring islands, Plum and Little Gull.

Barn Swallow Nests

One pair of Barn Swallows was nesting (in the basement of one of the brick residences) in addition to the island's four regularly nesting species. Twenty species of birds were recorded in all.

July 23. Miss Hussey stopped briefly at the island, saw about 50 Common Terns on the rocks off the east end of the island, and found two young Barn Swallows.
1953 May 30. Misses Hussey and Pessino stopped briefly at Great Gull, saw no terns anywhere about the island.
July 4-6. Jean Smith and K. F. Baker (N. Y. Zool. Soc.) trapped 21 mice on the island, finding nothing recognizable in the stomachs except grass seeds. They recommended that the mice be left alone as they were doing no discernible damage, and might be useful in population studies. They saw terns each day off either end of the island; maxima: 60 Common, 5 Roseate. They recorded 16 species of birds in all, one immature (?) Common Tern on the 5th, one immature Common Tern on the 6th.
August. The Malloys checked the island, finding that vandals had cut the tires on a vehicle stored there by the Malloys, and had removed the inner tubes; had broken into the brick residences and done much damage; had broken the lock on a storage room and ruined scales stored inside, and had used the blowtorch stored there on the metal door to the storeroom.
1954 July 17. Misses Hussey and Pessino visited the island with Captain Malloy to review the demolition and salvage work he and his sons had done there since December, 1951.

The Malloys had leveled the two brick towers, the corrugated metal building, had removed the flagpole, and had partially demolished the concrete tower all at the west end. They had leveled the cinderblock power house, the frame pump and tank house, and one reservoir, and had removed the roof and insides of the salt water pump house near the dock, leaving the concrete shell as a wind break. Both brick residences, which they had boarded up and locked, had been broken into and much damage done. They had left the wooden shed and radar repair shack, both inconspicuous buildings. Captain Malloy felt that the shed was drier than the brick residences, and could be made habitable more readily. They had finished their work on the island with the possible exception of removing some wood and hauling up some telephone cable.

The west plots where CMU was spread in 1952 were covered with White Melilot; the untreated margins had the usual island mixture of grasses, chicory, clover, Yellow Melilot, etc. The sanded areas (1951 and 1952) were still bare. The burned over areas had less chicory and melilot than before, more grasses.

Terns Land on Island

For the first time terns were seen on the ground. They were in a fairly clear, sandy area along the railroad tracks at the east

end. Five Common Terns were seen on the ground at one time, 7 another time. There were no scrapes or nests. Forty Common Terns were seen in all, mostly on the rocks off the east end. There were no Roseate Terns.

Song Sparrows, Redwings, Spotted Sandpipers, and Barn Swallows were nesting. In all, 11 species of birds were seen.

1955 April. Captain Malloy checked the island, reporting more vandalism in the brick residences. He continued to stop there during the spring and summer, and in July reported seeing approximately 1000 terns around the east end of the island.

Terns Nest

May-August. Irwin M. Alperin, President of the Society, reported in the October, 1955, *News-Letter* that he had made several flights over the island, first noted in May from 25 to 30 pairs of Common Terns nesting at the "extreme eastern end of the island in a small grassy area and an adjacent gravelly slope just beyond the great gun emplacement. . . ." His last observation of terns actually flying in and landing in the breeding areas was on August 20: "Just two or three birds were present on that date and it is possible that a few non-flying juveniles were still hiding in the grass, although it seems rather late. Generally, young terns begin to fly by the last week in July but late-hatched flightless young are found in most of the large colonies during August."

Columbia University Genetic Studies

August 17-19. Dr. L. C. Dunn, Professor of Zoology, Columbia University, and Jean Smith collected mice on the island for genetic testing. No data on birds. A letter from Dr. Dunn in 1957 reads: "We hope to follow certain populations over a period of years, by marking, release, and recapture methods; but would only attempt this if there was good prospect of isolation and lack of disturbance of the habitat. . . . Our work is supported by the Atomic Energy Commission (although we have dealt with natural mutations and not with those induced by radiation)."

1956 May. Misses Hussey and Pessino visited Little Gull briefly to talk with Coast Guard personnel who had volunteered assistance as unofficial caretakers and wardens. In replying to the offer made the previous December, the Council had suggested that the men patrol the island, post it (the Society would furnish the materials), clear the vegetation from the east end in Febru-

ary, and keep a record of the birds. The men had been keeping visitors off as much as possible, and had put up some signs.
Summer. In 1962 Gilbert Cant reported having stopped at Great Gull during the nesting season (1956) and "found what was essentially a Common Tern colony with a few Roseates on its grassy fringes. The citadel area—the highest part of the 16" gun emplacement—was then mostly bare of vegetation and much of it was covered with broken concrete which made an artificial shingle, suitable for Common Tern nesting."
September 6-8. H. Tinker and A. B. Beasley from Columbia University collected mice for genetic testing.
1957 April 17-21. Tinker and Beasley again collected mice on the island.
June. Miss Pessino flew over the island, reported 200 pairs of Common Terns nesting at the east end and on the slopes of the large gun emplacement there.
July 1-5. Tinker and Beasley again visited the island.
1958 June 26-29. As above.
July 4. Misses Hussey and Pessino stopped at the island briefly, reported 200 pairs of Common Terns again nesting at the east end and on the slope of the gun emplacement.
1959 June 26-July 3. Drs. L. C. Dunn and Paul K. Anderson, Research Associate, reported "probably 250 pairs" of Common Terns nesting; both eggs and young seen. The other nesting species were Spotted Sandpiper, Redwing, Barn Swallow, and Song Sparrow. They killed the only rabbit found. (Released Easter bunny?)

Their work with the mice on Gull Island has, to quote a letter from Dr. Anderson, two main objectives: "analysis of population dynamics, and determination of breeding structure as it relates to the spread of a lethal gene through the population. The techniques have been trapping, marking and recapture, direct observation, and installation of nest boxes."
September 8-13. Anderson.
October 3-4. Anderson.
1960 April 10-18. Anderson conducted a census of the mouse population on the entire island, and placed 65 nest boxes in the ground for subsequent use by the mice.

June 8-July 15. Anderson conducted censuses in areas not occupied by nesting terns; made nocturnal observations of mouse activity, and carried out homing studies.

July 16. McKeever, Hussey, Pessino, and six others visited the island, reporting 1000 pairs of nesting terns, both Common and Roseate, at the same locations as in previous years (est. ratio 8 Common to 1 Roseate). Nests were found on the bare ground, on pebbled surfaces, on the exfoliated concrete slopes and top of the gun emplacement at the east end, in grassy areas, and in

thick vegetation. Leroy Wilcox banded 1 young Redwing, 40 Common and 48 Roseate Terns. ("These bandings do not show relative abundance of each species as we concentrated mainly on Roseates.")

July 31-August 15. Anderson again censused the entire island, made further observations of mouse behavior, and took samples for genetic testing.

October 10-11. Anderson conducted a one-night census. In a report to the Museum of work done on the island to date (Oct., 1960), he gives the length of the island, including the beaches, as 2450 feet, the maximum width as 575 feet, and the total area including the beach above mean low water as 18 acres. The mice, distributed throughout a rather heterogenous environment, do not frequent the fortifications, but readily cross the paved roads. During late spring, summer, and early fall, the whole range is utilized, but at some time during the late fall or winter the vegetated part of the range is abandoned and activity is confined to the shore area. "This seasonal migration within the range appears to be correlated with exhaustion of terrestrial food supply (grass seeds, insects, so far recorded) and dependence on the littoral for total, rather than partial energy requirements. The main food source in the shore area is the population of amphipods (*Orchestia*) found in the wrack."

1961 July 15-August 20. Anderson.

July 20. Wilcox banded 114 Common Terns and 121 Roseates. He estimated that the number of Common Terns was the same as the previous year and that the Roseates had increased by one half. (1960: 1500 Common, 200 Roseate; 1961: 1500 Common, 300 Roseate) No data on other species.

July 31. Hussey and five others visited the island, finding that the terns had extended their nesting area farther to the west along the top and slopes of the large gun emplacement at the east end, and farther west along the railroad tracks. Eggs and young were seen in many nests, and immature birds were seen flying. Though the nests were scattered over a larger area and many birds had left the nests, it was estimated that there was approximately the same number of pairs (1000) nesting as in 1960, but that the Roseate Terns now outnumbered the Common Terns. Estimates varied from two to four times as many Roseate as Common. (This is at variance with Wilcox's estimate of July 20.) Peter Post banded a few of both species. No other species of tern was seen.

Other nesting species were Spotted Sandpipers, Barn Swallows, Redwings, and Song Sparrows. Other species were King Eider (1 immature, 2 adults offshore), Turnstones, Purple Sand-

piper, Black-backed Gulls, Bank Swallows, Wood Thrush (1), Goldfinch (2 males).

The Bayberry was found to be spreading; the Poison Ivy that had been sprayed with borax solution in 1951 had disappeared, elsewhere it was increasing; the areas that were treated with borax or CMU in 1951 and 1952 still showed less chicory and melilot, and more grass, than adjacent untreated areas; the area that had been burned over then spread with sand was still sandy and quite bare of vegetation. The shoreline all about the island was more precipitous than in 1960.

Table 1

Birds Nesting on Great Gull, numbers of pairs:

	1888	1889	'49	'50	'51	'52	'53	'54	'55	'56	'57	'58	'59	'60	'61
Common Tern	(2500)	(1500-2000)	0	0	0	0	0	0	(25-30)	N	(200)	(200)	(250)	(890)	(200-300)
Roseate Tern	(3)	(10)	0	0	0	0	0	0	0	N?	0	0	0	(110)	(800-700)
Killdeer	nd	0	nd	1	1	1	nd	0	nd	nd	nd	nd	0	0	0
Spotted Sandpiper	N	(4)	nd	5	(5)	(5)	nd	(2)	nd	nd	nd	nd	N	N	N
Bank Swallow	(a)	(q)	nd	0	0	0	nd	0	nd	nd	nd	nd	0	0	0
Barn Swallow	nd	0	nd	0	0	1	nd	5	nd	nd	nd	nd	N	(8-10)	N
Red-winged Blackbird	nd	1	nd	5	(5)	(—5)	nd	(2)	nd	nd	nd	nd	N	(5-6)	N
Song Sparrow	nd	(c)	nd	5	(5)	(+5)	nd	(2)	nd	nd	nd	nd	N	N	N

( ) estimated number pairs
(a) abundant
(c) common
(q) quite a numerous colony
nd no data
N nested

1888 B. H. Dutcher
1889 Wm. Dutcher
1949 Van Deusen
1950-52 Hussey, Pessino
1953 Smith
1954 Hussey, Pessino
1955 Alperin
1956 Cant
1957 Pessino
1958 Hussey, Pessino
1959 Anderson
1960 Hussey *et al.* est. 1000 prs., ratio 8C:1R (July 16)
Wilcox est. 750 C., 100 R. (July 16)
1961 Hussey *et al.* est. 1000 prs., ratio 1C:2-4R (July 31)
Wilcox est. 750 C., 150 R. (July 20)

Table 2

Birds Observed at Great Gull Island June 26-July 21, 1950
by L. Hussey and C. Pessino

	26	27	28	29	30	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Double-crested Cormorant	2	5	2	3			6	1	6	1		2	4		3	2			2	3		1	2	1	1
Great Blue Heron				1					1			1			1	3						1			
Green Heron																		1							1
Black-crowned Night Heron	5	3	17	11	9	10	7	5	6	4		5	2		4	4	4	9	4	3	5	6	5	4	6
Old Squaw	3																								
Osprey	1	2	1	1	1	1	1	1	1	1	1		1	1				1	1	1	1	1	1	1	1
Killdeer	N	N1	N1	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Ruddy Turnstone																									1
Hudsonian Curlew							1																		
Spotted Sandpiper	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Least Sandpiper																								1	
Dowitcher										2			20								17		4		
Black-backed Gull										1		1				2									1
Herring Gull	2	17	*	*	*	*	*	*	*	*	*	*	*	5	*	12	*	*	*	*	*	*	*	*	*
Laughing Gull			1																						
Common Tern	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Roseate Tern	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Black Tern	1																								
Pigeon					1					1															
Robin				1																			1		
Chimney Swift	1									1				1											

Table 2 continued

	26	27	28	29	30	1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Kingfisher	1	1	2	2	1	1	1	1	1	2	2	2	2	1	2	1	1	2	1	1	1	1	1	1	1
Eastern Kingbird				2		1	1			1			1									1			
Phoebe																		1							
Horned Lark																					1				
Tree Swallow																				12					
Bank Swallow	8	*	*	6	10	*	12	1	15	*	*	*	28	9	12	10	8	6	12		8	6	12	8	10
Barn Swallow			1	1						1												1		1	
Purple Martin		1							1																
Crow		2					3																		
Catbird							1	1																	
Thrasher																	1								
Yellow Warbler				1	1				1	1	1														
Goldfinch																							2		
Redstart					1																				
Redwing	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Song Sparrow	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
No. of Species	15	14	14	17	14	12	16	13	15	19	11	13	14	11	12	13	11	13	12	12	13	15	15	14	15

* Observed
N Nesting

Table 3

Birds Observed at Great Gull (and Little Gull) July 8-16, 1889, by William Dutcher

	8	9	10	11	12	13	14	15	16
Jaegers[1]					2			1	
Herring Gull[2]		4							
Bonaparte's Gull[3]	1								
Common Tern	N	N	N	N	N	N	N	N	N
Roseate Tern	N	N	N	N	N	N	N	N	N
Black Tern[4]					1				
Double-crested Cormorant[2]					1			1	
Black-crowned Night Heron	1							3	
Spotted Sandpiper	N	N	N	N	N	N	N	N	N
Osprey	1				1				
Short-eared Owl[3]									1
Ruby-throated Hummingbird (♀ or young ♂)					1				
Kingbird[3] (Little Gull Island) (adult ♀)								1	
Least Flycatcher[3]					pr.				
Red-winged Blackbird	N	N	N	N	N	N	N	N	N
Song Sparrow	N	N	N	N	N	N	N	N	N
Barn Swallow		*							
Tree Swallow		*		*					
Bank Swallow	N	N	N	N	N	N	N	N	N

[1] Lists Pomarine and Parasitic, doesn't specify which seen. Chas. B. Field, Keeper at Little Gull Island saw Jaegers: 1st on 6/2-3; 6/3-1, 6/17-2; 6/28-1; 7/1-2.

[2] Flying by.

[3] Collected.

[4] Chas. B. Field 7/6-1.

* A flight of several.

Table 4

Birds Observed at Great Gull (and Little Gull) August 6-16, 1888 by B. H. Dutcher

Jaegers—lists Pomarine and Parasitic, doesn't specify which and when (collected 2 Pomarine, 1 Parasitic); saw 3 to 10 Jaegers each day; Chas. B. Field, one of keepers at Little Gull, reported that the Jaegers arrived about the same time as the bluefish, and stayed as long as the bluefish were there, but that he had never seen them in the winter.
Common Tern—nesting.
Roseate Tern—nesting.
Cory's Shearwater—2 seen (1 collected), like the Jaegers chasing and robbing terns of fish.
Petrels, either Leach's or Wilson's or both (Aug. 17, Field collected a Wilson's) very common in the "Race" and out in the Sound.
Semipalmated Sandpiper—1 found dead on Little Gull.
Spotted Sandpiper—numerous (had nested, Field).
Turnstone—flocks common about both islands.
Marsh Hawk—1 on 12th, collected (stomach contained remains of a mouse and Yellow Warbler).
Osprey—1 or 2 seen fishing around the island.
Kingfisher—1 on 12th (Little Gull).
American Crow—4 which Dutcher assumed to have arrived before the terns; being "persecuted" and prevented from leaving the island by the terns; collected.
Seaside Sparrow—1 found dead on Little Gull Aug. 7.
Song Sparrow—quite common, collected 1 specimen.
Barn Swallow—almost daily flocks migrating.
Tree Swallow—as above.
Bank Swallow—none seen but Field reported they had bred abundantly earlier in the season.
Black and White Warbler—1 dead Aug. 9 on Little Gull.
Yellow Warbler—several seen flying in the light from Little Gull.
Redstart—1 flying in the light, another collected on the 8th on Little Gull.
Robin—1.

Table 5

Birds Observed at Great Gull, June 20-28, 1952 by L. Hussey and C. Pessino

Nesting Species:
- Killdeer (1 pair with 2 young)
- Spotted Sandpiper*
- Barn Swallow (1 pair nesting in basement of second brick residence on top of steam pipe, eggs in nest)
- Song Sparrow*
- Redwing*

Daily Visitors:
- Black-crowned Night Herons
- Ospreys (2 or 3 each day)
- Herring Gulls (more numerous than in 1950)
- Common Terns
- Roseate Terns
- Bank Swallows

Irregular Visitors:
- Cormorants
- Mute Swans (1 flock of 5 flying by)
- Piping Plover (landed on dock for a few minutes)
- Black-backed Gull
- Pigeon (stayed 2 days)
- Yellow Warbler
- Yellow-throat (female)
- Redstart (female)
- Rose-breasted Grosbeak (female)

*No attempt was made to determine the exact number of birds, but it was our impression that there were fewer Redwings, more Song Sparrows, and the same number of Spotted Sandpipers nesting as in 1950.

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Great Gull Island Visits 1962-1966

Catherine Pessino

1962 *Mid-July* Gilbert Cant was the only member of the Society to visit the island. Both Common and Roseate Terns nested on Great Gull in 1962. It was not an all-Roseate colony as reported in Bull, *Birds of the New York Area.* The ratio of Commons to Roseates is not known. (See Bull, these *Proceedings,* p. 23.)

1963 No member of the Society or Museum visited the island.

1964 *May 30* C. Pessino, R. Harrison, H. Hays, and R. Matthews visited the island.

June 14 Heilbrun, D. and L., and Pessino along with the following Linnaean members visited the island to take a count of the tern colony: J. Backstrom, E. Bull, D. Bull, J. Bull, H. Hays, and R. Wolk. The estimated size of the colony was 3000 pairs; this included both Common and Roseate Terns. Estimates of the ratio between Common and Roseate Terns varied among the observers from 3:1 to 1:1.

July 4 Gilbert Cant banded 400 terns.

July 9 Linnaean members visited the island and banded 127 terns. Dr. Chamberlain, Assistant Director of the Museum, accompanied Cant, Hays, and Pessino and was responsible for posting the island.

October A Great Gull Island Committee, the first since 1961, was appointed by President Levine.

1965 An active field program was begun on Great Gull Island. It began on June 6 and continued through July 25. Staff of the American Museum of Natural History and members of the Linnaean Society of New York participated. They were: Barbara and Tom Appel, Gilbert Cant, Donald Cooper, Janet Crawley, Tom Davis, Frank Enders, Leonard Epstein, Helen Hays, Fred Heath, Howard Honig, Emma Llewellyn, Lee Morgan, Catherine Pessino, Peter Post, Emmanuel Rodriguez, Fred Schaeffer, Helmut Schiller, Robert Sutton, Arthur and Rachel Swoger, Patrick Temple, Francis Thomson, Ida Weiss, Isabel and Jeffery Zupan.

There were three phases to the field program: (1) Surveys were made of the plants and birds on the island. (2) Volunteer wardens camped on the island from June 26 through July 18. This was the time deemed critical to protect the nesting terns. Kenneth Cooper acted as warden the weekend of June 26 and from July 11 through July 16. Emma Llewellyn and Catherine Pessino were

on the island from June 28 through July 5. Tom and Barbara Appel were on the island from July 5 through July 11. Helen Hays and Catherine Pessino were on the weekend of July 24. Captain Eric Zwinkel, a lobsterman from Orient Point, served as a volunteer Audubon Warden throughout the summer. His help and cooperation were greatly appreciated. (3) The annual bird banding program undertaken by members of the Society was continued. Four hundred sixty-three young Common Terns and 367 young Roseate Terns were banded, a total of 730 birds.

An estimated 3000 pairs of terns nested on the island. Hays and Pessino estimated the ratio to be 2 Common to 1 Roseate.

1966 A most intensive field program was begun on April 16 and continued through August 7. From May 20 through June 26, the island was patrolled continuously. Volunteers who participated were: Craig Brown, Donald and Roberta Cooper, Kenneth Cooper and son, Grace Donaldson, Helen Hays, Albert Horn, Mary Le Croy, Teresia Lewia, Julia Napier, Kenneth Parkes, Catherine Pessino, Frederick Schaeffer, Mark Soroken, Arthur and Rachael Swoger, Frances Thompson, Joanne and Benjamin Trimble, and Robert Wolk.

Three separate study projects were carried out. They were:

1. "Preliminary Survey of Nesting Population of Common and Roseate Terns" (Cooper, Hays, Pessino). Results of this project are published in these *Proceedings* (see p. 83). 2400 pairs of Common and Roseate Terns nested on the island. The ratio was 1.3 Common to 1.1 Roseate (Cooper, Hays, Pessino).

2. "Study of the Barn Swallow on Great Gull Island" (Schaeffer).

3. "Pair Formation in the Roseate Tern" (Wolk).

Reports on these last two studies are appended to the 1966 Committee Report.

To facilitate the recording of data and to provide a comparison for future field work, a permanent grid was set up at the beginning of the season.

A table summarizing the nesting birds of Great Gull Island between 1962 and 1966 follows on the next page.

Table 1

Birds Nesting on Great Gull Island 1962-66 (Number of Pairs)

	'62	'63	'64	'65	'66
Common Tern	1350 (total for	nd	3000 (total for	3000	2600-4000
Roseate Tern	both species)	nd	both species)		2200-3000
Killdeer	0	nd	0	0	0
Spotted Sandpiper	N	nd	nd	7+nests	18 nests
Bank Swallow	nd	nd	nd	0	0
Barn Swallow	N	nd	nd	10	20
Red-winged Blackbird	N	nd	nd	N	N
Song Sparrow	N	nd	nd	N	N
Starling	nd	nd	1 young found dead	2	4
Herring Gull	nd	nd	nd	1	0

nd denotes no data
N denotes nesting

1962 Gilbert Cant
1963 ———
1964 Pessino *et al.* est. ratio 1-3 Common:1 Roseate
1965 Pessino, Hays est. ratio 2 Common:1 Roseate
1966 Pessino, Hays, Cooper ratio 1.3 Common:1.1 Roseate

Breeding of the Common and Roseate Terns on Great Gull Island

Donald M. Cooper, Helen Hays, and Catherine Pessino*

Tern colonies in the New York City region, with few exceptions, occupy the small islands and sections of barrier beach of eastern Long Island. In the late nineteenth century the largest of these tern colonies was on Great Gull Island lying seven miles east-northeast of Orient Point, Suffolk County, N. Y. This colony vanished in the early 1900's with the establishment of a military base on the island. In 1955, shortly after the base was abandoned, a few Common Terns again nested there. During the next ten years the population increased, and in 1966 we estimated that about 1300 pairs of Common Terns *(Sterna hirundo)* and approximately 1100 pairs of Roseate Terns *(Sterna dougallii)* bred there.

The number of nesting Roseate Terns is particularly notable, as it is probably one of the largest breeding concentrations of the species in this hemisphere. Locally distributed throughout its range, the Roseate Tern in the United States is reported breeding, usually in small numbers from 10 to 500 pairs, locally along the Atlantic Coast from Nova Scotia to Virginia, on the Dry Tortugas, and in Texas.

Description of the Island

Great Gull Island, 41° 12′ N. Lat. and 72° 07′ W. Long., is roughly one half mile (775 meters) long and one tenth mile (175 meters) wide at its widest point. The island is relatively flat; what appear to be hills from a distance are mounds of earth banking the sides of abandoned gun emplacements. The overgrown structures of Fort Michie stretching the length of the island serve as a reminder of its recent use as a military base. Bayberry *(Myrica carolinensis)*, rose (*Rosa sp.*) Common Milkweed (*Asclepias syriaca*), and several species of grasses, including Marram Grass (*Ammophila arenaria*) flourish in the ruins. On the flatter areas, grasses with patches of Chicory (*Cichorium intybus*) and two species of sweet clover (*Melilotus alba* and *Melilotus officianalis*), predominate. Bindweed (*Convolvulus sepium*) covers sections of the small beaches. The shoreline is characterized by large boulders dumped there by the army to stabilize the island.

Nesting species found on the island in addition to the terns include: Spotted Sandpiper (*Actitis macularia*), Barn Swallow (*Hirundo rustica*), Common Starling (*Sturnus vulgaris*), Redwinged Blackbird (*Agelaius phoeniceus*), and Song Sparrow (*Melospiza melodia*).

*Authors listed in alphabetical order.

Background Studies Used for Work on Great Gull Island in 1966

Little is known about the behavior and breeding biology of the Roseate Tern, and Great Gull Island provides a good opportunity to study this species as well as the better known Common Tern. Palmer (1941) described the behavior of the Common Tern in Maine, and the Austins banded large numbers of this species over a period of about thirty years (1929-58) on Cape Cod, Mass. Their observations on the breeding structure of the colonies in which they worked provide a basis for comparative work with colonies in other places.

The Austins worked an area on Cape Cod roughly circular in outline and about thirty miles in diameter. Within these limits the Austins (1951) indicate that some 25,000 Common Terns nested annually at about 17 localities. Destruction of some of the nesting places within this complex of colonies caused segments of the group to relocate, but they remained within the limits designated above. Analysis of 31,807 returns taken between 1933-48 show that 98.9% of the birds retrapped were banded at one of the 17 localities mentioned above, and only 1.1% were banded outside the Cape Cod group. On the basis of these returns the Austins suggest that the Cape Cod Common Terns comprise a closely knit, isolated breeding unit, separate from the Martha's Vineyard group to the south as well as other colonies to the north.

The Austins (1940, 1941) suggest three main factors maintaining the Cape Cod birds as a unit; keeping them separate from other nesting groups along the coast. They cite the fact that terns are colonial nesters. Their banding indicates that individuals return to the same nest sites annually, and when forced to relocate, birds from the same nesting area often remain associated in the new place. Returning to the same nest site year after year was defined by the Austins as site tenacity, and the apparent association of the birds with one another was termed group adherence.

Great Gull Island 1966, Three Projects

As an initial step in studying the terns on Great Gull Island during 1966, we undertook three projects. They were feasible for that season because they could be done on weekends, the time when most of the volunteers could work on the island.

First, we determined the size and distribution of the two tern populations on the island. Second, through trapping and banding adults of both species in different parts of the island, we collected data for analysis of site tenacity, group adherence, and stability of pair bonds in future seasons. Third, a special effort was made

to band young Roseate Terns in order to gain information on this relatively little-known species.

Method

To provide a basis of comparison for future work on the island and to facilitate work this season, we surveyed the island and divided it into quadrats measuring 25 meters on a side during our first three weekends: April 16, April 30, and May 16. Fence posts set at the corners of the quadrats were labeled with plywood signs. Decal numbers and letters were used on one side and duplicated in black paint on the reverse so that the signs could be read from two directions. The black paint proved more useful than the decals; it was more durable and could be read easily from further away.

The lines running the length of the island were lettered A-H. These were intersected by lines numbered from 2-31 (fig. 1). The posts at the points of intersection bore the letter and number of the intersecting lines.

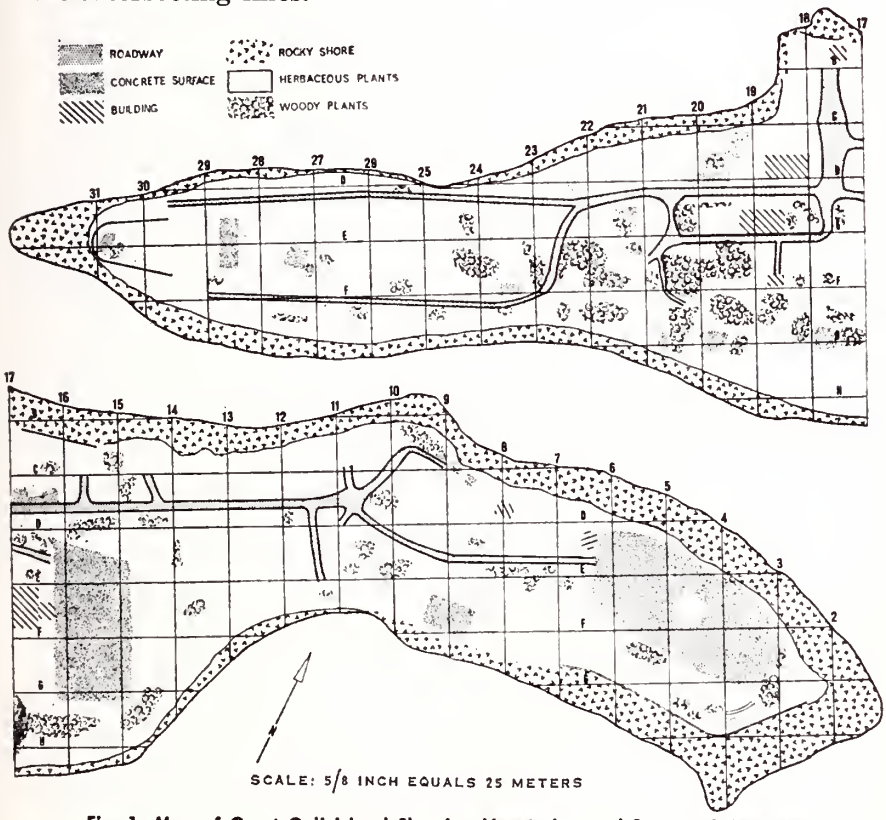

Fig. 1. Map of Great Gull Island Showing Vegetation and Structural Features.

To gain some idea of the numbers of terns nesting on the island and their distribution we marked every nest found. Our procedure was as follows: each weekend between May 22 and August 7 we circled the island beginning at B-11, worked east to the eastern end, then west along the south shore to the western end and east to the starting point. One or two teams, of two to three people each, worked every weekend. Early in the season the teams located and marked nests; they banded young terns and marked any new nests they found.

Each nest was located by a quadrat designated by lines intersecting at its northeast corner, and within the quadrat the nest site was plotted by the estimated number of meters south and west of this intersection. We marked each nest with numbered lead tags or tongue depressors. The lead tags were small and proved difficult to read when rechecking the nests. Tongue depressors marked with felt-tipped pens were easier to read, but the numbers tended to fade.

We marked the eggs individually and by nest number, using a felt-tipped pen. While not ideal, these marks were usually readable to the end of incubation.

We were unable to keep ahead of the great numbers of eggs that were laid early in the season. This first concentration of egg-laying for both species occurred within a 7- to 10-day period, following which some nesting occurred each week until about July 10. For convenience we have called the period of initial nestings, including the period of concentrated egg-laying, the first nesting period, and the time of more gradual nesting which followed the second nesting period. To estimate the first period of egg laying we used the hatching dates for the nests marked as an index to the extremes as well as the peak of the period.

For the Common Tern, the first hatching peak fell on the June 25 weekend, and 95% of the nests marked through June 25 hatched prior to July 1, and 5% after that. We have designated the nests marked through June 25 as falling within the first nesting period. Assuming a minimum incubation period of 21 days these eggs were present by June 10. Nesting continued for this species through July 10. We have called this period of about four weeks the second nesting period.

The hatching peak for the Roseate Tern fell during the June 25 and the July 1 weekends: 95.5% of the nests marked through June 25 hatched prior to July 10, and 4.5% after that. We have grouped the nests marked through June 25 as falling within the first nesting period. Assuming a minimum incubation period of

21 days for this species, most of these eggs would have been present prior to June 15. The first nesting period of the Roseate Tern occurred, therefore, between May 26, the date determined for the first Roseate nest on the island, and June 15. Nesting continued for the Roseate Tern through July 15, and we have called this four-week period the second nesting period for this species.

The banding project consisted of two parts: trapping and banding the incubating adults and later banding the young birds. Treadle traps, 18 inches long, 12 inches wide and 12 inches high, were made of half-inch mesh hardware cloth. Each was placed over a nest, and the adult, on entering to incubate, stepped on the treadle which dropped the door. This trap was very effective in catching Common Terns which nested in the open. However, it was too large to be used effectively in the grass over the more covered nests of the Roseate Tern.

Young terns large enough to retain a band were banded each weekend beginning July 1. Young of both species seek cover shortly after hatching. Common Terns can be found readily by searching thoroughly the vegetation bordering their nesting areas. Young Roseate Terns are much more elusive. Where nests were in the vegetation most of the young were found by exploring the tunnels they made in the grass behind the nest. At the end of one of these tunnels, a distance of an arm's length or more, one or two Roseate young were usually found. Finding young Roseate Terns from the nests in the boulders along the shore proved even more difficult. If a bander were fortunate he might catch a glimpse of a young bird crouching far back in a crevice with an entrance 15 inches wide. Sometimes the more persistent banders disappeared completely trying to reach the bird, and just when the young Roseate was at their fingertips, it often scooted to a second hiding place, out of sight and out of reach.

Because of the difficulties in finding young Roseate Terns, we spent more time looking for them. This effort did not result in our banding a significantly higher proportion of this species than of the Common Tern, and the total number of young banded of each species gives a reasonable estimate of its relative productivity.

The Colony

The establishment in 1955 and the subsequent growth of the tern colony on Great Gull Island has been described by Heilbrun (1970). Most Common Terns (Austin, 1938) and probably Roseate

Terns as well do not breed before they are three years old. This suggests that the population increase noted on Great Gull Island is due not only to birds hatched there returning to breed, but is probably due to birds emigrating from other colonies to breed as well.

Recoveries of Common and Roseate Terns breeding on Great Gull Island in 1966 tend to confirm this hypothesis. Of the 489 adult Common Terns trapped during 1966, 18 were already banded. Five had been banded on Great Gull Island, and the rest in colonies elsewhere in the Long Island region or in Massachusetts (Table 1). Of 87 Roseate Terns trapped on Great Gull Island during 1966, only one, from Cartwright Island, was previously banded.

Table 1

Banded Common and Roseate Terns Recovered on Great Gull Island during 1966

Species	*Banded At*	*Age When Banded*	*Date Banded*	*Bander*
Common Tern	Plymouth, Mass.	Young	July 18, 1956	O. L. Austin
Common Tern	Chatham, Mass.	Adult	July 10, 1960	Wellfleet Sanct.
Common Tern	Pt. Lookout, N.Y.	Young	June 22, 1959	A. H. Penberthy
Common Tern	Jones Beach, N.Y.	Young	June 27, 1962	L. Wilcox
Common Tern	Fire Is. Inlet, N.Y.	Young	July 3, 1959	L. Wilcox
Common Tern	Fire Is. Inlet, N.Y.	Young	July 3, 1959	L. Wilcox
Common Tern	Moriches Bay, N.Y.	Young	June 23, 1960	L. Wilcox
Common Tern	Moriches Bay, N.Y.	Young	July 1, 1961	L. Wilcox
Common Tern	Moriches Bay, N.Y.	Young	July 8, 1961	G. Raynor
Common Tern	Moriches Bay, N.Y.	Young	June 15, 1962	L. Wilcox
Common Tern	Moriches Bay, N.Y.	Young	June 26, 1962	J. Buckalew
Common Tern	Moriches Bay, N.Y.	Adult	July 26, 1965	L. Wilcox
Common Tern	Cartwright Is., N.Y.	Young	July 22, 1962	G. Raynor
Common Tern	Great Gull Is., N.Y.	Young	July 20, 1961	L. Wilcox
Common Tern	Great Gull Is., N.Y.	Young	July 20, 1961	L. Wilcox
Common Tern	Great Gull Is., N.Y.	Young	July 18, 1962	G. Cant
Common Tern	Great Gull Is., N.Y.	Young	July 4, 1964	G. Cant
Common Tern	Great Gull Is., N.Y.	Adult	June 28, 1965	L. Wilcox
Roseate Tern	Cartwright Is., N.Y.	Young	July 22, 1962	G. Raynor

Man-made and natural changes have forced groups of terns in the Long Island region to relocate. As yet we have no detailed information on the history and status of these colonies which would show to what extent, if any, these changes have effected the composition of the Great Gull Island population.

Arrival

Mr. Eric Zwinkle, a lobsterman who anchors his pots around Great Gull Island, reported the first terns landed on the island on May 10, both in 1965 and in 1966. We found both Common and Roseate Terns there the weekend of May 14-15. During this 2-day period however, the number of terns on the island varied. On the 14th we estimated 500 terns were present, concentrated in four areas. The following day, we noticed a decrease in the number of birds; early in the afternoon of May 15, we counted 175 birds concentrated in only two areas. By 3:30 P.M. no birds were on the island, and we counted only 30 flying over the island.

These observations are consistent with those of Austin (1933), Marples (1934) and Palmer (1944), who have noted that when the terns first arrive they may spend much time outside the nesting area.

The flocks of birds observed May 14-15 were in places that later had the heaviest nesting concentrations of both species.

Dispersal in the Nesting Area

On May 20, the Common Terns appeared to be more widely distributed over the island and more of them seemed paired. The following day the Common Terns began laying.

The Roseate Terns on May 20 were still concentrated in flocks at two points on the island. These same concentrations were observed throughout the day on May 21. A dramatic change took place overnight; next morning Roseate Terns were distributed where none had been seen the previous day along the grassy edge of the gun emplacement at the eastern end of the island and among the rocks along the shore just north of the gun emplacement.

Interactions of Terns at Time of Dispersal

Roseate Terns observed in the new areas threatened and chased one another and occasionally were chased by Common

Terns. The sequences of behavior observed suggested that the Roseates were not only establishing themselves on the ground, but also were adjusting to one another in the new location. In interactions between Roseate Terns, one bird often threatens another, and the threatened bird rises in the air about six inches, then, in a few seconds, settles again at almost the same spot from which it had risen. Upon landing the bird might be threatened again, it might just sit, or it might follow the bird which had threatened it into the grass. In interactions between Common and Roseate Terns, Common Terns chased the Roseate Terns in every case. The Roseate Terns, however, seemed to return to the general area after the chase and the chases seemed to function, as they did between Roseate Terns, in establishing an individual distance between birds (Conder, 1949).

Egg Laying in Other Colonies

Having noted the first Common Terns eggs on Great Gull Island on May 21, we were curious to see whether or not nesting had begun in other colonies in the area. Two other colonies on Long Island were checked: the Jones Beach colony, Nassau Co., N. Y., May 23, and the Jamaica Bay colony, Queens Co., N. Y., May 25. Terns were nesting in both those places, and from the number of one-egg clutches found, we estimated all three colonies had started nesting within a day or two of one another.

Expansion of the Nesting Area on Great Gull Island, 1955-66

Heilbrun (1970) mentions that when the Common Terns first nested on Great Gull Island in 1955 the nests were found at the eastern end of the island in what is now quadrat G-2. Subsequently the Common Terns increased in numbers and nested in suitable areas throughout the eastern half of the island.

The Roseate Terns were first found nesting on the island in 1960. By 1965 their nests were also scattered throughout the eastern half of the island.

In 1966 for the first time both Common and Roseate Terns nested on the western half of the island as well as the eastern section.

Nests and Nest Sites, 1966

In the 1966 breeding season we found and marked 2012 Common Tern and 1570 Roseate Tern nests on Great Gull Island. Of these, complete data were available for 1994 Common Tern nests and 1505 Roseate Tern nests; in the remainder of this paper "marked nests" refers only to those with full data. The distribution of nests is shown in Figures 2 and 3. The relative density of nests found varied in different parts of the island reflecting, in part, the habitat differences the two species require for nesting.

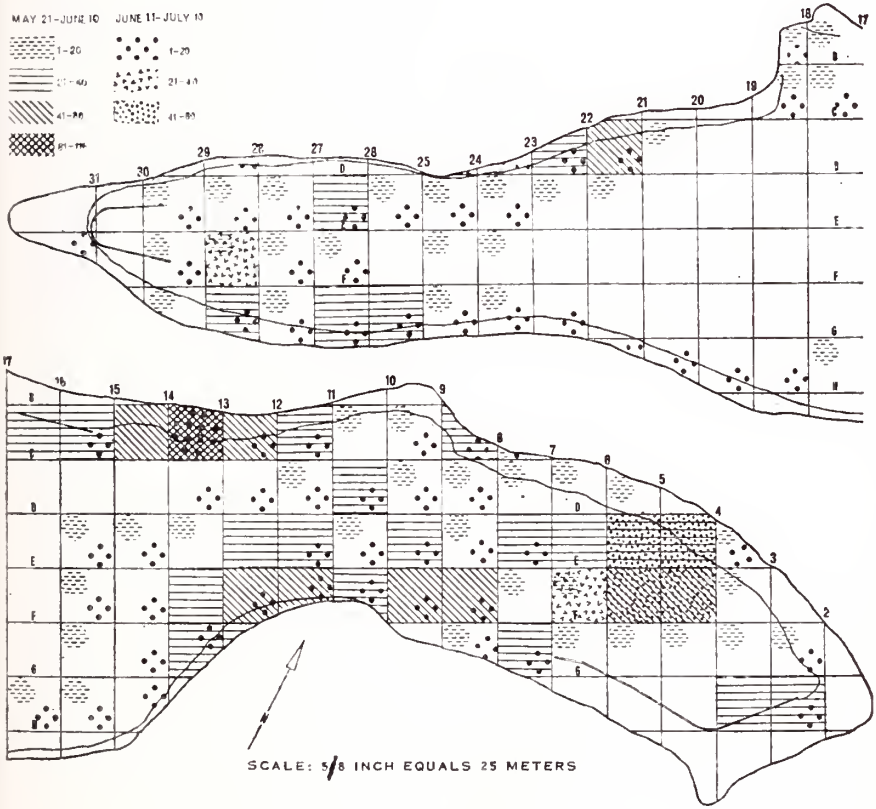

Fig. 2. Map of Great Gull Island Showing the Distribution of Nests of the Common Tern.

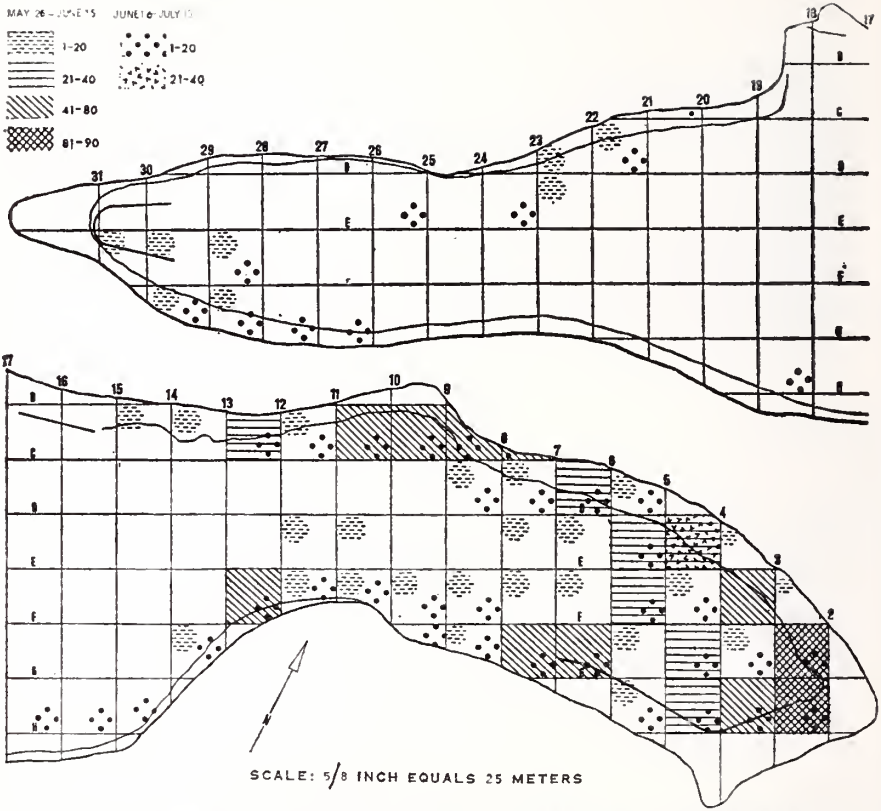

Fig. 3. Map of Great Gull Island Showing the Distribution of Nests of the Roseate Tern.

In general, Common Terns nest in open situations. Weathered cement platforms marking the former sites of old buildings, gun emplacements, and roadways have all been used by this species for nesting, as have the more natural areas of sand and gravel.

Most Roseate Tern nests were found with some sort of overhead cover. They pushed into the Marram Grass, or under Bindweed. In the boulders that border the island, eggs were usually deposited under an overhanging edge or in a covered crevice. A relatively small number of nests were in open situations.

Two Nesting Periods and Population Estimates Based on First Period Nests

The first period of nesting activity for the Common Tern occurred between May 21 and June 10. The remainder of the nesting

season, June 11-July 10 constituted the second. Of 1994 Common Tern nests marked, 1378 or 69.1% were probably present by June 10; during the second period 616 or 30.9% of the total nests found were marked.

Of 1505 Roseate Tern nests marked, 1148 or 76.3% were established during the first period, May 26 to June 12, while during the second period 357 or 23.7% of the nests were recorded.

Austin (1933) states that nests in the initial nesting at Cape Cod were established in one week. A three-week period of egg-laying at the beginning of the season on Great Gull Island represents the extremes for such an initial nesting, but data on incomplete clutches as well as egg replacement indicate that the peak of egg-laying for both species was concentrated in a shorter period of time, perhaps a week or less. Egg replacement refers to a marked egg in a nest disappearing and being replaced by a new egg or eggs, the nest remaining the same.

Incomplete clutches of eggs for both species were found through June 12, but not after that, evidence that a great many birds of both species were building nests prior to this date. For the Common Tern, of 321 nests marked May 29-30, 124 or 38.6% were incomplete: i.e., were later found to have additional eggs. Of 625 Common Tern nests marked June 4-10, 50 or 8.0% were incomplete. Of 112 Roseate Tern nests marked May 29-30, 43 or 38.0% were incomplete, and of 488 Roseate nests marked June 4-10, 48 or 9.6% were incomplete.

Further indication of a concentration of nesting activity by both species before June 12 is suggested by our data on egg replacement. Of 13 nests in which egg replacement was noted, nine contained new eggs by June 4-6 and four by June 12. Intervals of as little as six days were noted between the time the first eggs were marked and the time the new eggs which replaced them were reported.

As we believe that both the Common and Roseate Tern nests found during the first periods are largely first nestings, we have used them to estimate the minimum breeding populations of both species. Interpretation of the nests found during the second period includes several possibilities. They could have been produced by pairs that had tried unsuccessfully to nest on the island earlier in the season. Some of these late nests may represent birds nesting for the first time, as Austin (1938) reports that the youngest birds in a colony nest two weeks after the initial egg-laying. It is also possible that late nests could be second nestings of birds that arrived from other colonies, Austin (1940). A solution to the question awaits further banding data.

At present, the best estimate that can be given for the Great Gull Island population of Common Terns is 2600 to 4000 birds. We estimate the population of Roseate Terns to be between 2200 and 3000 birds.

Copulation

During the periods of greatest nesting activity we noted a high incidence of copulatory sequences. Copulation observed in both Common and Roseate Terns took the same form. The upper bird stood on the back of the lower bird, perhaps 20-30 seconds, following which the birds apposed their cloacas a number of times. Intervals of about 20 seconds elapsed between appositions. After several of these appositions the upper bird hopped to the ground.

Austin (1932), Marples (1934), and Palmer (1941) have noted one bird standing on the back of another early in the season. We will refer to this behavior as the copulatory stand. Later in the season the copulatory stand is part of the copulation sequence as described above. One copulatory sequence performed by two Common Terns lasted 7¾ minutes: the unusually long copulatory stand occupied the first 6 minutes of the sequence.

Copulatory activity was recorded for both species between May 21 and July 4. Most of our observations were made in an area where more Roseate Terns nested than Common Terns, resulting in a smaller number of observations of the Common Tern.

Observations were made throughout the day on May 21 and between 5:00 and 8:00 A.M. on May 22. In this period only one copulation and two copulatory stands were observed in the Common Tern. Many copulations were noted for both species during the weekends of May 29-30 and June 4; and again during the weekend of June 18 for the Common Tern and the weekends of June 18 and 24 for the Roseate Tern. A drop in copulatory activity was noted for both species the weekend of June 12.

While observing Roseate Terns, we noted that very often a copulating pair would be interrupted by a third bird, and, on occasion, Roseate Terns interrupted copulations of Common Terns as well. Such interruptions were not seen performed by the Common Tern. Table 2 summarizes our data on interrupted as well as uninterrupted copulations of Roseate Terns observed during May and June. The frequent interruptions of copulations in the Roseate Terns did not seem to adversely affect their productivity.

Cloacal appositions varied from 2-6 times with an average of 4.27 for 11 copulations observed in the Common Tern. The total time for each copulatory act varied from 1 minute and 15 seconds to 3 minutes and 11 seconds, with an average of 2 minutes and 24 seconds. The 7-minute copulation noted above for the Common Tern was not included here because we felt it was an aberrant behavior.

In twelve completed copulations for the Roseate Tern cloacal appositions were more frequent on the average than in the Common Tern, ranging from 3-10 times with an average of 6.75. Copulation time was similar, however, to that for the Common Tern, ranging from 1 minute and 40 seconds to 3 minutes and 28 seconds, averaging two minutes and thirty seconds.

Palmer (1941) states that birds were silent during the copulations that he observed. From our observations of copulations in both Common and Roseate Terns vocalizations accompanied the act in both species. Twice Common Terns copulated within one foot of a blind and we were able to record a variety of sounds both birds produced during the sequence.

Table 2

Copulatory Behavior in the Roseate Tern

Dates	Observation Period* Hrs:Min	No. of Copulatory Stands		No. of Copulations	
		Interrupted	Uninterrupted	Interrupted	Uninterrupted
May 29-30	6:22	4	9	9	4
June 4- 5	4:15	3	2	3	2
June 11-12	4:00	2	0	0	0
June 18-19	3:25	5	0	5	4
June 25-26	4:00	2	5	2	2

*All observations were made between 5:00 and 8:30 A.M.

Clutch Size

Clutch size in both species varied from one to four eggs. Bent (1921) suggests on the basis of size and color differences that sets of four eggs in both species may be the product of more than one bird. Gemperle and Preston (1955), however, believe that four-egg clutches may occur normally. We noticed the differences Bent mentions in some of the four-egg clutches on Great Gull Island this summer, but we were unable to determine whether or not these clutches were produced by more than one bird. In this paper four-egg clutches have been considered the product of a single female and are included in determinations of average clutch size.

Common Tern. The average clutch size for 1994 Common Tern nests was 1.92. Austin (1932) gives an average clutch size of 2.3 eggs per clutch. The only average clutch size we had comparable to Austin's was in the May nests (Table 3).

Table 3

Clutch Size in Common and Roseate Terns

Common Tern

	1 No. of Nests	% of Total	2 No. of Nests	% of Total	3 No. of Nests	% of Total	4 No. of Nests	% of Total	Average Clutch Size	Total for Period
First Nesting Period May	92	26.5	143	41.2	102	29.4	10	2.9	2.09±0.71	347
First Nesting Period June	219	21.2	672	65.1	133	13.0	7	0.7	1.93±0.60	1031
Second Nesting Period	162	26.3	410	66.6	44	7.1	0	0.0	1.81±0.55	616

Roseate Tern

First Nesting Period	572	49.8	527	45.9	45	3.9	4	0.3	1.55±0.59	1148
Second Nesting Period	263	73.7	88	24.6	3	0.8	3	0.8	1.29±0.52	357

Austin (1940) points out that "A successful tern colony is built around an essential nucleus of sexually efficient individuals between four and ten years of age . . . . Achievement in the colony appears to be in direct ratio to the number of such individuals present." Since the Great Gull Island colony is a relatively new one, such a nucleus may not yet be established, a possible explanation of our smaller average clutch size.

Roseate Tern. The average clutch size for Roseate Tern nests was 1.49.

The Marples (1934) data showing incidence of different clutch sizes in the Roseate Tern nesting in the British Isles seem comparable to our data for this species during the first nesting period. Serventy and White (1951) reporting on clutch size in a population of Roseate Terns (*Sterna dougallii gracilis*) in Western Australia noted that of 2656 nests recorded, 97.8% contained one egg and 2.2% two eggs. The higher incidence of one-egg clutches reported by Serventy and White could represent a characteristic of the population they studied. Their data, however, were collected about one month after the birds had begun nesting, a time comparable to our second period, when we too noted a significantly higher percentage of one-egg clutches.

Egg-Laying and Beginning of Incubation in the Common Tern

Austin (1932) states that the rate at which the eggs are laid varies in the Common Tern. He notes that usually two- and, in a few instances, four-day intervals occurred between eggs in the nests he watched; only rarely was an egg laid daily.

Gemperle and Preston (1955) note in their 21 clutches of three eggs that some were completed in three consecutive days, but more often an interval of two or more days occurred between eggs as a clutch was deposited.

Austin (1932) states that incubation usually does not begin until a clutch is complete. Palmer (1941), on the other hand, cites Van Oordt (1934) as noting that the Common Tern usually lays three eggs and that incubation begins with the first egg. Palmer goes on to say that the hatching pattern reflects the intervals at which the eggs were laid, and, these intervals suggest that incubation begins with the first egg.

We noted an interval of two days between the time two chicks were found in an early nest of the Common Tern and the hatching of the third egg. Conceivably seasonal and individual differences could account for the variation in the onset of incubation suggested by the above authors. Further definition of such factors affecting the problem is left for another field season.

Our Common Tern data for two nests indicated a 21- and 22-day incubation period. Jones (1906) observing six nests, determined a 21-day incubation period, and Austin, (1932), working with 95 nests, found a range of 21-30 days with an average of 25.7 days. Austin attributes this range in incubation period to varying degrees of disturbance, the birds nesting in the more protected areas having the shortest incubation. Palmer (1941) found an incubation period of 21-26 days with an average of 23 days.

Egg-Laying and Incubation in the Roseate Tern

Data for one nest indicated a period of at least two days between the time the first egg was marked and the time the second egg was laid. The hatching pattern of a second nest indicated a minimum of two days between the laying of the first and second eggs.

The incubation period of the Roseate Tern is probably similar to that of the Common Tern. Jones (1906) gives an incubation period of 21 days for two nests. We have data on one nest that indicates a 23-day incubation period. This nest was an early one, however, and many of these early eggs were cold when marked, suggesting that the birds had not begun steady incubation.

Change in Bill Color noted during Incubation Period in Both Common and Roseate Terns

During the incubation period and possibly during the time the young were being fed, we noticed a change in bill color in both Common and Roseate Terns. In the Common Tern the black tip of the bill lessoned in extent and in some cases seemed to disappear almost completely, the bill then appearing red throughout its length. In the Roseate Tern the basal half of the bill acquired a red-orange color, contrasting with the totally black condition of the bill at the beginning of the breeding season.

Bent (1921), Palmer (1941b), and Robertson (1964) have noted that Roseate Tern bills have red at the base. Guichard (1955) states that Roseate Terns which nest off the coast of Brittany displayed variation in bill color during the nesting season.

Photographs taken of Roseate Terns nesting at the eastern end of Great Gull Island June 7 show 2-3 mm. of red at the base of their bills. The earliest nests of Roseate Terns were found at the eastern end of the island and judging from the dates of these early marked nests, the birds in the photographs taken June 7 had been incubating one week.

As more and more of the Roseate Terns acquired some red at the base of the bill, the birds with all-black bills became more conspicuous. Black-billed birds were noted through July 4, but not after that. These black-billed birds noted late in the season could have been birds that nested earlier and "lost" their eggs before their bills had begun to turn red. It is also possible that some of these were young birds that had not nested before, or perhaps nonbreeding adults. Individually marked birds of known age would be a help in clarifying this point.

All our observations, with one exception, associated the change in bill color with incubation. The exception, photographed on June 24, was a copulating pair of Roseate Terns. The bill of the lower bird was completely black, while that of the upper bird was red for 2-3 mm. at the base. All other copulating birds had entirely black bills. The presence of a partly red-billed bird as part of a copulating pair might result from nest destruction followed by a second pairing; this is, of course, purely speculative.

Egg Destruction

On several occasions we saw Red-winged Blackbirds feeding on tern eggs, both in deserted nests and in active nests from which the incubating bird had been disturbed. Many of the deserted eggs we found on the island resembled those known to have been pecked by the Red-winged Blackbirds, and therefore we suspect that much of the egg destruction may be attributed to this species.

We saw Red-winged Blackbirds eat eggs only in unprotected nests. Roseate Terns seemed more prone to leave their nests when disturbed, and to stay away from them longer, than did the Common Terns. Because of this difference in behavior, the Roseate Tern may be more subject to egg predation by the Red-winged Blackbird than the Common Tern.

Palmer (1941) has mentioned egg-pecking in the Common Tern. We did not observe this behavior.

A second cause of egg destruction was high tides which washed away some of the nests of the Common Tern on the lower part of the north beach.

On several occasions large numbers of Blue Jays (*Cyanocitta cristata*) visited the island. Two or three of these birds were noted in areas where terns nested, but none was seen to destroy any tern eggs. The terns mobbed the Blue Jays whenever they dropped into the colony. The Blue Jays did not take refuge in flight, but hopped along the ground, took shelter in the vegetation or among the rocks, and flew off when the mobbing by the terns abated.

Only one mammal occurs on the island, the House Mouse (*Mus musculus*). There is no evidence that the mice damage the tern eggs.

Hatching

The hatching peak for both species occurred between June 25 and July 4. Hatching continued for both species through the end of July. By Aug. 6, our last visit to the island, only a few eggs were still hatching and very few remained that appeared likely to hatch.

There was some indication of a second hatching peak for both species in July (Table 4). For the Common Tern a slight peak was indicated about July 15. For the Roseate Tern the increase occurred on the weekends of July 23 and 30.

In 1994 Common Tern nests, hatching was recorded in 330 or 16.5%; 236 or 71.5% during the first nesting period and 94 or 28.5% during the second.

Of 1505 Roseate Tern nests, hatching was recorded in 277 or 18.4%; 193 or 69.7% during the first nesting period and 84 or 30.3% during the second.

The number of nests recorded hatched for both species is a good indication of their relative nesting success.

Banded Young

The hatching data as well as the banding data suggest that the Roseate Terns are more successful than the Common Terns on Great Gull Island. Between July 1 and Aug. 7, 637 young Common Terns and 734 young Roseate Terns were banded. These figures represent 16.6% of the Common Tern eggs marked (3828), and 32.8% of the Roseate Tern eggs marked (2237).

Of 45 banded young found dead, 36 were Common Terns, and 9 were Roseate Terns.

Differences in nest site as well as in some of the behavior of the young of the two species contribute to this difference in success. Nests of the Common Tern were more exposed and were subjected to greater destruction by wind, rain, extremes in temperature, and high tides. Nests in the open offered the young no protection from the sun, and often in trying to find cover, the young were severely attacked by adults nesting near the vegetation.

The nest sites of the Roseate Terns were protected by some overhead cover. Young Roseate Terns remained well hidden and even when fed did not expose themselves.

In the Cape Cod colony, Austin (1933) observed Roseate Terns to be more successful than the Common Terns for the same reasons.

Exodus

To date, we have reports on recoveries of four immature Common Terns and one immature Roseate Tern banded on Great Gull Island during the summer of 1966. Two Common Terns

Table 4

Number of Nests in Which Hatching Occurred

Species	Common Tern		Roseate Tern	
Date	No. of Nests	% of Total	No. of Nests	% of Total
June 14-20	30	9.1	1	0.3
June 23-25	175	53.0	114	41.0
July 1- 4	31	9.4	79	28.4
July 9-10	20	6.1	20	7.2
July 15-16	31	9.4	13	4.7
July 23-24	15	4.5	21	7.6
July 30-31	17	5.2	26	9.4
Aug. 6- 7	11	3.3	4	1.4
Total	330		278	

were reported within a twenty mile radius of the island shortly after banding, the third, banded July 9, was recovered in Guyana (South America) Oct. 4, 1966 and the fourth banded July 10, 1966 on Great Gull Island was recovered in Hatillo, Puerto Rico, in November, 1966.

The young Roseate Tern was banded July 9, and recovered Sept. 21, at Tomayo, Dominican Republic.

Just prior to the time the immature Roseate was picked up in the Dominican Republic small flocks of Roseate Terns, mostly adults, were observed along the south shore of Long Island. On Sept. 15 a flock of about 300 Roseate Terns gathered on the sands near Jones Beach Inlet. On Sept. 23 only a few Roseate Terns were seen there.

Food

Between June 18 and July 23 we preserved 9 species of fishes associated with the nests of Common and Roseate Terns. Seven species were found in or near nests of the Common Tern: Blueback Herring (*Alosa aestivalis*), American Smelt (*Osmerus eperlanus*), Mummichog, (*Fundulus heteroclitus*), Three-spined Stickleback (*Gasterosteus aculeatus*), Cunner (*Tautogolabrus adspersus*), American Sand Launce (*Ammodytes americanus*), and Atlantic Mackerel (*Scomber scomber*); two species were found in or near nests of the Roseate Tern: the American Sand Launce, and Butterfish (*Poronotus triacanthus*).

We noted a greater variety of fish utilized by the Common Tern not only in feeding young, but also in the fish they carried during the displays called fish flights as well as fish used in courtship feeding. In contrast, Roseate Terns carried the American Sand Launce almost exclusively during courtship activities and similarly selected it to feed their young. Jones (1906), Bent (1921), Austin (1934), and Palmer (1941) give additional data on food fish utilized by Common and Roseate Terns.

Summary

1. Great Gull Island, off the eastern end of Long Island, N. Y., is the site of a breeding colony of at least 1300 pairs of Common Terns and 1100 pairs of Roseate Terns.

2. 2012 Common Tern nests and 1570 Roseate Tern nests were found during 1966.

3. For Common Terns, the 1378 nestings between May 21 and June 10 are considered first nestings, and were used to determine the minimum population size of this species. Nests found after June 10 are considered second nestings.

4. In the Roseate Tern, 1148 first nestings occurred between May 26 and June 15.

5. Nest sites of the two species were quite different. Common Terns nested in more open places, while Roseate Terns seemed to require some cover for their nests in most instances.

6. Clutch sizes were relatively larger in the first nesting period than in the second for both Common and Roseate Tern.

7. Copulations by Common and Roseate Terns were similar in duration, but on the average the frequency of cloacal apositions per copulation were higher in the Roseate Tern than in the Common Tern.

8. As incubation progresses, the basal half of the Roseate Tern bill becomes orange-red.

9. The Red-winged Blackbird was observed to feed several times on eggs of both Common and Roseate Terns. No other species was implicated in egg destruction.

10. Hatching occurred in a higher percentage of Roseate than Common Tern nests.

11. On the basis of young birds banded, a higher proportion of young Roseate Terns was produced per egg laid than for Common Terns.

12. The Common Tern used more species of fishes both in feeding young and in behavior ceremonies than the Roseate Tern did.

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Great Gull Island Report on Nesting Species 1967-68

HELEN HAYS

COMMON AND ROSEATE TERNS

ARRIVAL

In 1968 Hays and Pessino observed the terns as they arrived on May 4. A paper is in preparation on our early season observations.

NESTING

Method of Nest Marking

In 1967 nests of both species of terns were marked on weekends from May 21 through June 17, as well as during the week of June 4-11. Additional nests found later in the summer were marked July 9-13. Numbered wooden markers (tongue depressors) were stuck in the ground next to the nest and the location of the nest and clutch size recorded.

The nest-marking procedure used in 1967 was followed in 1968 and nests were marked on weekends from May 19 through June 15. In 1968 the nest-marking teams were larger, six to eight people, enabling us to cover the island more thoroughly; in 1967, there were only three to five people.

Total Nests Marked and Nest Distribution

In 1967, 1476 nests of the Common Tern, (*Sterna hirundo*), and 1089 nests of the Roseate Tern, (*Sterna dougallii*), were marked between May 21 and June 17. In 1968, fewer nests were marked during a comparable period: 1141 nests of the Common Tern and 806 nests of the Roseate Tern (see Table 1).

Table 1

Number of Nests Marked at Weekly Intervals in 1967

Date	Common Tern No. Nests Marked	Common Tern % Total	Roseate Tern No. Nests Marked	Roseate Tern % Total
May 21	2	00.1	00	00
May 27-28	282	19.1	104	09.6
June 3- 4	736	49.9	656	60.2
June 10-11	408	27.6	172	15.8
June 17	48	3.3	157	14.4

Number of Nests Marked at Weekly Intervals in 1968

Date	Common Tern No. Nests Marked	Common Tern % Total	Roseate Tern No. Nests Marked	Roseate Tern % Total
May 19	18	1.6	00	00
May 25	506	43.6	153	18.9
June 1	384	33.1	428	53.1
June 8	119	10.2	148	18.4
June 15	134	11.5	77	9.6

Figures 1-4 show the distribution of nests for Common and Roseate Terns during 1967-68. Comparing the number of nests in the areas of concentration on the island for both species, marked decreases in certain quadrats are apparent from 1967 to 1968.

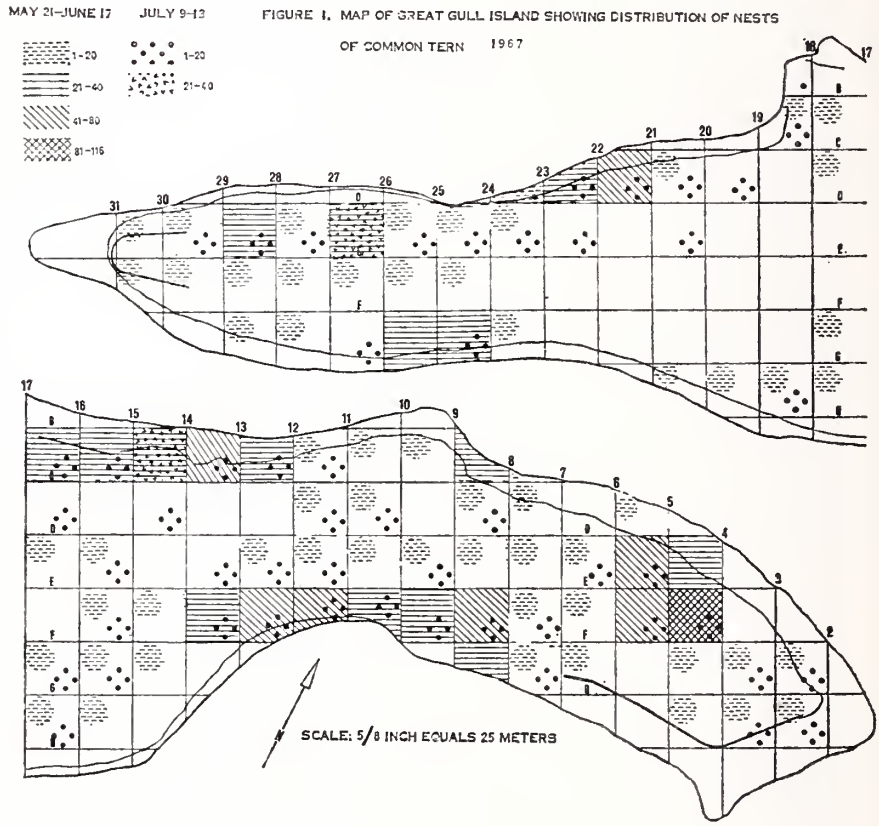


FIGURE 1. MAP OF GREAT GULL ISLAND SHOWING DISTRIBUTION OF NESTS OF COMMON TERN 1967

MAY 21 –JUNE 17 JULY 9–13

FIGURE 2. MAP OF GREAT GULL ISLAND SHOWING DISTRIBUTION OF NESTS OF ROSEATE TERN 1967

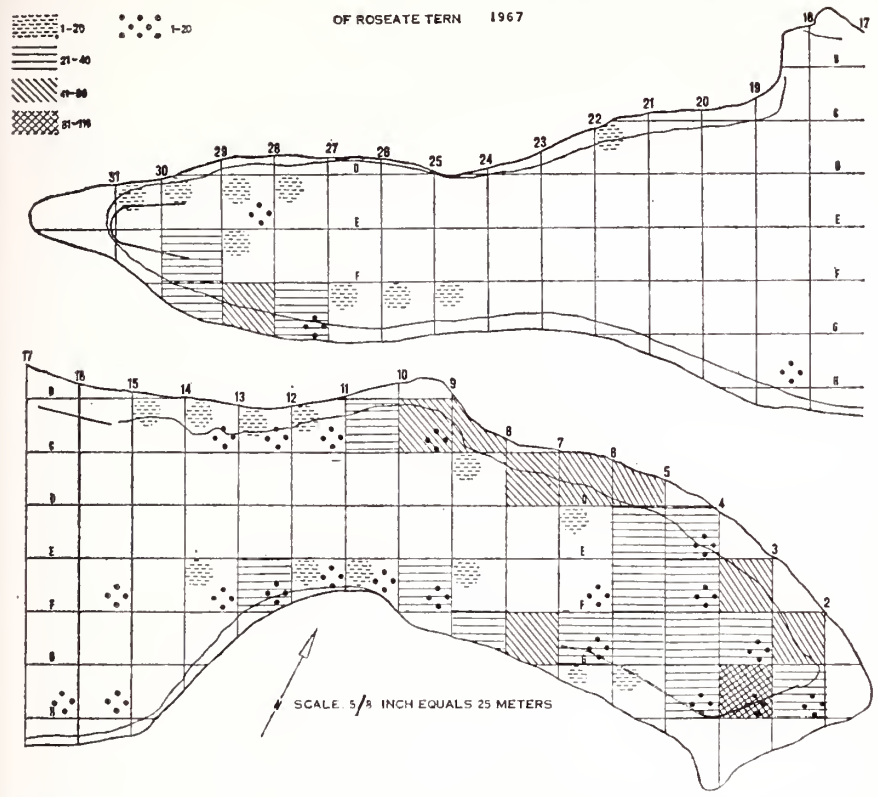
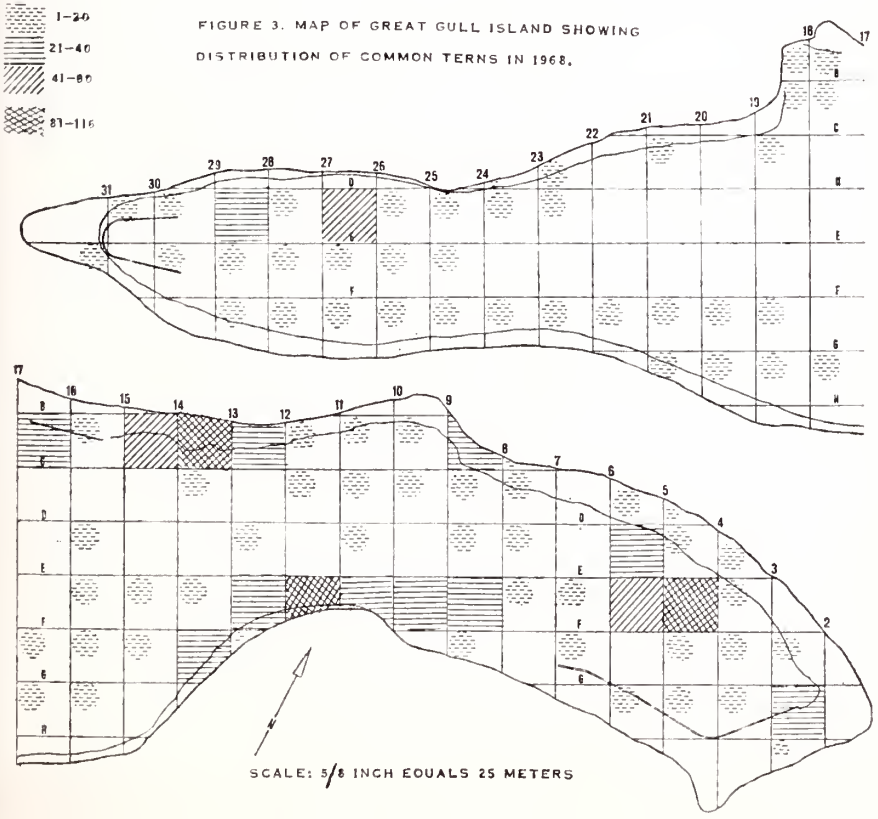


FIGURE 3. MAP OF GREAT GULL ISLAND SHOWING DISTRIBUTION OF COMMON TERNS IN 1968.



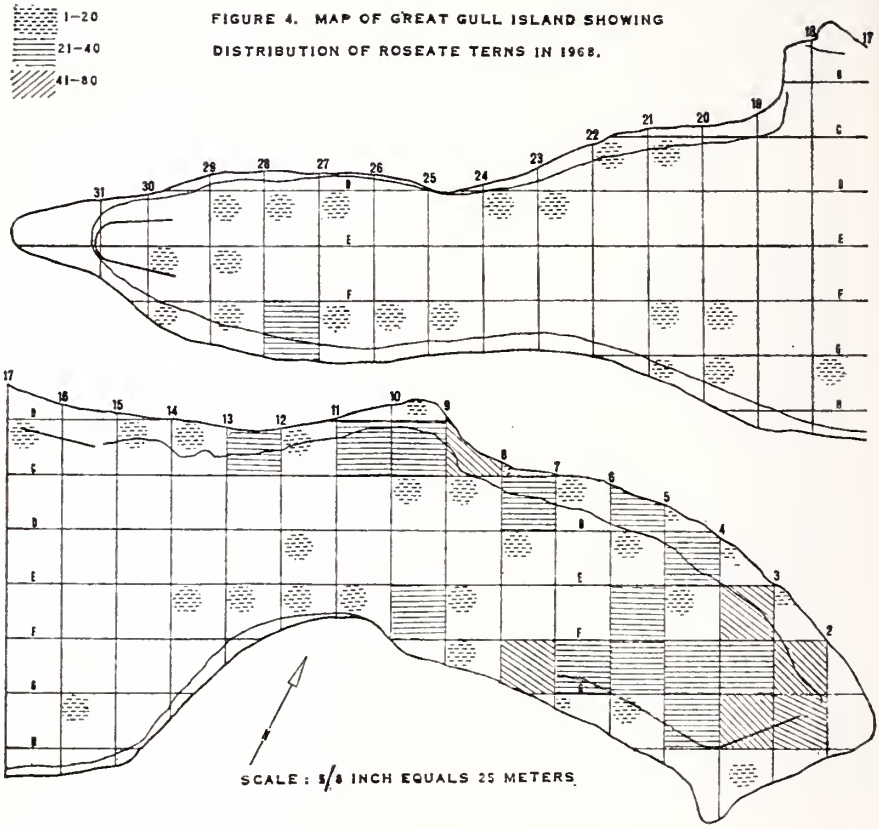


FIGURE 4. MAP OF GREAT GULL ISLAND SHOWING DISTRIBUTION OF ROSEATE TERNS IN 1968.

Terns first nested at the western end of the island in 1966 (Cooper *et al.*, 1970). In 1967 there was an increased utilization by both species of the western end of the island, followed by a decrease in numbers for both species in this area for 1968.

First Eggs

In 1967, two Common Tern nests, each containing an incomplete clutch of two eggs, were marked May 21. In 1968, eighteen Common Tern nests were marked May 19. Two of the nests contained two eggs and the rest one. All were incomplete clutches.

The first nests of the Roseate Tern were marked the last weekend in May both years (see Table 1).

Clutch Size

Tables II and III show the actual numbers and percentages of 1-, 2-, 3-, and 4-egg clutches marked during the four-week period both years. Table III shows numbers and percentages of 1- to 4-egg clutches marked which were checked more than once during the marking period.

Table 2

Total Number of 1-4 Egg Clutches of Common & Roseate Terns Marked

			Common Tern					1967
Clutch Size	1		2		3		4	
Date	No.	%	No.	%	No.	%	No.	%
May	99	33.8	136	46.4	55	18.8	3	1.0
June	313	28.4	575	52.3	211	19.2	1	0.1
Total	412	29.6	711	51.0	266	19.1	4	0.3
								1968
May	77	14.7	256	48.8	189	36.1	2	0.4
June	174	27.3	383	60.2	79	12.4	1	0.1
Total	251	21.6	639	55.0	268	23.1	3	0.3
			Roseate Tern					1967
Clutch Size	1		2		3		4	
Date	No.	%	No.	%	No.	%	No.	%
May	75	70.7	30	28.3	1	1.0	0	0.0
June	557	51.5	496	45.9	26	2.4	2	0.2
Total	632	53.2	526	44.3	27	2.3	2	0.2
								1968
May	52	34.0	95	62.1	5	3.3	1	0.6
June	410	62.8	226	33.3	16	2.4	1	0.1
Total	462	57.3	321	39.8	21	2.6	2	0.3

Table 3

Number of 1-4 Egg Clutches of Common and Roseate Terns Checked Two or More Times

	Common Tern								1967
Clutch Size	1		2		3		4		
Date	No.	%	No.	%	No.	%	No.	%	
May	77	29.1	129	48.7	56	21.1	3	1.1	
June	36	8.2	264	59.8	141	32.0	0	0.0	
Total	113	16.0	393	55.7	197	27.9	3	0.4	
									1968
May	22	5.2	222	52.1	181	42.5	1	0.2	
June	88	16.7	362	68.7	77	14.6	0	0.0	
Total	110	11.6	584	61.3	258	27.1	1	0.1	
	Roseate Tern								1967
Clutch Size	1		2		3		4		
Date	No.	%	No.	%	No.	%	No.	%	
May	63	70.8	25	28.1	1	1.1	0	0.0	
June	115	31.3	235	64.0	14	3.8	3	0.9	
Total	178	39.0	260	57.0	15	3.3	3	0.7	
									1968
May	25	20.8	91	75.8	3	2.5	1	0.8	
June	307	60.9	180	35.7	16	3.2	1	0.2	
Total	332	53.2	271	43.4	19	3.0	2	0.3	

Figure 5 shows the average daily temperatures taken during the months of May and June, 1967-68, at the lighthouse on Little Gull Island. Little Gull is located half a mile ENE of Great Gull Island. May temperatures were consistently warmer in 1968 than in 1967. It seems likely that the somewhat earlier first egg dates as well as the higher percentages of nests marked on Great Gull Island in late May, 1968, indicate a response by the terns to the warmer temperatures.

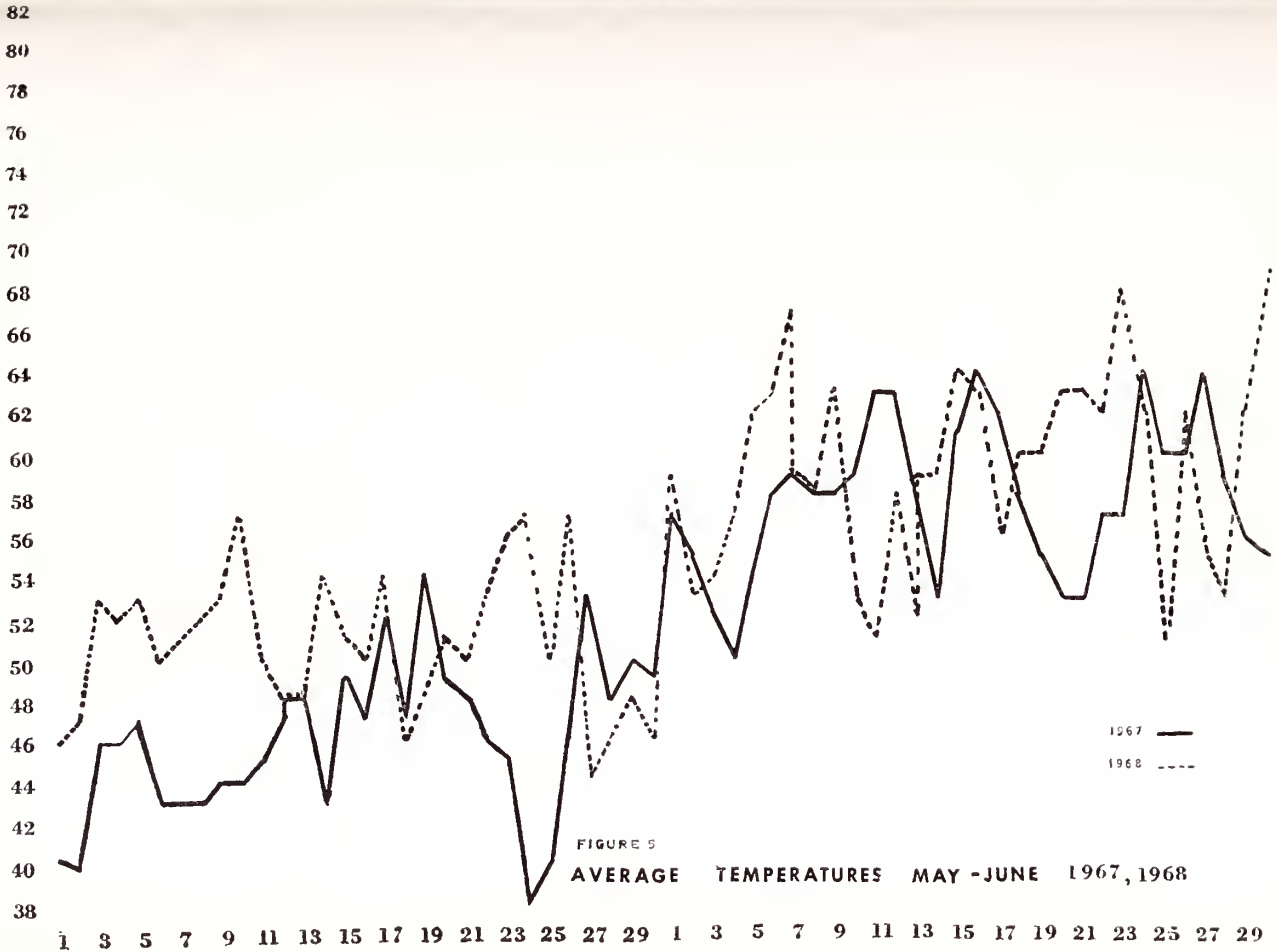


FIGURE 5

AVERAGE TEMPERATURES MAY - JUNE 1967, 1968

For the Common Tern a higher percentage of 3-egg clutches was marked in May, 1968, than in May, 1967, and for the Roseate Tern, there was an increase in the percentage of 2-egg clutches marked in May, 1968, over those marked in May, 1967.

The significance of this increase in the larger clutch size for both species in May, 1968, requires further data.

BANDING

Technique

In 1967 we initiated a color-banding program for Common and Roseate Terns, Spotted Sandpipers (*Actitis macularia*), Red-winged Blackbirds (*Agelaius phoeniceus*), and Song Sparrows (*Melospiza melodia*). Mist nets, nest traps, and funnel traps were used to catch the birds. Each adult was banded with three colored plastic bands and a numbered aluminum U. S. Fish and Wildlife Service band. By using six colors of plastic bands in different combinations with the aluminum band we had enough combinations so that each individual banded could be identified at a distance, alleviating the need for retrapping. For each color-banded bird we have made out a data card, recording banding information as well as additional observations of these individuals.

All banding activities were conducted under the permit of Dr. Donald M. Cooper who also set up the color banding scheme. This scheme, as suggested by Dr. Wesley E. Lanyon, consisted of a constant number of colored bands (3) and a single aluminum band, so that if any of these were lost it would be obvious when the birds were sighted.

Young Common and Roseate Terns in 1967 were not given individual combinations. They were simply banded with a U. S. Fish and Wildlife Service band on the left leg and a single red plastic band on the right leg, to enable us to age them when they return to the island.

In 1968 the color banding was continued. Young Common and Roseate Terns in 1968 were given adult color combinations so that they could be individually recognized.

In 1967, 774 adult Common Terns and 568 adult Roseate Terns were banded. Most of these were trapped on nests and an effort was made to trap pairs of both species, resulting in 146 pairs of Common Terns and 87 pairs of Roseate Terns being banded.

In addition Cooper mist-netted adults early in the season before nesting began and late in the season when most of the birds had finished incubating.

Site Tenacity

Similarly to what Austin (1940) noted, we found instances in both species where birds nested in the same quadrat 1966-68, or moved only a short distance from one year to another.

In view of the expansion of the colony (Figs. 1-4), it is not surprising that some of the Roseate and Common Terns trapped in 1966 at the eastern end of the island were found nesting at the western end in 1967. One extreme example was a Roseate Tern trapped on a nest at G-3 in 1966 and retrapped in 1967 on a nest at E-28.

As we trapped adults in July, 1967, we were interested in seeing whether pairs that renested remained in the same area or moved to a new site. A few Common Terns nested twice in exactly the same spot; others moved. The pairs in both these situations stayed together.

Interestingly, the nest sites where the same pair nested twice in exactly the same spot were in the south beach area. The north and south beaches are where the terns gather when they first arrive on the island in the spring, the densest concentrations of nests are found in these locations as well as at D-E 4 and 5. It is probable that the birds in these areas have nested there for a number of years and have a strong attachment to these sites which is not found in birds that are nesting in the more peripheral areas of expansion west of A-G 18.

One observation of a Common Tern which had nested in the expansion area in 1967 suggests that this bird did not remain with its mate after their young disappeared shortly after hatching. The male of the pair, both of which had been color banded, was seen copulating with an unmarked bird about one week after the eggs in its nest had hatched.

It is possible that the stability of the pair bond may be influenced by association of both birds with a particular site for a certain period of time. Hopefully future observations will help clarify this point.

We have only one record of a Roseate Tern renesting (Donaldson, 1968).

Hatching

The hatching peak for 1967 and 1968 was determined on the basis of daily records of nests recorded hatched. Banding of newly hatched Common and Roseate chicks was a special project in 1968 (see below), therefore more data were available from which to determine the hatching peak in 1968 than in 1967.

Hatching peak for the Common Tern in 1967 fell between June 21-25. In 1968 most Common Tern young hatched between June 13-25. The hatching peak for the Roseate Tern in 1967 fell between June 25 and 29, and in 1968 it fell between June 15 and 25.

Chicks Banded

In 1967 we banded 726 Common Tern chicks and 276 Roseate Tern young. Fewer altogether were banded than in 1966 due to the fact that this year we concentrated on trapping adults and spent less time hunting for young.

In 1968, 172 Common Tern young and 150 Roseate Tern young were banded. Very few young survived in 1968. Some of the factors responsible for the mortality this season will be discussed in papers now in preparation.

Pilot Project Begun in 1968

To determine hatching and fledging success as well as to have known-age birds to work with at the end of the season, a pilot project was initiated. In sample areas, newly hatched chicks were each given a numbered plastic band. Daily checks were made in these areas, dead young were picked up and recorded. Surviving young when large enough were given adult color combinations as well as a U. S. Fish and Wildlife Service band.

Food

In 1967 we observed Common Terns bringing in Sand Launces (*Ammodytes americanus*), an occasional Butterfish (*Poronotus triacanthus*), and Pipefish (*Syngnathus fuscus*) to feed the chicks. They did not bring in the variety of fish that we observed in 1966 (Cooper *et al.*, op. cit.).

Fred Heath (pers. comm.), stated that young Common Terns he had banded during 1967 at Cedar Beach regurgitated Pipefish. He had not noted this fish in their diet previously, although he has been banding in the New York area for a number of years.

No notes were taken on food fish in 1968.

Growth rate studies by Le Croy and Collins (in preparation) for 1967-68 suggest that there was more food available in 1968 than in 1967.

Departure and Dispersal

The majority of both species of terns nesting on the island in 1967 was gone by the end of July. At this time our color-banded adults and young were recovered along the north shore of Long Island, the Connecticut Shore, and Shelter Island.

In 1967 two Common Tern chicks individually color banded by Le Croy and Collins were seen on the island 43 and 46 days respectively after hatching.

In 1968 most young of both species appeared to leave the island between five and six weeks after hatching (Hays and Donaldson, in prep.).

In August, 1967, checks were made of the birds on the island in an effort to determine how many birds banded earlier in the season, were present and how long they stayed. The island was circled in a rowboat and the combinations of banded birds spotted on the island were read. Checks were made Aug. 5, 6, 8-11, 19-20, 26-27, and Sept. 2-3, 9.

Relatively few adult Common and Roseate Terns remained on the island during August. Between Aug. 5-11 we counted 15-20 banded Roseate Terns and 7-18 banded Common Terns daily. By Aug. 18-20, numbers of both species dropped further, with only 6-12 banded adult Roseate Terns being counted on each census during this period.

Our data on three of the marked birds just mentioned suggest that at least some of the birds observed to remain on the island in August had either recently lost their chicks or were associated with active nests. One Common Tern present Aug. 19 had renested and hatched a chick July 21-23. The chick had disappeared by the first week in August. Donaldson (1968) reports on two Roseate Terns observed during this period, one of which had lost a chick between July 23-30 and another which had renested.

When we visited the island Sept. 1-4, only one pair of Roseates remained. They were feeding their chick which we had found newly hatched Aug. 6. Returning to Great Gull Island on Sept. 9 we found no sign of adults or chick. Since we had located the chick the preceding weekend it seems possible the parents left with the chick between Sept. 4 and 9.

In September, 1967, we began to look along the shores of Connecticut and Long Island for terns that had been banded on Great Gull Island. We found them among flocks of unbanded terns at rivermouths and inlets in the following localities: Sept. 4, Pine Island, Conn., 2 adult Common Terns, 3 adult Roseate Terns, 1 juvenile Roseate Tern; Sept. 5, Jones Beach, 1 adult Common Tern, one adult Roseate Tern; Sept. 7, Long Beach, N. Y., 2 adult Roseate Terns (one of these seen at Jones Beach, Sept. 4), 1 juvenile Roseate Tern; Sept. 9, Saybrook, Conn., 1 adult Common Tern, 5 adult Roseate Terns, 2 juvenile Roseate Terns; Sept. 19, Flax Pond, Long Island, N. Y., (west of Port Jefferson), 1 adult Roseate Tern.

In 1968, areas on and off Great Gull Island were checked for banded birds during August, September, and October. A paper is in preparation on the results of these checks.

Other Nesting Species

Mallard

A Mallard (*Anas platyrhynchos*) nested in 1967 and 1968. In 1967 the nest was found on the side of a hill at C-17 in Bayberry in late June and hatched July 1. In 1968 the nest was again on the side of a hill in Bayberry, but at C-9 and hatched early in June.

Spotted Sandpiper

During 1966-68 we estimated the breeding population of Spotted Sandpipers to be 17 pairs. Twelve successful nests were located in 1966, 10 in 1967, and 11 in 1968. In addition, all years, broods were banded after hatching from nests we had not located.

Barn Swallow

Schaeffer (1967 a, b) summarizes the results of his work with the Barn Swallow (*Hirundo rustica*) on Great Gull Island.

He found 20 nests in 1966 and 21 nests in 1967. Clutch sizes on the average were smaller in 1967 than in 1966 (Schaeffer, unpublished).

Sixty two nestlings were banded by Schaeffer in 1966 and presumably many of these fledged. Fewer were banded in 1967 because rain washed away many of the nests. Some birds renested.

All indications are that Barn Swallows on Great Gull Island raise only one brood when they nest successfully.

Starling

At least four pairs of Starlings (*Sturnus vulgaris*), nested in 1967. One pair had begun laying by May 6, others were building nests. Four nests were judged to have hatched in building D-18a. By June 20 nestlings were heard in either side of the overhanging roof on the south side of the building. Nestlings were found on June 20 just inside the door of D-18a as well as in the wall of the northeast room of the same building.

One young Starling banded June 20 was seen flying on June 21.

A flock of 20 Starlings was seen about June 30, none was seen after that.

Starlings were present in 1968, but no notes were taken.

Common Yellowthroat

In previous bird lists for Great Gull Island it has been noted that Common Yellowthroats (*Geothlypis trichas*), were present throughout the summer. In 1967 on July 15-16 we found a pair of this species flying into Bayberry at D-9 with food in their bills. The male of this pair had been banded with a U. S. Fish and Wild-

life Service band. He defended an area from D 6-9 and had been first seen there June 21.

A second male Yellowthroat was seen at E-F 17-18 and a second female at D-14 the same weekend. It is probable that there were three pairs nesting on the island in 1967.

In 1968 Yellowthroats were observed but we saw no signs of nesting.

Red-winged Blackbird

In 1966, 12-14 male Red-winged Blackbirds (*Agelaius phoeniceus*), were seen on the island throughout the summer. In 1967 eight males were on territories early in the season and in 1968 ten males remained throughout the summer. No estimates were made of the number of nesting female Red-winged Blackbirds in 1966. In 1967 and 1968 about 21 females nested on the island. In 1967, a storm on June 19-20 affected the success in the nests we were watching (Hays, 1969). In 1968 most nests were successful.

One young Red-winged Blackbird which had been banded on June 26, 1967, about four days prior to fledging was retrapped Aug. 19 on the island about nine weeks after hatching.

In 1967 three male Red-winged Blackbirds remained on their territories until the end of July.

During August, Red-winged Blackbirds were seen in flocks on the island. We did not, however, see any of the birds we had banded on the island after Aug. 20, 1967.

We have one record of an adult which appeared to be molting: i.e., a female with no tail feathers was seen at D-4 Aug. 11.

In 1968 observations of the Red-winged Blackbirds were continued.

Song Sparrow

In 1967 and 1968 Song Sparrows (*Melospiza melodia*) were individually color banded for future observation.

In 1967 a few of the banded birds were seen flying into the grass with food on Sept. 3 and 9. We saw the same birds at the same sites on both dates. On Sept. 9 we also saw a small group of banded Song Sparrows feeding at C-7. A few banded Song Sparrows were seen during the course of the work weekend, Sept. 22-24.

WORK WEEKENDS

In 1967 and 1968 we organized work weekends in late September and early October during which a certain amount of repair work was done and preparations made for the following season.

In 1967 the work weekend fell on Sept. 22-24. A variety of projects was completed. Richard E. Harrison painted a sign on the dock warning people away from the island. The sign is large enough to be read a good distance from shore and helped to protect the terns in 1968.

Grid markers which divide the island into quadrats were cleared of brush and repainted with fresh identifying numbers. The grid was also extended to include the shoreline rocks, the numbers being painted on the rocks. This will enable grid locations to be determined when working along the shore on foot or in a boat.

An additional project involved the clearing of an area of Beach Grass at C-11, in hopes of expanding the amount of suitable space available for nesting terns in 1968. The Beach Grass pulled from C-11 was spread on the bare concrete floor of the large gun emplacement at E-4, again in hopes of making it into a suitable nesting area for terns.

Some areas of Poison Ivy were sprayed to prevent its continued spread in areas C-D 11, D 26-27, F 18-18, and E-F 18-19.

In 1968 we worked the weekends of Sept. 25-27 and Oct. 1-3. R. Harrison painted two more signs along the south shore of the island warning people away, and again repainted some of the grid markers.

Rocks were numbered with yellow paint on the north side of the island at the eastern end to see if Roseate Terns hold territories on the rocks.

The area at C-11 was cleared by burning.

The steps leading to the central observation tower were painted.

Plywood was cut and fitted over all windows and doors of two buildings in an effort to keep them dry over the winter.

Poison Ivy was sprayed.

Participants in the work weekend, 1967, were Collins, Donaldson, Harrison, Hays, Le Croy, Parkes, Pessino, and Schiller.

Participants in the work weekend, 1968, were Donaldson, Harrison, Hays, Le Croy (Mary, Sara, and Loren), Parkes, and Pessino.

Acknowledgments

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We would like to thank Dr. James A. Oliver, Director of the American Museum of Natural History, and Dr. Dean Amadon,

Chairman and Lamont Curator of Birds, and the members of the Linnaean Society of New York for their interest and support of this project.

The information in this report has been summarized from data recorded on nest data sheets and our card file on banded birds. Those who contributed to the store of data are: Charles Collins, Donald M. Cooper, Grace Donaldson, Helen Hays, Mary Le Croy, and Catherine Pessino.

Hays and Cooper summarized the nesting data for 1967, and Hays, Cooper, and Donaldson summarized it for 1968. Le Croy recorded nest follow-up data in 1967 and Le Croy and Donaldson recorded it in 1968.

We would like to take this opportunity to thank Jack Levy of the U. S. Coast Guard who copied and sent us the temperatures for May and June taken on Little Gull Light.

In addition to those contributors mentioned above we would like to thank the following participants who helped make both seasons a success: Peter Brooks; Julia and Joel Cracraft; Richard E. Harrison; Al Horn; Mary, Sara and Loren Le Croy; Harry McCauley; Casey Miller; Kenneth Parkes; Frederick Schaeffer; Kate Swift; Arthur and Rachel Swoger; and Robert G. Wolk.

And finally three cheers for Captain L. H. Malloy and the *Annie*, who took our gear to the island in all weather, in spite of fog, heavy seas, and varying tides. We also appreciated his advice and help in surviving on Great Gull Island!

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Gull Island Committee Chairmen 1949-70

Christopher K. McKeever	1949-1953
Lois Hussey	1954, 1960-1961
Catherine Pessino	1964-1968
Helen Hays	1969-1970

Clapper Rail Investigations on the South Shore of Long Island[1]

E. E. MacNamara and H. F. Udell[2]

Location and Description of Study Area

The Town of Hempstead, a heavily populated Township, lies in Nassau County, N. Y., its western boundary bordering New York City. The municipality owns the bay bottoms and enclosed tidal islands. In order to perpetuate the wetlands resource for future generations, these lands, on the south shore of Long Island, have been dedicated to conservation resource management. A municipal department of conservation has been created by the Town of Hempstead to manage and develop scientifically the marine resources. The creation of a municipal department of conservation is believed to be unique.

The study reported here is part of the assessment and evaluation investigations being done by this department. Both the interests of the local public and the international scientific fraternity are served by the reporting of these data.

Introduction

The Clapper Rail (*Rallus longirostris*), a secretive and relatively little-known inhabitant of the Town of Hempstead marshes, and its ecology were the object of detailed investigations during the spring of 1965. The breeding densities, reproduction, environmental preferences, and food habits of this important game bird are very poorly known for the South Shore area of Long Island. The paucity of published data is appalling. Unique opportunities to contribute to the ecology of the Clapper Rail and, more expressly, to the knowledge of fluctuations in population levels within the Atlantic Flyway, are present within the lands owned and controlled by the Town of Hempstead.

Early information concerning the Clapper Rail was assembled by Bent (1926). Stone (1937) presented the natural history of the Clapper Rail at Cape May, N. J. Aspects of nesting behavior, brooding, and rearing were reported by Pettingill (1938). More recently, many investigations have been conducted and reported concerning various aspects of environmental preferences,

[1] Final Report to Town of Hempstead, N. Y., of 1965 investigations.

[2] Dr. E. E. MacNamara is former Conservation Biologist and H. F. Udell is Director of the Department of Conservation and Waterways, Town of Hempstead, N. Y.

nesting, behavior, migration, food habits, and territoriality. These include Kozicky and Schmidt (1949), Schmidt and McLain (1951), and Ferrigno (1957, 1965) in New Jersey, Stewart (1951, 1952, 1953, 1954) in Virginia, Oney (1954) and Zucca (1954) in Georgia, and Adams and Quay (1958) in North Carolina. The obvious need for data from the Long Island region prompted a manifold bioenvironmental investigation.

Methods and Procedures

The initial field investigations, begun in March, 1965, included the determination, location, and observation of the winter Clapper Rail population. Upon arrival of the breeding population, suitable census techniques were developed. These included track counts, early morning call recording, actual flushing by driving at high tide, nest location, and brood observations at various times of day and stages of tide.

Search for nests was begun in April. Nests were located by systematically transecting, on foot and by use of a trained dog, the tidal island marshes. Nests were marked by lath which was consecutively numbered. Observations were continued on a twice-weekly basis until the eggs either successfully hatched or were destroyed.

Food habits were studied briefly by actual field observations, as was parental behavior.

DATA AND DISCUSSION

Winter Population

Winter track census of the Clapper Rail is feasible within the Town of Hempstead because the combination of tide magnitude, tide velocity, and physical nature of the ditch bottoms erases rail tracks within one tide cycle. Adams and Quay (1958) were not able to use the track-census method in their study. It would appear that the validity of application of this method must be determined for each individual area. A maximum number of 18 Clapper Rails remained within the Town of Hempstead lands throughout the winter months. This minor wintering population was randomly distributed throughout the wetlands and exhibited no community behavior.

The initial influx of migrants from the southerly climes occurred in late March, although the number of birds arriving prior to mid-April was limited. Courtship activities began immediately upon arrival.

Nesting

Primary Attempt: One hundred ninety-six Clapper Rail nests were located, ninety-nine of which were kept under observation. Sixty-seven of the latter were within the Town-owned wetlands. The remainder of the nests kept under observation were on lands owned by the Long Island State Park Commission.

Initial dates of egg-laying based on 196 nests located within the Town-owned wetlands, are presented in Table 1. The occurrence of cast eggs and of nests abandoned prior to initiation of incubation are excluded from this Table. Three nests constructed in April were abandoned prior to incubation. Nests located after 4 July were assumed to be second nesting attempts.

Secondary Attempt: A minimum of ten nests was deemed to be renest attempts. It is feasible to assume that a percentage of the nests located in the latter part of June also represent second attempts, but precisely what the percentage is must remain unknown.

One illuminating aspect, representative of the strength of the reproductive drive, was the location and observation of a clutch that successfully hatched on Aug. 20. This late date may well represent a record for the more northerly breeding population.

Table 1

Initiation of Egg Laying
Based on Date of First Egg in New Nests found, by Weeks[1]

Week	Number of New Nests
April 11-17	6
April 18-24	11
April 25-May 1	11
May 2- 8	39
May 9-15	58
May 16-22	32
May 23-29	9
May 30-June 5	7
June 6-12	2
June 13-20	2
June 21-28	5
June 29-July 3	4
July 4-11	4
July 12-19	3
July 20-27	2
July 28-Aug. 4	1
	196 Nests

[1] Date of first egg determined by back-dating when necessary, allowing one day for each egg in nest at time of discovery.

Table 2

Clutch Size, and Nesting Success of the Clapper Rail within the Wetlands of the Town of Hempstead, 1965

Clutch Size	Number of Eggs Hatched	Infertile	Dead in Embryonic Stage	Week of Hatch	Cause of Nest Failure
13	10	—	—	June 6-12	
7	6	—	1	June 6-12	
7	7	—	—	June 6-12	
5	5	—	—	June 6-12	
13	11	2	—	June 13-19	
10	10	—	—	June 13-19	
9	9	—	—	June 13-19	
10	10	—	—	June 13-19	
11	11	—	—	June 13-19	
13	10	—	—	June 13-19	
10	9	—	3	June 13-19	
10	10	—	—	June 13-19	
9	8	—	—	June 13-19	
7	7	—	—	June 13-19	
7	6	1	—	June 13-19	
7	7	—	—	June 13-19	
5	5	—	—	June 13-19	
13	9	3	1	June 13-19	
11	10	1	—	June 13-19	
7	7	—	—	June 13-19	
11	9	2	—	June 13-19	
10	9	—	1	June 13-19	
10	9	—	1	June 13-19	
3	3	—	—	June 13-19	
11	11	—	—	June 13-19	

Clutch Size	Number of Eggs Hatched	Infertile	Dead in Embryonic Stage	Week of Hatch	Cause of Nest Failure
9	8	1	—	June 13-19	
10	9	—	1	June 13-19	
10	10	—	—	June 13-19	
10	8	2	1	June 13-19	
10	10	—	—	June 13-19	
10	10	—	—	June 13-19	
11	9	2	—	June 13-19	
11	10	—	1	June 13-19	
8	8	—	—	June 13-19	
11	10	—	—	June 20-26	
10	10	—	—	June 20-26	
9	8	—	—	June 20-26	
9	9	—	—	June 20-26	
7	6	—	—	June 20-26	
9	7	—	—	June 20-26	
7	6	—	—	June 20-26	
7	6	—	—	June 20-26	
9	8	—	1	June 20-26	
10	10	—	—	June 20-26	
11	9	2	—	June 20-26	
11	10	—	1	June 20-26	
10	10	—	—	June 20-26	
9	8	—	—	June 27-July 3	
11	11	—	—	June 27-July 3	
12	9	2	1	June 27-July 3	
7	7	—	—	June 27-July 3	
9	3	1	5	June 27-July 3	
9	9	—	—	June 27-July 3	

Clutch Size	Number of Eggs Hatched	Infertile	Dead in Embryonic Stage	Week of Hatch	Cause of Nest Failure
9	0	—	9	June 27-July 3	
11	9	1	1	June 27-July 3	
9	9	—	—	June 27-July 3	
12	10	—	2	June 27-July 3	
9	8	—	1	July 4-11	
7	7	—	—	July 4-11	
8	8	—	—	July 4-11	
11	7	—	4	July 4-11	
7	5	1	1	July 12-19	
7	7	—	—	July 12-19	
9	4	—	5	July 12-19	
11	3	—	8	July 12-19	
7	7	—	—	July 20-27	
10	9	—	—	July 20-27	
7	5	1	1	July 28-Aug. 4	
9	7	2	—	July 28-Aug. 4	
9	9	—	—	Aug. 5-Aug. 12	
7	5	—	2	Aug. 13-Aug. 20	
9	0	?	?	?	Destroyed by Gulls
11	0	?	?	?	Destroyed by Gulls
9	0	?	?	?	Destroyed by Gulls
12	—	—	—	—	Destroyed by Tide
7	0	?	?	?	Destroyed by Gulls
4	0	?	?	?	Abandoned
7	0	?	?	?	Destroyed by Gulls
7	0	?	?	?	Destroyed by Gulls
9	0	—	1	?	Destroyed by Gulls

Table 2 presents the nesting and fertility data, as well as the date of hatch. Summarization of these data shows the average clutch size to be 9.14. Average number of chicks per clutch was 8.10. Average clutch size for successful nests was 9.24. Average clutch size for nests during the first half of the period of observation was 10.45, and during the second half was 8.36. Nesting success was 87.65%. Successful nests per acre were 0.27.

The clutch sizes are statistically similar to those reported in New Jersey by Stone (1937), Kozicky and Schmidt (1949), Schmidt and McLain (1951), and Ferrigno (1965).

The high nesting success for initial nesting in 1965 contrasts with that of New Jersey[3] for the same period. Nest location and meteorological conditions were more favorable for nesting success on Long Island than in New Jersey for this period.

Nest Location

Of a total of 137 Clapper Rail nests[4], 44 or 32.2% were located in the *Spartina patens* communities of small areal extent that occur in association with the dominant short *S. alterniflora* community. Thirty-one nests, or 22.6% of the total were located on the littoral drift (composed mainly of *Phragmites communis* and *Spartina alterniflora* stems) entrapped on the meadows. Twenty-two nests, or 16.0% were located on the *Iva*-turf levees, twelve nests or 8.7% were found in the *Phragmites communis* association or on hydraulic fill areas. Only twenty-one nests, or 15.9%, were in medium and tall *Spartina alterniflora* marsh. Seven nests, or 4.6%, were in situations which must be classified as miscellaneous, including on top of a piling and an abandoned cane chair.

Only 37 nests possessed "domes" of one type or another. The remainder, with the exception of the 31 nests in Phragmites were completely exposed.

The restricted use of the tall and medium growths of *Spartina alterniflora* for nesting sites is in distinct opposition to that reported in New Jersey by Kozicky and Schmidt (1949), Schmidt and McLain (1951) and Ferrigno (1965), in Virginia by Stewart (1951), in Georgia by Oney (1954) and in North Carolina by Adams and Quay (1958). Based on only one season's observations, it is impossible to conclude if this apparent disagreement with the works of these other noted researchers is valid.

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[3] Personal communication, Fred Ferrigno, N. J. Division of Fish and Game 6/65.

[4] The nest consists of matted grass and sedge and is built up to a height of from 6 to 15 inches above the floor of the meadow and it is sometimes arched over above by the growing grass amongst which it is built.

The spring of 1965 was cool and dry, and *S. alterniflora* growths were not luxuriant at the time of initial nest construction. It may be possible that the only suitable nesting sites existent at the beginning of the nesting season were *S. patens* clumps and littoral drift. Continuation of this study in succeeding years may answer the question of the preferred nesting habitat on the Long Island South Shore marshes. Significantly, the percentage of total completed nests destroyed by storm and lunar tides in 1965 on the Town-owned wetlands was much less than that reported by Ferrigno[5] in New Jersey. In New Jersey in 1965, the preferred nesting habitats were in the medium and tall *S. alterniflora* communities associated with zonation from tidal ditches.

It is most significant to point out that all secondary nesting attempts were located in tall and medium *Spartina alterniflora.* This is an apparent shift in preferred nesting habitat from the initial report in this series (MacNamara, 1965).

Excessively high tides, the result of strong southerly winds, did occur on July 3 and 4. The remaining nests on the Parkway lands, and the first located renesting attempts were destroyed during this period.

The peak of the hatching period agrees almost perfectly with that of New Jersey, being June 16-21 (Kozicky and Schmidt, 1949). This correlation was expected, for the two areas are climatologically similar. Distribution of hatching dates are presented in Table 3.

Table 3

Week of Successful Hatch

Week	Number of Nests
May 30 - June 5	2
June 6 - June 12	9
June 13 - June 19	41
June 20 - June 26	18
June 27 - July 3	12
July 4 - July 11	4
July 12 - July 19	4
July 20 - July 27	2
July 28 - Aug. 4	2
Aug. 5 - Aug. 12	1
Aug. 13 - Aug. 20	1
Total	96

[5] Personal communication, Fred Ferrigno, N. J. Division of Fish and Game, 6/65.

Food Habits

Almost universally, the investigators of Clapper Rail food habits have reported fiddler crabs (*Uca* spp.), to be the major food. Populations of these crabs are exceedingly variable on the Town-owned wetlands, and are very low in comparison to New Jersey marshes over much of the area. The fiddler crab population did not reappear from hibernation until the latter part of May. Active feeding on various Crustacea was observed indicating the varied diet of the rail.

Rails were observed feeding on the Green Crab (*Carcinides maenas*), the Mud Crab (*Neopanope texana sayi*), the Blue Crab (*Callinectes sapidus*), and the beach fleas (*Orchestia platensis* and/or *O. grillus*). On two occasions, Clapper Rails were seen feeding on stranded hermit crabs (*Pagarus* sp.). The latter cases appeared to be chance happenings rather than the result of actual food searches.

It is difficult to ascertain whether an actual preference for *Uca* sp. as a food is present, or whether the foods utilized are those first encountered. (Future observations may aid in the solution of preferential food habits.) Utilization of the Crustacea as a group rather than fiddler crabs specifically may be a common phenomenon or may be an indirect result of a late spring and restricted availability of a preferred food.

Parental Behavior and Care

Disturbances of the incubating parent produced varying responses, apparently independent of the stage of incubation prior to pipping. Responses included apparent aimless flights, the characteristic "broken-wing" displays, aggressive "attention-distracting" displays, and bewilderment. Repeated disturbances, on a twice-daily basis, did not cause abandonment of the nest, nor did the brooding birds ever appear to become conditioned to the unannounced or announced arrivals of the investigator. It is believed that these observations and repeated disturbances, obviously a deviation from the ordinary reproductive routine, illustrate the strength of the instinctive cyclic incubation drive of the Clapper Rail.

As the pipping period approached, greater difficulty was encountered in driving brooding birds from the nest. Return to the nest was often made in the presence of one or more investigators. Actual antagonistic advances were made toward the investigator on several occasions, physical contact occurring once.

Usually both parents were in attendance during the hatching period. One, apparently the male, served mainly as a decoy until

the hatching process was well under way, and then undertook brooding duties.

Encounters with broods between 1 and 4 days old usually resulted in one bird attempting to distract the investigator through various displays, while the other parent led the chicks to safety.

Family groups could usually be located by the peeping of the chicks and the subdued clucks of the adults. The adults were observed catching fiddler crabs (*Uca* spp.), and Blue Crabs (*Callinectes sapidus*) and allowing the chicks to eat the fragments.

Brood nests, of the type described by Adams and Quay (1958), were a rarity on the Town of Hempstead marshes. This is probably because of the great abundance of littoral drift which furnishes cover and protection from tide. Many observations of the use of littoral drift as an overnight brooding spot were made. On several occasions, use of the egg nest for brooding purposes was recorded.

On one occasion, three broods were observed within 70 meters of a ditch, indicating territoriality conflicts may not be of great importance during the brooding period.

Brooding activities appeared to cease between the eighth and tenth weeks, although the number of observations made was limited.

Mortality of Immature Birds

Mortality during the brooding and flightless periods appears to be an appreciable factor in limiting Clapper Rail populations. Following a brief but heavy thundershower, numerous drowned rail chicks were seen. One brood, under intensive observation during this shower, lost five members, 50% of the brood. The attempt to cover all the chicks by the hen, by fluffing out her feathers, was nullified by the driving winds which held the feathers against her body on the windward side.

Dogs, running at large on the public lands, killed many chicks as well as numerous adults which had attempted to distract the attacking animals from the brood. The apparent lack of concern by the public for the welfare of flightless and nesting birds on the tidal marshes was referred to by MacNamara (1965) in a previous report.

A unique death was observed. An immature Clapper Rail running on a ditch bank inserted its foot into the open valve of a Bank Mussel (*Modiolus demissus plicatulus*). The mollusk closed and entrapped the bird. Tidal rise caused death by drowning. In its struggle to escape, the bird fractured both a leg and a wing.

Appendix

I. Description of plant associations as used in this report.

A. Associations with hydraulic fill:

The wetlands owned by the Town of Hempstead have been altered by man's past activities. Natural productivity of tidal marshes has been reduced by the emplacement of sandy hydraulic spoil removed from the waterways and bay bottoms. The spoil areas are easily recognized as they form distinct topographic highs on the normally flat marsh landscape. Heights are usually of such a magnitude that no inundation occurs except that associated with the infrequent hurricanes.

Colonization of the dry sites by Reed Grass (*Phragmites communis*), Groundselbush (*Baccharis halimifolia*), Sea Myrtle (*Myrica pensylvanica*), High Tide Bush (*Iva frutescens*), and assorted grasses and sedges has occurred. When Reed Grass forms the greater part of the canopy the community is referred to as: A-1 Phragmites Association. If the above-mentioned shrubs are co-dominates of the canopy, the community is called: A-2 Shrub Association.

B. Turf—*Iva* levee association:

Levees often parallel tidal ditches and are the result of sedimentation processes associated with flow velocity reduction by emergent vegetation. Artificial levees that are the result of the sod cutting when constructing mosquito ditches are also common. The latter type of levee predominates within the study area. These slightly elevated areas are usually covered with a luxuriant growth of Salt Hay (*Spartina patens*). Clumps of High Tide Bush (*Iva frutescens*) are often present. This type of habitat is seldom wider than one meter or longer than some few tens of meters.

C. *Spartina patens*—High Meadow:

On the tidal marshes of the Town of Hempstead, there are present many small discrete areas of slightly raised elevation. These are occupied by plant communities dominated by Salt Hay (*Spartina patens*). Also present are halophytic chenopods, (*Salsola hali, Salicornia europala, Salicornia virginica*), and Salt Grass (*Distichlis spicata*).

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Supplement to The Birds of Central and Prospect Parks

GEOFFREY CARLETON

Some of the following remarks may apply to the original list (Carleton, 1958) or to both it and the present Supplement.

There are in many instances striking similarities in arrival and departure dates as between Central and Prospect Parks; in not a few cases they fall on the same day. Some species are found to be more common in Prospect than in Central Park. The author believes the reason to be that they tend to migrate near the coast, for example: loons, Double-crested Cormorant, terns, Connecticut Warbler, Henslow's and Lark Sparrows.

Rarities in Prospect Park from 1947 to 1953 included Northern Phalarope, Bewick's Wren, Swainson's Warbler (which appeared the day of the record number of species), Prothonotary Warbler, Townsend's Warbler, Blue and Pine Grosbeaks, and Henslow's, Lark, and Bachman's Sparrows. Other unusual finds have been Purple Sandpiper and Caspian Tern. Notable records from Central Park alone include Common or European Teal, Lesser Black-backed Gull, Western Kingbird, Dickcissel, and Baird's Sparrow.

Because of the drought and resultant water shortage in 1965 and 1966, more water from shallower sources than usual was taken into the Central Park Reservoir, and more chlorine and copper sulfate added. It was noted that there were many fewer ducks than usual there in the winter of 1966-67. In the 1960's there have been progressively fewer ducks visiting the Prospect Park Lake.

Prospect Park birding has suffered a great loss in the passing of Edward J. Whelen, as has Central Park in the death of Pauline Messing.

The present Supplement includes records through the spring migration of 1967. The 1958 list for Central Park totaled 250 forms, after deletion of Bell's Vireo (considered not adequately identified), but including Black-backed Three-toed Woodpecker (Addendum to the 1958 paper, p. 60). Additions are Least Bittern, Snow Goose, Whimbrel, White-rumped Sandpiper, Iceland Gull (*glaucoides*), Townsend's Warbler, and House Finch, bringing the total to 257.

The 1958 list for Prospect Park totaled 251 forms after deletion of Bell's Vireo and Oregon Junco. Species new are Cattle Egret, Black Skimmer, Scissor-tailed Flycatcher, Tufted Titmouse, House Finch, and Clay-colored Sparrow, bringing the total to 257. The total for both parks is now 281. This Supplement, like the

1958 paper, was edited by John Bull as well as by the Editorial Committee of the Linnaean Society. I have tried to keep the records consistent with those in Bull (1964).

Dates are listed in this Supplement which are earlier or later than those in the 1958 list, or which are additional for those rarer species for which every record was listed therein. A maximum count in the Supplement means one higher than that in the 1958 list, or the first maximum count obtained. Sections preceded by an asterisk mean that the paragraph has been completely rewritten to replace that in the 1958 paper; in some cases older records are included.

Corrections to Names of Observers

Edward J. Daly should read: Edwin J. Daly; Reginald K. Denham should read: Reginald Denham; Emilio Gonzales should read: Emilio Gonzalez; Joseph Phelan should read: Joseph R. Phelan.

Additions to Names of Observers

Michel Kleinbaum; Alene Mintz; Kenneth C. Parkes; Richard L. Plunkett; Richard B. Sichel; Helene Tetrault; Peter Tozzi, Jr.; Guy A. Tudor.

Podiceps grisegena RED-NECKED GREBE
CENTRAL PARK. Feb. 28, 1963 (Barr, Tudor).

Podiceps auritus HORNED GREBE
CENTRAL PARK. Oct. 21, 1959 (Carleton, Messing).
PROSPECT PARK. Oct. 10, 1963 (Raymond).

Podilymbus podiceps PIED-BILLED GREBE
CENTRAL PARK. May 26, 1961 (Carleton); Dec. 31, 1965 (Sichel).

Phalacrocorax auritus DOUBLE-CRESTED CORMORANT
CENTRAL PARK. Nov. 21, 1961 (Denham, Messing).
*PROSPECT PARK. Rare transient. March 26, 1950 (Russell) and Apr. 20, 1954 (Restivo, Usin) to May 26, 1961 (on Lake—Raymond); Sept. 11, 1947 (Jacobson) to Nov. 18, 1948 (Russell). Maximum 62 on Apr. 27, 1957 (Raymond).

Ardea herodias GREAT BLUE HERON
PROSPECT PARK. May 25, 1962 (Raymond).

Butorides virescens GREEN HERON
CENTRAL PARK. Maximum 25 on May 20, 1966 (Plunkett).

PROSPECT PARK. Dec. 18, 1959 (Raymond).

Bubulcus ibis CATTLE EGRET
PROSPECT PARK. May 11 to 15, 1962 (adult—Walter J. Lynch, Carleton, Raymond).

Ixobrychus exilis LEAST BITTERN
CENTRAL PARK. May 9, 1961 (in hawthorn tree—Herbert E. Hale, Carleton, Post, and many others).

Botaurus lentiginosus AMERICAN BITTERN
PROSPECT PARK. Apr. 8, 1959 (Carleton).

Cygnus olor MUTE SWAN
PROSPECT PARK. Dec. 11, 1963 (Raymond); 6, Jan. 9, 1965 (Raymond); 2, March 19, 1967 (Carleton).

Branta canadensis CANADA GOOSE
CENTRAL PARK. One on the Reservoir, Dec. 8, 1964 (Carleton).

Branta bernicla BRANT
*PROSPECT PARK. 7 records, Oct. 10, 1963 (Raymond) to Dec. 2, 1964 (Raymond); Apr. 27, 1957 (Buckley, Cashman); May 6, 1959 (Raymond). Maximum 50 on Nov. 2, 1946 (Grant, Tengwall).

Chen hyperborea SNOW GOOSE
CENTRAL PARK. Flock of 35, Nov. 16, 1958 (Post).
PROSPECT PARK. 5 on Feb. 23, 1964 (Raymond).

Anas platyrhynchos MALLARD
CENTRAL PARK. Maximum 175 on the Reservoir, Feb. 8, 1965 (Carleton).

Anas acuta PINTAIL
PROSPECT PARK. March 4, 1964 (Carleton, Raymond).

Anas carolinensis GREEN-WINGED TEAL
PROSPECT PARK. Dec. 3, 1959 (Raymond).

Mareca americana AMERICAN WIDGEON
CENTRAL PARK. Pair, May 29, 1965 (Carleton).

Spatula clypeata SHOVELER
CENTRAL PARK. Maximum 10 pairs, January, 1963 (Reservoir—Messing).
PROSPECT PARK. 2 males, June 6, 1965 (Raymond).

Aix sponsa WOOD DUCK
CENTRAL PARK. May 15, 1962 (Tudor).
PROSPECT PARK. Nov. 22, 1961 (Raymond).

Aythya collaris RING-NECKED DUCK
CENTRAL PARK. Apr. 9, 1962 (Carleton, Messing, Post).
PROSPECT PARK. May 4, 1965 (Carleton, Raymond).

Aythya valisineria CANVASBACK
PROSPECT PARK. March 31, 1960 (Raymond).

Aythya affinis LESSER SCAUP
CENTRAL PARK. Oct. 21, 1962 (Post); pair, May 20, 1967 (Carleton). Maximum 300 on Jan. 1, 1967 (Carleton).

Bucephala clangula COMMON GOLDENEYE
PROSPECT PARK. 3, Dec. 24, 1961 (Cashman). The Apr. 30 record should be deleted as not confirmed.

Bucephala albeola BUFFLEHEAD
PROSPECT PARK. Nov. 7, 1959 (Carleton); 3, Nov. 7, 1962 (Raymond, Yrizarry); March 7-8, 1966 (Carleton, Raymond).

Clangula hyemalis OLDSQUAW
*PROSPECT PARK. March 20, 1952 (female — Cashman, Daly).

Melanitta deglandi WHITE-WINGED SCOTER
PROSPECT PARK. Swan Boat Pond, Sept. 15 to Nov. 9, 1964 (Carleton, Raymond, Yrizarry).

Lophodytes cucullatus HOODED MERGANSER
*CENTRAL PARK. 7 records, Nov. 2, 1955 (Post) to Jan. 18, 1961 (Messing).
*PROSPECT PARK. Rare transient, appearing almost annually in the 1960's. Oct. 21, 1960 (Raymond) to Dec. 12, 1914 (Vietor); Feb. 28, 1961 (Carleton) to Apr. 16, 1966 (6 birds—Raymond), May 20, 1938 (Whelen) and May 27, 1942 (Russell); Aug. 12, 1913 (Vietor).

Mergus serrator RED-BREASTED MERGANSER
PROSPECT PARK. Nov. 25, 1961 (Carleton).

Cathartes aura TURKEY VULTURE
*PROSPECT PARK. Rare spring transient. March 19, 1908 (Fleisher) and Apr. 11, 1957 (Raymond) to May 14, 1952 (Restivo, Smith, Usin).

Buteo lineatus RED-SHOULDERED HAWK
CENTRAL PARK. Aug. 8, 1960 (Post).

Buteo platypterus BROAD-WINGED HAWK
CENTRAL PARK. June 3, 1959 (Post).

Rallus limicola VIRGINIA RAIL
CENTRAL PARK. May 9 to 18, 1967 (Carleton, Plunkett, Post, and many others); Sept. 29, 1961 (Parkes); Oct. 3, 1965 (Sichel).

Gallinula chloropus COMMON GALLINULE
CENTRAL PARK. Oct. 2, 1963 (Helen Hays).
PROSPECT PARK. May 26, 1963 (Bruce Gordon).

Fulica americana AMERICAN COOT

CENTRAL PARK. Starting with the fall of 1963 has wintered annually on the Reservoir; latest departure Apr. 13, 1966 (Wilma Toth). Maximum 8 on Nov. 24, 1966 (Carleton).

PROSPECT PARK. Oct. 1 to 20, 1963 (Raymond).

Charadrius vociferus KILLDEER

CENTRAL PARK. March 7, 1959 (Post); May 24, 1964 (Post).

Philohela minor AMERICAN WOODCOCK

PROSPECT PARK. Continuous records from Apr. 15, 1952 to May 16, 1963 (Raymond).

Numenius phaeopus WHIMBREL

CENTRAL PARK. 2 flying over early in the morning, Aug. 14, 1961 (Post).

Actitis macularia SPOTTED SANDPIPER

PROSPECT PARK. Oct. 13, 1965 (Raymond).

Tringa solitaria SOLITARY SANDPIPER

CENTRAL PARK. May 29, 1963 (Post, Tudor); July 28, 1962 (Post). Maximum 3 on May 9, 1961 (Post).

Totanus flavipes LESSER YELLOWLEGS

CENTRAL PARK. Aug. 9 and 15, 1964 (Post, Plunkett); 2 on lawn in storm, Sept. 28, 1962 (Post).

PROSPECT PARK. Calling bird, Sept. 13, 1954 (Yrizarry).

Erolia melanotos PECTORAL SANDPIPER

CENTRAL PARK. Aug. 9, 1964 (Post); on lawn in storm, Sept. 28, 1962 (Post).

Erolia fuscicollis WHITE-RUMPED SANDPIPER

CENTRAL PARK. On drained Harlem Meer, Aug. 15, 1964 (Robert G. Fisher, Plunkett).

Erolia minutilla LEAST SANDPIPER

CENTRAL PARK. May 22, 1965 (Carleton).

Ereunetes pusillus SEMIPALMATED SANDPIPER

CENTRAL PARK. Maximum 20, Aug. 9, 1964 (Post).

PROSPECT PARK. Maximum 9, Sept. 16, 1965 (Raymond).

Larus hyperboreus GLAUCOUS GULL

CENTRAL PARK. Dec. 27, 1960 (Carleton). Maximum 2 (adults) on Feb. 7, 1965 (Carleton, Post); there were also 2 or 3 adult Iceland Gulls that day and no immatures of either species, a very unusual situation.

PROSPECT PARK. March 31, 1963 (Nielsen, Raymond).

Larus glaucoides ICELAND GULL

CENTRAL PARK. Nov. 13, 1961 (Post).

Larus glaucoides glaucoides

CENTRAL PARK. Adult, Feb. 7, 1965 (Carleton); observed at less than 100 feet standing on the ice, it fanned the air with its wings twice. The primaries both extended and folded were pure white. This bird is recorded on the assumption that the nominate race is thus identified.

Larus glaucoides kumlieni

*CENTRAL PARK. Adults with gray spots on the wing tips are rare visitants from Jan. 4, 1959 (Post) to Apr. 20, 1956 (Post). Maximum 3, Feb. 15, 1958 (Carleton, Post).

Larus marinus GREAT BLACK-BACKED GULL

CENTRAL PARK. Maximum 165, Jan. 21, 1959 (Carleton).

PROSPECT PARK. Maximum 55, March 7, 1962 (Yrizarry).

Larus fuscus LESSER BLACK-BACKED GULL

CENTRAL PARK. March 6, 1963, standing on ice in company of Great Black-backed and Herring Gulls; photograph by Post seen by Carleton.

Larus argentatus HERRING GULL

CENTRAL PARK. In recent winters in late afternoon they often soar high in the air and depart eastward, contrary to statement in Carleton (1958).

Larus ridibundus BLACK-HEADED GULL

*CENTRAL PARK. Since 1958 a rare winter visitant; it occurred annually from 1960 to 1963. Nov. 4, 1961 (Bloom, Carleton, Messing) to Apr. 16, 1961 (Carleton, Post). Maximum 2, Jan. 13, 1963 (Messing).

Larus atricilla LAUGHING GULL

CENTRAL PARK. March 24, 1966 (Carleton). Present in the winter of 1962-63, February excepted (Messing, Post).

PROSPECT PARK. Apr. 9, 1964 (Raymond); Dec. 7, 1959 (Carleton).

Larus philadelphia BONAPARTE'S GULL

CENTRAL PARK. Feb. 8, 1959 (Post). Maximum 27, Nov. 27, 1959 (Messing).

*PROSPECT PARK. Rare transient and winter visitant. Nov. 7, 1954 (Yrizarry) to March 4, 1964 (Raymond); Apr. 18, 1943 (Russell) to May 5, 1955 (Raymond, Restivo, Smith) and May 27, 1951 (Alperin, Sedwitz).

Rissa tridactyla BLACK-LEGGED KITTIWAKE
PROSPECT PARK. Feb. 28, 1961 (albinistic—Carleton; see *Linnaean News-Letter*, v. 15 no. 3, May 1961).

Sterna hirundo COMMON TERN
PROSPECT PARK. 2, May 15, 1963 (Raymond).

Rynchops nigra BLACK SKIMMER
CENTRAL PARK. May 8, 1961 (Len Birnbaum).
PROSPECT PARK. Apr. 22, 1965 (Yrizarry).

Zenaidura macroura MOURNING DOVE
CENTRAL PARK. Nov. 24, 1963 (Carleton).
PROSPECT PARK. Since 1963 lingering into winter. Maximum 25, Nov. 18, 1964 (Raymond).

Coccyzus americanus YELLOW-BILLED CUCKOO
CENTRAL PARK. One found dead, Apr. 26, 1961 (Post).

Tyto alba BARN OWL
CENTRAL PARK. May 10, 1967 (Carleton, Plunkett; photographed by Post); Aug. 31, 1962 (Maumary).

Bubo virginianus GREAT HORNED OWL
CENTRAL PARK. May 21 to 23, 1966 (Tozzi, Plunkett).

Strix varia BARRED OWL
CENTRAL PARK. Oct. 31, 1965 (Harrison); Nov. 6 to Dec. 14, 1961 (Messing and many others).

Asio otus LONG-EARED OWL
PROSPECT PARK. Jan. 1, 1962 (Isabelle A. Ross).

Aegolius acadicus SAW-WHET OWL
CENTRAL PARK. Oct. 3, 1965 (Sichel).

Caprimulgus vociferus WHIP-POOR-WILL
PROSPECT PARK. Apr. 2, 1961 (John G. Doll).

Chordeiles minor COMMON NIGHTHAWK
CENTRAL PARK. May 30, 1963 (Joseph L. Horowitz).

Archilochus colubris RUBY-THROATED HUMMINGBIRD
CENTRAL PARK. Apr. 26, 1966 (Sedwitz).

Colaptes auratus YELLOW-SHAFTED FLICKER
CENTRAL PARK. Maximum 200, Oct. 3, 1959 (Bloom).

Centurus carolinus RED-BELLIED WOODPECKER
*CENTRAL PARK. 7 records. Apr. 28, 1962 (Plunkett) to May 28, 1967 (Plunkett); Oct. 6, 1961 (Mintz); Oct. 14, 1948 (Helmuth).
PROSPECT PARK. May 2, 1962 (Raymond); a bird appeared on Lookout Hill each year between May 13 and 16, from 1959 through 1963; also in 1966. A pair remained from

Oct. 31, 1966 (Carleton), until Christmas, and the male until Apr. 30, 1967 (Thelen).

Melanerpes erythrocephalus RED-HEADED WOODPECKER
PROSPECT PARK. May 21, 1958 (Raymond); Dec. 15, 1965 (Raymond).

Sphyrapicus varius YELLOW-BELLIED SAPSUCKER
CENTRAL PARK. May 21, 1959 (Messing, Post).
PROSPECT PARK. Maximum 13, Apr. 29, 1965 (Raymond).

Dendrocopos villosus HAIRY WOODPECKER
PROSPECT PARK. May 13, 1961 (Raymond).

Picoides arcticus BLACK-BACKED THREE-TOED WOODPECKER
CENTRAL PARK. Female photographed Sept. 28, 1958 (Bloom).

Tyrannus tyrannus EASTERN KINGBIRD
*CENTRAL PARK. Fairly common transient. Apr. 23, 1920 (Griscom) to May 31, 1963 (Post); June 26, 1937 (Carleton); Aug. 1, 1957 (Messing) to Oct. 1, 1934 (Cantor).

Tyrannus verticalis WESTERN KINGBIRD
CENTRAL PARK. Sept. 14, 1938 (Parkes).

Muscivora forficata SCISSOR-TAILED FLYCATCHER
PROSPECT PARK. May 20, 1959 (Raymond), one on the Long Meadow.

Myiarchus crinitus GREAT CRESTED FLYCATCHER
CENTRAL PARK. Apr. 25, 1961 (Tudor). Maximum 12, May 7, 1964 (Post).
PROSPECT PARK. Apr. 25, 1961 (Raymond); Oct. 13, 1965 (Raymond).

Sayornis phoebe EASTERN PHOEBE
CENTRAL PARK. March 8, 1964 (Post); Nov. 8, 1961 (Norse, Post); a pair built a nest in 1964 which was destroyed by boys.

Empidonax flaviventris YELLOW-BELLIED FLYCATCHER
CENTRAL PARK. 2, May 8, 1964 (Norse, Post, Tudor).

Empidonax virescens ACADIAN FLYCATCHER
CENTRAL PARK. Singing bird, May 28, 1963 (Carleton, Post, Tudor).

Empidonax minimus LEAST FLYCATCHER
PROSPECT PARK. Apr. 25, 1961 (Raymond).

Contopus virens EASTERN WOOD PEWEE
CENTRAL PARK. Oct. 11, 1958 (Messing).

Nuttallornis borealis OLIVE-SIDED FLYCATCHER
CENTRAL PARK. Maximum 2, May 28, 1967 (Plunkett).

Iridoprocne bicolor TREE SWALLOW
CENTRAL PARK. 14, March 31, 1964 (Denham). Spring maximum 50, May 19, 1966 (Carleton).

Riparia riparia BANK SWALLOW
CENTRAL PARK. Maximum 5, May 19, 1966 (Carleton).

Stelgidopteryx ruficollis ROUGH-WINGED SWALLOW
CENTRAL PARK. May 20, 1966 (Plunkett, Tudor).

Hirundo rustica BARN SWALLOW
CENTRAL PARK. Spring maximum 75, May 19, 1966 (Carleton).

Progne subis PURPLE MARTIN
CENTRAL PARK. Maximum 10, Apr. 25, 1963 (Denham).

Parus atricapillus BLACK-CAPPED CHICKADEE
CENTRAL PARK. Arrival Aug. 20, 1961 (Post).

Parus bicolor TUFTED TITMOUSE
CENTRAL PARK. Now a regular winter resident. A pair lingered through May, 1966; no evidence of nesting.
PROSPECT PARK. Two birds appeared Nov. 5, 1960, and the species has been resident since; no evidence of nesting. Maximum 4, Dec. 26, 1965 (Raymond).

Sitta carolinensis WHITE-BREASTED NUTHATCH
CENTRAL PARK. May 14, 1966 (Carleton, Tetrault).

Certhia familiaris BROWN CREEPER
CENTRAL PARK. Maximum 14 on Apr. 17, 1963 (Post, Tudor).

Troglodytes aedon HOUSE WREN
CENTRAL PARK. Apr. 16, 1960 (Carleton). Maximum 8, May 7, 1964 (Post).
PROSPECT PARK. Apr. 16, 1960 (Carleton).

Troglodytes troglodytes WINTER WREN
CENTRAL PARK. The Aug. 22, 1957 date should be deleted; note House Wren record about the same time.
PROSPECT PARK. Continuous records from Nov. 14 to Dec. 11.

Thryothorus ludovicianus CAROLINA WREN
CENTRAL PARK. A bird present during September and October, 1959 (Carleton and many others); May 13, 1966 (Gonzalez).
PROSPECT PARK. Jan. 7, 1958 (Raymond).

Telmatodytes palustris LONG-BILLED MARSH WREN
CENTRAL PARK. May 23, 1966 (Carleton).

Mimus polyglottos MOCKINGBIRD
CENTRAL PARK. Apr. 16, 1960 (Carleton, Harrison). Bred in 1963 (Post).
PROSPECT PARK. Nov. 15, 1965 (Raymond).

Hylocichla mustelina WOOD THRUSH
PROSPECT PARK. Apr. 23, 1964 (Raymond); Nov. 8, 1961 (Raymond).

Hylocichla ustulata SWAINSON'S THRUSH
CENTRAL PARK. Apr. 22, 1961 (Messing, Tudor). Continuous records from Oct. 20 to Nov. 12.

Hylocichla fuscescens VEERY
PROSPECT PARK. Oct. 5, 1959 (Fleisher).

Sialia sialis EASTERN BLUEBIRD
CENTRAL PARK. Oct. 12, 1959 (Carleton); Nov. 24, 1960 (Post).

Polioptila caerulea BLUE-GRAY GNATCATCHER
CENTRAL PARK. Nov. 15, 1960 (Bloom).
PROSPECT PARK. Nov. 6 to 27, 1959 (Cashman, Raymond, Restivo).

Regulus satrapa GOLDEN-CROWNED KINGLET
CENTRAL PARK. May 14, 1961 (Tudor).
PROSPECT PARK. March 17, 1964 (Raymond); Dec. 18, 1959 (Raymond).

Regulus calendula RUBY-CROWNED KINGLET
*CENTRAL PARK. Fairly common transient. March 28, 1961 (Bloom) to May 21, 1950 (Cantor); Sept. 15, 1913 (Hix) to Dec. 5, 1948 (Helmuth); Jan. 5, 1964 (Carleton). Maximum 20, Apr. 18, 1965 (Carleton).

Anthus spinoletta WATER PIPIT
*CENTRAL PARK. Rare spring, uncommon fall transient, usually in flocks. Apr. 6, 1957 (Bruce Gordon) to May 7, 1961 (Post); Sept. 27, 1958 (Post) to Nov. 20, 1961 (Post); 3 winter records. Maximum 30, Oct. 6, 1956 (Messing, Post).
PROSPECT PARK. Maximum 24, Nov. 8, 1959 (Raymond).

Lanius ludovicianus LOGGERHEAD SHRIKE
PROSPECT PARK. March 30, 1962 (Carleton).

Vireo bellii BELL'S VIREO
The records from both Parks should be deleted. See Bull (1964).

Vireo flavifrons YELLOW-THROATED VIREO
CENTRAL PARK. Maximum 6, May 11, 1913 (Helmuth).

Vireo solitarius SOLITARY VIREO
PROSPECT PARK. Spring maximum 12, May 6, 1950 (Kreissman).

Vireo olivaceus RED-EYED VIREO
CENTRAL PARK. Oct. 30, 1960 (Post); Nov. 9, 1961 (Messing, Post).

Vireo philadelphicus PHILADELPHIA VIREO
*CENTRAL PARK. Very rare spring, rare fall transient. May 11, 1927 (Griscom) to May 22, 1952 (Messing) and June 1, 1927 (Johnston); Aug. 23, 1955 (Post) to Sept. 23, 1952 (Messing, Post). See Bull (1964) on confusion with Warbling Vireo.
PROSPECT PARK. Oct. 8 and 14, 1961 (Yrizarry).

Vireo gilvus WARBLING VIREO
CENTRAL PARK. Apr. 29, 1902 (Chubb).
PROSPECT PARK. Bred in 1900 (Braislin).

Mniotilta varia BLACK-AND-WHITE WARBLER
CENTRAL PARK. Apr. 17, 1964 (Carleton, Mackenzie, Post); May 31, 1963 (Post, Tudor).
PROSPECT PARK. Apr. 13, 1959 (Cashman).

Protonotaria citrea PROTHONOTARY WARBLER
PROSPECT PARK. May 14, 1961 (Raymond, Esther K. Swayer).

Helmitheros vermivorus WORM-EATING WARBLER
CENTRAL PARK. May 21, 1961 (Bloom).

Vermivora pinus BLUE-WINGED WARBLER
CENTRAL PARK. Apr. 15, 1960 (Vera Gordon, Harrison, O'Keefe).

Vermivora chrysoptera X pinus LAWRENCE'S WARBLER
CENTRAL PARK. May 8, 1960 (Mintz).

Vermivora peregrina TENNESSEE WARBLER
CENTRAL PARK. June 2, 1967 (Carleton).
PROSPECT PARK. Nov. 7, 1962 (Yrizarry).

Vermivora ruficapilla NASHVILLE WARBLER
CENTRAL PARK. Oct. 30, 1960 (Post). Maximum 5, April 28, 1924 (Helmuth).
PROSPECT PARK. Nov. 2, 1965 (Yrizarry). Delete maximum of 105. Maximum 5, Sept. 13, 1964 (Yrizarry).

Parula americana PARULA WARBLER
CENTRAL PARK. Apr. 18, 1959 (Post); Aug. 8, 1960 (Post).

Continuous records from Oct. 17 (1914) to Nov. 6, 1960 (Messing); Nov. 20, 1966 (Mintz).

Dendroica petechia YELLOW WARBLER
CENTRAL PARK. May 31, 1962 (Post, Tudor); June 3, 1967 (Carleton).

Dendroica magnolia MAGNOLIA WARBLER
*CENTRAL PARK. Common transient. Apr. 27, 1935 (Eliot) to June 11, 1907 (Chubb); June 23, 1953 (Skelton); Aug. 16, 1911 (Hix) to Oct. 26, 1962 (Carleton).
PROSPECT PARK. Fall maximum 45, Sept. 13, 1964 (Yrizarry).

Dendroica tigrina CAPE MAY WARBLER
PROSPECT PARK. Apr. 23, 1960 (male—Cashman, Malone, Restivo).

Dendroica caerulescens BLACK-THROATED BLUE WARBLER
CENTRAL PARK. Aug. 15, 1964 (male—Plunkett).
PROSPECT PARK. Maximum 30, May 10, 1946 (P. Wells, Whelen).

Dendroica coronata MYRTLE WARBLER
CENTRAL PARK. Aug. 2, 1960 (Messing, Post).
PROSPECT PARK. Maximum 1000, Oct. 15, 1950 (Alperin, Jacobson).

Dendroica townsendi TOWNSEND'S WARBLER
CENTRAL PARK. Singing subadult male, May 4, 1963 (Cantor, Benjamin Gilbert, Betsy Loeb; see *Linnaean News-Letter*, v. 18 no. 2, Apr. 1964).

Dendroica cerulea CERULEAN WARBLER
*CENTRAL PARK. 12 records. Apr. 29, 1963 (Carleton, Kleinbaum, Messing) to May 23, 1961 (female—Gonzalez, Harrison, Mackenzie); Aug. 3 to 6, 1937 (Alperin, Carleton, Stephenson); Sept. 15, 1923 (Boulton).
*PROSPECT PARK. 8 records. May 8, 1963 (Carleton) to May 17, 1945 (Soll, Whelen); Sept. 25 and Oct. 5, 1946 (Alperin, Jacobson).

Dendroica fusca BLACKBURNIAN WARBLER
CENTRAL PARK. Apr. 24, 1964 (Carleton); Apr. 25, 1961 (Messing, Tudor).

Dendroica dominica YELLOW-THROATED WARBLER
CENTRAL PARK. Apr. 15, 1960 (Harrison, Mackenzie, Post).

Dendroica pensylvanica CHESTNUT-SIDED WARBLER
CENTRAL PARK. Male, Apr. 16, 1967 (Mr. and Mrs. Harold J. Drescher, Louis Duhl); Oct. 12, 1958 (Post); Nov. 13, 1958 (Messing).

Dendroica castanea BAY-BREASTED WARBLER

CENTRAL PARK. Oct. 5, 1961 (Post, Tudor); Oct. 12, 1958 (Post).

Dendroica striata BLACKPOLL WARBLER

CENTRAL PARK. Maximum 200, Sept. 24, 1963 (Kleinbaum).

Dendroica pinus PINE WARBLER

CENTRAL PARK. Continuous records from March 23 to 29.

Seiurus aurocapillus OVENBIRD

CENTRAL PARK. Maximum 200, May 11, 1914 (Helmuth).

Seiurus noveboracensis NORTHERN WATERTHRUSH

PROSPECT PARK. Nov. 15, 1961 (Yrizarry). Maximum 55, Sept. 13, 1964 (Yrizarry).

Oporornis formosus KENTUCKY WARBLER

CENTRAL PARK. May 1, 1967 (Daly, Berta Drescher, Mintz); May 7, 1964 (Carleton, Harrison).

Oporornis agilis CONNECTICUT WARBLER

CENTRAL PARK. Immature male singing and walking, June 3, 1967 (Plunkett).

PROSPECT PARK. The May 10, 1951, record should be deleted as not confirmed.

Oporornis philadelphia MOURNING WARBLER

CENTRAL PARK. Sept. 16, 1961 (Messing); Oct. 9, 1963 (Carleton). Maximum 7, May 21, 1966 (Tozzi).

PROSPECT PARK. Aug. 29, 1965 (Yrizarry).

Geothlypis trichas YELLOWTHROAT

CENTRAL PARK. Continuous records from Apr. 18 to 23. Maximum 250, May 11, 1914 (Helmuth).

PROSPECT PARK. Fall maximum 55, Sept. 13, 1964 (Yrizarry).

Icteria virens YELLOW-BREASTED CHAT

PROSPECT PARK. Continuous records from Oct. 16 to Nov. 19.

Wilsonia citrina HOODED WARBLER

CENTRAL PARK. Apr. 26, 1964 (Carleton, Post). Maximum 4, May 11, 1960 (Carleton).

Wilsonia pusilla WILSON'S WARBLER

CENTRAL PARK. The maximum of 100 (Carleton, 1958) seems excessive.

PROSPECT PARK. May 4, 1965 (Raymond). Maximum 10, Sept. 16, 1954 (Yrizarry).

Setophaga ruticilla AMERICAN REDSTART
CENTRAL PARK. Apr. 25, 1960 (Sanford G. Goldman).
PROSPECT PARK. Nov. 19, 1965 (Raymond).

Dolichonyx oryzivorus BOBOLINK
CENTRAL PARK. Continuous records from May 18 (1934) to May 29, 1963 (Messing).

Agelaius phoeniceus RED-WINGED BLACKBIRD
PROSPECT PARK. Continuous records from Nov. 19 to Dec. 3.

Icterus spurius ORCHARD ORIOLE
CENTRAL PARK. Apr. 25, 1961 (Tudor).

Icterus galbula BALTIMORE ORIOLE
PROSPECT PARK. Feb. 13, 1961 (Carleton, Raymond).

Euphagus carolinus RUSTY BLACKBIRD
CENTRAL PARK. May 23, 1963 (Tudor).
PROSPECT PARK. Feb. 21, 1961 (Raymond); Jan. 15, 1966 (Yrizarry).

Quiscalus quiscula COMMON GRACKLE
CENTRAL PARK. Maximum 1350, Nov. 1, 1962, 1000 in one flock, all flying over (Carleton).

Piranga rubra SUMMER TANAGER
CENTRAL PARK. Sept. 10, 1963 (Messing).

Pheucticus ludovicianus ROSE-BREASTED GROSBEAK
CENTRAL PARK. July 28, 1962 (Post); Oct. 5, 1961 (Post).
PROSPECT PARK. July 31, 1965 (Yrizarry). Maximum 12, Sept. 23, 1966 (Carleton).

Guiraca caerulea BLUE GROSBEAK
CENTRAL PARK. Sept. 19, 1964 (Tetrault); Sept. 29, 1962 (Post).
PROSPECT PARK. Oct. 3 to 7, 1960 (Restivo); Oct. 12 to 16, 1966 (Carleton, Thelen).

Passerina cyanea INDIGO BUNTING
CENTRAL PARK. May 30, 1958 (Post).
PROSPECT PARK. Continuous records from Oct. 11 to 20.

Hesperiphona vespertina EVENING GROSBEAK
*CENTRAL PARK. Rare transient, recorded first in 1948, annually in May since 1955, and sometimes also in other months. Oct. 5, 1961 (Post, Tudor) to Dec. 15, 1961 (Post); 2 winter records; Apr. 23, 1964 (Tudor) to May 24, 1960 (Maumary). Maximum 38, Oct. 15, 1961 (Bloom).

PROSPECT PARK. Continuous records from Dec. 2 (1945) to Dec. 24, 1963 (Raymond). Apr. 12, 1966 (Raymond ; Apr. 22, 1960 (Cashman).

Carpodacus mexicanus HOUSE FINCH

CENTRAL PARK. Apr. 8 (Carleton) and 26 (Sedwitz), 1966, a single male in each case.

PROSPECT PARK. Oct. 10 to 15, 1963; Sept. 27 to Nov. 2, 1965; both sexes represented, maximum 3 each year; Apr. 6 and 16, 1966 (all Raymond); 2, Oct. 2, 1966 (Carleton).

Pinicola enucleator PINE GROSBEAK

CENTRAL PARK. Dec. 24, 1965 (Janvrin).

Acanthis flammea COMMON REDPOLL

CENTRAL PARK. Oct. 28, 1959 (Messing).

PROSPECT PARK. Nov. 2, 1961 (Carleton); Nov. 3, 1959 (Carleton); Jan. 30, 1909 (Braislin).

Spinus pinus PINE SISKIN

*PROSPECT PARK. Rare, irregular transient. Sept. 29, 1957 (Raymond) and Oct. 13, 1965 (Raymond) to May 22, 1944 (Soll, Whelen); scattered winter records, flocks have wintered twice. Maximum 200, Dec. 11, 1963 (Raymond).

Loxia curvirostra RED CROSSBILL

PROSPECT PARK. Maximum 40, Nov. 23, 1963 (Raymond).

Loxia leucoptera WHITE-WINGED CROSSBILL

PROSPECT PARK. Seen occasionally from Nov. 25, 1963 until Feb. 9, 1964. Maximum 62, Nov. 25, 1963 (all Raymond).

Ammodramus savannarum GRASSHOPPER SPARROW

*CENTRAL PARK. 6 records, Apr. 11, 1947 (Gershon, Carleton) to May 12, 1929 (Helmuth).

PROSPECT PARK. Nov. 9, 1963 (Yrizarry).

Passerherbulus henslowii HENSLOW'S SPARROW

*PROSPECT PARK. 4 records, Oct. 2, 1953 (Carleton, Restivo, Smith) to Oct. 25, 1962 (Carleton, Raymond).

Ammospiza caudacuta SHARP-TAILED SPARROW

CENTRAL PARK. May 1, 1965 (Tudor).

Ammospiza maritima SEASIDE SPARROW

*CENTRAL PARK. 6 records, Apr. 28, 1961 (Tudor) to May 16, 1923 (Griscom).

PROSPECT PARK. Apr. 18, 1959 (Cashman); May 11, 1962 (Yrizarry).

Pooecetes gramineus VESPER SPARROW
CENTRAL PARK. Oct. 5, 1963 (Carleton).

Chondestes grammacus LARK SPARROW
CENTRAL PARK. Aug. 4, 1961 (Post).
*PROSPECT PARK. 7 records. May 2, 1959 (Carleton, John G. Doll); May 3, 1947 (Jacobson, Sedwitz); Sept. 7, 1953 (Restivo, Usin) to Oct. 15, 1960 (Yrizarry). Maximum 2, Sept. 21, 1954 (Carleton).

Junco oreganus OREGON JUNCO
PROSPECT PARK. Should be deleted. There are no spring migrants recorded in the New York City area (Bull, 1964).

Spizella arborea TREE SPARROW
PROSPECT PARK. Oct. 30, 1963 (Raymond).

Spizella passerina CHIPPING SPARROW
PROSPECT PARK. Dec. 20, 1958 (Cashman).

Spizella pallida CLAY-COLORED SPARROW
PROSPECT PARK. Oct. 19, 1962 (Carleton, Yrizarry).

Zonotrichia leucophrys WHITE-CROWNED SPARROW
PROSPECT PARK. Sept. 25, 1959 (Carleton); Nov. 9, 1960 (Raymond).

Zonotrichia albicollis WHITE-THROATED SPARROW
PROSPECT PARK. Maximum 1000, Oct. 15, 1950 (Alperin, Jacobson).

Melospiza lincolnii LINCOLN'S SPARROW
CENTRAL PARK. Apr. 28, 1961 (Tudor).
PROSPECT PARK. Calling bird, Sept. 13, 1964 (Yrizarry). Maximum 8, Oct. 16, 1966 (Yrizarry).

Melospiza georgiana SWAMP SPARROW
CENTRAL PARK. Maximum 40, May 14, 1933 (Helmuth).

Table 1

The Table is a composite Christmas Count of native wild species in Central Park. Species seen during the Count period but not on the Count day are in italics. Since Central Park has been included in the Manhattan Count since 1946 and not listed separately, the author has gathered information from various Central Park compilers.

An attempt has been made to include every species occurring during the Count period in this century, at the beginning of which the Counts started. The following additional species occurred mainly in years for which Counts were not available: Hooded Merganser (1944), Golden-crowned Kinglet (through 1905), Water Pipit (1919), and Northern Shrike (1921). The composite Count total is an imposing 86 native species.

Table 1

	09	30	31	32	39	40	41	45	46	47	48	49	50	51
Common Loon								**1**						
Red-throated Loon														
Horned Grebe	1													
Pied-billed Grebe														
Black-crowned Night Heron											**1**			
Black Duck		5						500	625	50	125	150	300	230
Gadwall														
Pintail														
Green-winged Teal									4					
Blue-winged Teal														
European Widgeon														
American Widgeon													1	4
Shoveler														
Wood Duck														
Redhead											**1**			
Ring-necked Duck											1			
Canvasback								*2*						
Greater Scaup								*1*					4	3
Lesser Scaup											2		7	
Common Goldeneye								**1**						
Bufflehead														
White-winged Scoter														
Ruddy Duck											**1**			
Common Merganser				3	1	12	7			16	16	1	14	8
Red-breasted Merganser														
Turkey Vulture							1							
Sharp-shinned Hawk	*1*													
Cooper's Hawk												**1**		
Red-tailed Hawk														
Red-shouldered Hawk											**1**			

	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
Common Loon															
Red-throated Loon						*1*									
Horned Grebe															
Pied-billed Grebe														1	
Black-crowned Night Heron															
Black Duck	100	200	200	50	35	36	11	50		15	x	7	4	10	5
Gadwall			4	3		2									
Pintail				2											
Green-winged Teal	*2*		6	4	3	3	15	8	3	2	1	3			
Blue-winged Teal								*1*							
European Widgeon		1	3												
American Widgeon	*8*	30	30	*2*	9		3		1		x	*3*	8	22	
Shoveler												*1*			*4*
Wood Duck						1									
Redhead	1														
Ring-necked Duck				1									*1*		
Canvasback				11							x	*2*	3	27	55
Greater Scaup			1	1	20				1			*3*		1	
Lesser Scaup				10	26		4	4		1	x				*300*
Common Goldeneye				*1*											
Bufflehead				1							1				
White-winged Scoter				*1*											
Ruddy Duck				5	56	7				12	x		13	7	15
Common Merganser		7	4	31			3		20	1	1	3			6
Red-breasted Merganser				1											
Turkey Vulture															
Sharp-shinned Hawk															
Cooper's Hawk															
Red-tailed Hawk									1						
Red-shouldered Hawk	1					1			1						

	09	30	31	32	39	40	41	45	46	47	48	49	50	51
Peregrine Falcon								2						1
Sparrow Hawk		1				1	1	3			1		1	2
American Coot														
American Woodcock	1													
Glaucous Gull														
Iceland Gull														
Great Black-backed Gull					1		3	31	7	4	5	1	9	12
Herring Gull	110	143	300	400	250	100	500	3000	650	350	500	300	1150	500
Ring-billed Gull													1	2
Laughing Gull														
Bonaparte's Gull														
Screech Owl			1			1					1			
Barred Owl					1									
Long-eared Owl											1	*1*		
Saw-whet Owl														
Yellow-shafted Flicker				1				1	*1*				1	2
Yellow-bellied Sapsucker														
Hairy Woodpecker					1		3	2			1	*1*		8
Downy Woodpecker	6		1	4	3	1	1	6	4	4	6	7	4	14
Horned Lark														
Blue Jay						1		2			2		2	12
Black-capped Chickadee			*1*		1		3	11	6		3	*1*	*1*	10
Tufted Titmouse														
White-breasted Nuthatch	1				2			2	1				2	2
Red-breasted Nuthatch														1
Brown Creeper	1								2					
Winter Wren	1													
Carolina Wren														
Catbird														
Brown Thrasher	*1*								1					

	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
Peregrine Falcon															
Sparrow Hawk	1	3	3	2	1	3	1	1		*1*		*1*		1	1
American Coot												1	1	4	8
American Woodcock															
Glaucous Gull									*1*						
Iceland Gull				*1*		1					1				*1*
Great Black-backed Gull	14	15	4	40	19	60	12	75	100	40		x	45		57
Herring Gull	400	300	400	400	300	350	250	800	800	200	x	x	600	850	200
Ring-billed Gull	5	25	150	25	15	250	50	200	700	300	x	x	240	250	300
Laughing Gull	*1*				1	1									
Bonaparte's Gull				*1*											
Screech Owl															
Barred Owl															
Long-eared Owl									1		1				
Saw-whet Owl					1							1			
Yellow-shafted Flicker	2	1	1		1				2	1					1
Yellow-bellied Sapsucker			*1*												
Hairy Woodpecker		1	3	4		3	2	1	2	1	1				
Downy Woodpecker	6	6	10	3	3	10	5	9	6	6	1	2	7	7	4
Horned Lark			*1*												
Blue Jay	5	6	9	6	6	25	6	15	15	15	x	24	22	x	27
Black-capped Chickadee	10	5	7	6		25		8	15	12	x	17	10	x	
Tufted Titmouse		1							6		1			x	1
White-breasted Nuthatch	2	4	7	2		10		4	4	4	x	4	3	x	x
Red-breasted Nuthatch															
Brown Creeper															
Winter Wren															
Carolina Wren								1							
Catbird						1						*1*			
Brown Thrasher															

	09	30	31	32	39	40	41	45	46	47	48	49	50	51
Robin	*1*			6		2		1			1			2
Hermit Thrush	1									1			1	1
Cedar Waxwing													*25*	
Red-winged Blackbird			1						*1*					
Baltimore Oriole	1													
Rusty Blackbird														
Common Grackle			*1*	3	1			1						
Brown-headed Cowbird														
Cardinal	5							3	1					2
Purple Finch								*1*						
Pine Grosbeak														
Pine Siskin														
American Goldfinch	*1*							7				11		6
Rufous-sided Towhee														
Slate-colored Junco	3	1	6	15	5	5	11	8	2	10	10	15	15	14
Tree Sparrow		2		1				7					1	
Chipping Sparrow			1		*1*									
Field Sparrow									6	1	1			2
White-throated Sparrow	6				6	*1*		9	5		2	3	1	1
Fox Sparrow	1				1	1	2	3						
Swamp Sparrow		1			1									
Song Sparrow	3	21	4	1	5	5	9	12	8	15	10	1	6	2

	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
Robin	2		1	8		2	3	1				4	4	5	5
Hermit Thrush						1					1			1	
Cedar Waxwing	1														
Red-winged Blackbird									4	2				1	
Baltimore Oriole															
Rusty Blackbird						*1*									
Common Grackle				2		2			8	1			2	6	3
Brown-headed Cowbird						24			2						
Cardinal	2	2	2	1	2	5	2	2	4	6	x	1	4	5	4
Purple Finch	2														
Pine Grosbeak														*1*	
Pine Siskin	14														
American Goldfinch	2					3	1					6		3	
Rufous-sided Towhee										1				1	
Slate-colored Junco	20	20	3	14	8	20	15	10	25	15	x	14	6		8
Tree Sparrow						1	1		6						
Chipping Sparrow			3												
Field Sparrow						2	3			5					
White-throated Sparrow	8	2	4	2	3	6	3	1	5	10	x	18	12	13	8
Fox Sparrow	1					1	2	1	3		1	*1*		1	2
Swamp Sparrow											x				*1*
Song Sparrow	7	3	4	4	5	11	5	3	6	30	x	3	4	5	*1*

Bibliography

Bull, John. 1964. Birds of the New York area. Harper & Row, New York.

Carleton, Geoffrey. 1958. The birds of Central and Prospect Parks. Proc. Linnaean Society of New York, Nos. 66-70; 1-60.

General Note:

A New Jersey Specimen of *Branta canadensis parvipes*

In my book, *Birds of the New York Area* (1964: 113), I stated that a specimen of Canada Goose taken at Point Pleasant, N. J., on Dec. 22, 1954, by Glen Woolfenden, was identified by him as *Branta canadensis leucopareia.* I also stated that the specimen "is almost certainly referable to some other subspecies and should be re-examined."

The specimen, in the University of Kansas Museum of Natural History, has been re-examined by Dr. Richard F. Johnston, Associate Curator of Birds. In a letter to me dated March 2, 1965, Dr. Johnston states the following:

"I have examined the specimen (KU 33003) of *Branta canadensis* taken in New Jersey once again, bearing constantly in mind the inordinate degree of local differentiation and individual variation to be found in these geese. This specimen has the following measurements: culmen, 44.5 mm.; tarsus, 79.2; wing, 420 (flat), 407 (chord); tail, 120. The cheek feathers are a pale buff color flecked with black, which is heavier beneath and nearly separates the cheeks midventrally. There is not the slightest trace of a white neck-ring. These characters of size and color and others of plumage generally suggest that the specimen came originally from a population that has been called *B. c. parvipes;* it fits into other trinominally designated groups less well."

This is apparently the first record of the subspecies *parvipes* from the New York City region and the second known from the Atlantic coast of the United States. According to the A.O.U. *Check-list* (1957: 61) *B. c. parvipes* has occurred also at Currituck Sound, N. C. In addition to this race and the common nominate race, only *B. c. interior* has been recorded definitely from the New York City area, based on specimen evidence.

In all fairness to Dr. Woolfenden, it should be stated that he was following the latest treatment at that time (Aldrich, Wilson Bull., 58: 94-103, 1946). In his monograph, Delacour (Waterfowl of the World, 1: 150-178, 1954) shows that the two forms *leucopareia* and *parvipes* had been confused, both taxonomically and nomenclaturally. See also Hellmayr and Conover (Birds of the Americas, Part 1, No. 2: 297-298 and 302, 1948).

John Bull

Report of the Secretary for the Year 1958-1959

At the annual meeting of the Society on March 11, 1958, the following officers were elected:

President	Geoffrey Carleton
Vice-President	Richard Edes Harrison
Secretary	Mrs. Anne W. Wachenfeld
Recording Secretary	Richard Ryan
Treasurer	Dr. Theodora Nelson
Editor	Leslie Pearl

At the March 25 meeting the Society elected John Bull, Ezra Feinberg, and Miss Lois Hussey to serve on the Council until March, 1961. In November William P. Cooney was elected to fill the unexpired term of Mr. Feinberg.

The Society during the year held seventeen regular meetings and two informal summer meetings. The June 17 meeting was canceled because a strike by Museum employees made it impossible to enter the building. The October 14 meeting was canceled because of a conflict with the annual meeting, in New York, of the American Ornithologists' Union.

The programs for the regular meetings were as follows:

March 11, 1958:
Annual Meeting. "The Nature of Mexico, Don Eckelberry, with film by Mr. Eckelberry and C. Bertram Schaughency.

March 25:
"Orientation in Birds," Dr. Daniel S. Lehrman.

April 8:
"Birds Are Where You Find Them" (film) George Komorowski.

April 22:
"African Bird Trip," Dr. Dean Amadon, with film and specimens.

May 13:
"Report from Little Tobago" (film) Dr. Thomas Gilliard.

May 27:
"Hi-Fi in the Forest," Dr. George B. Reynard (D.V.O.C. Exchange Speaker), with sound tape.

Sept. 9:
Discussion, by members, of Fall Migration.

Sept. 23:
"Hurricanes Hit Long Island," John Bull.

Oct. 28:
"Evolutionary Trends in Australian Honeyeaters," Dr. Finn Salomonsen, with slides and specimens.

Nov. 11:
"The Feather," Dr. Erwin Stresemann, with slides.
Nov. 25:
"The Birds of Kenya and the Turkana Country" (film) Donald S. McChesney.
Dec. 9:
"Impressions of Philippine Birds," Dr. Kenneth C. Parkes, with specimens.
Dec. 23:
"Through Eastern Canada" (film) C. B. Schaughency.
Jan. 13, 1959:
Discussion by members of Christmas Bird Counts.
Jan. 27:
"Practical Birding in Mexico," Richard Ryan, with slides and specimens.
Feb. 10:
"Problems in Zoo Bird Keeping," William G. Conway.
Feb. 24:
"Reptiles and Amphibians," Henry H. Collins and John Yrizarry, with slides.

Throughout the year the Society has sponsored a program of field trips under the chairmanship of Paul Buckley, assisted by several members who acted as leaders.

The *Linnaean News-Letter* appeared only once during the year but Nos. 66-70 of the *Proceedings*, for the five years ending March, 1958, was published and sent to all members.

During the past year we have had the honor of electing Dr. Dean Amadon a Fellow of the Society in recognition of his many contributions to the Society and outstanding work in the field of ornithology.

During the year we lost through death two of our members, Ezra J. Feinberg and John T. Nichols. Mr. Nichols had served as Vice-President and President of the Society 1921-25. He was the second member to be elected a Fellow.

Twenty-two Active and six Associate Members were elected. There were three resignations and unfortunately several persons had to be dropped for nonpayment of dues. The membership in all classes is now as follows:

Honorary Members	6
Fellows	11
Active Members	240
Associate Members	65
Total for all classes	322

Respectfully submitted,

Anne W. Wachenfeld, *Secretary*

Report of the Secretary for the Year 1959-1960

At the annual meeting of the Society on March 10, 1959, the following officers were elected to serve for the ensuing year:

President	Richard E. Harrison
Vice-President	Walter W. Sedwitz
Secretary	Richard A. Sloss
Recording Secretary	Robert H. Grant
Treasurer	Dr. Theodora Nelson
Editor	Mrs. Anne Wachenfeld

At the meeting held on March 24, 1959, the following members were elected to the Council for three-year terms expiring March, 1962: Geoffrey Carleton, Pauline Messing, Richard Ryan.

From March, 1959, through February, 1960, the Society held seventeen regular meetings and four informal summer meetings. The calendar of the regular meetings was as follows:

March 10, 1959:
Annual Meeting. "Bird Study in Africa," Dr. James P. and Ruth Trimble Chapin.

March 24:
"Save a Natural Area," Allston Jenkins.

April 14:
"Comparison of Nearctic and Palearctic Avifauna," Dr. A. J. C. Vaurie.

April 28:
Symposium: "What Territory Means to Birds" Moderator: Eugene Eisenmann; Participants: Helen Hays, Harry Ryan, Richard Ryan.

May 12:
"First Impressions of European Birds," Peter Post.

May 26:
"Pelagic Birds in Flight," Dr. Locke L. Mackenzie.

Sept. 22:
"Brigantine Wildlife Refuge," Wm. C. Forward.

Oct. 13:
"The Sepik River and the Victor Emmanuel Mountains in New Guinea," Dr. E. Thomas Gilliard.

Oct. 27:
"Operation Recovery on Long Island," Paul Buckley, Joseph Jehl, Peter Post, Leroy Wilcox.

Nov. 10:
"An Amateur Looks at Taxonomy," Geoffrey Carleton.

Nov. 24:

"The Care and Feeding of Captive Native Birds," John A. Griswold.

Dec. 8:

"Fall Migration of Passerines in the Northeast," Aaron M. Bagg.

Dec. 22:

"The Genus *Myiarchus* in Middle America," Dr. Wesley Lanyon.

Jan. 12, 1960:

Discussion of the Christmas Census by members, John L. Bull, Moderator.

Jan. 26:

"Fabulous Funk Island," Devin A. Garrity.

Feb. 9:

"The Natural History of Revillagigedo," Dr. Bayard H. Brattstrom.

Feb. 23:

"Parthenogenesis; with special reference to *Mollienesia formosa,*" Dr. Klaus Kallman.

Throughout the year a full program of Field Trips was organized under the able direction of Messrs. Douglas Heilbrun and Joshua Wallman, assisted by various members who volunteered their services as trip leaders.

We are indebted to Emanual Levine and Miss Lisa McGaw for their splendid work in revitalizing the *News-Letter,* as well as to Mrs. Anne Wachenfeld for the thankless and difficult job of distribution.

The Society was saddened by the death of two of its members: Ludlow Griscom and Raymond G. Guernsey. Mr. Griscom, a Fellow of the Society, became a member in 1907. He served as Secretary from 1912 to 1915; as Vice-President from 1922 to 1923 and as President from 1927 to 1928. Mr. Guernsey became an Active Member in 1934.

During the year 11 persons were elected to Active Membership. An analysis of our membership shows that there are 6 Honorary Members, 10 Fellows, 247 Active Members and 64 Associate Members, comprising a total of 328.

Respectfully submitted,

Richard A. Sloss, *Secretary*

Report of the Secretary for the Year 1960-1961

From March 7, 1960, to March 14, 1961, the following members of the Society served as officers:

President	Richard Harrison
Vice-President	Richard Sloss
Secretary	Helen Hays
Recording Secretary	Robert Grant
Treasurer	Dr. Theodora Nelson
Editor	Mrs. William A. Wachenfeld

Three members of the Society were elected to serve a three-year term on the Council: Robert Arbib, Eugene Eisenmann, and Emanuel Levine. On January 24, 1961, Joshua Wallman was elected to the Council, to fill the unexpired term of John Bull, who resigned because of moving to Florida.

Two members of the Society Robert Allen and C. K. Nichols were awarded Life Memberships.

Membership in the Society has increased slightly from 299 to 314.

The Society expressed its sympathy to the families of the following members who died during the last year: Dr. Arthur Aronoff, Professor Edward Fleisher, Richard Herbert, Frank Walters.

The Society received a gift of $500.00 from Mr. Aronoff in memory of his son.

William P. Cooney contributed $250.00 to be used for a bookcase to hold the Feinberg collection of books, which was given to the Society in 1960. The bookcase was designed by the president, Richard Harrison.

Editorial Committee: Mrs. Anne Wachenfeld, the editor, reports that the Nice manuscript, *Development of Behavior in Precocial Birds*, is in the final stages of preparation for the printer. We plan to distribute this work, which will be *Transactions* Vol. 8 to all active members in good standing in the fall.

News-Letter: An outstanding job has been done by Emanuel Levine as editor of the *News-Letter*, assisted by Miss Lisa McGaw, who has done all the copy editing, and Mrs. Anne Wachenfeld who has been in charge of addressing and mailing. The *News-Letter* has been expanded to six pages. Seasonal observations of birds in the New York City region provide material for most of the articles.

Conservation Committee: Following the suggestions of the Conservation Committee, headed by Henry Collins, the Society took a position on the following issues.

1. Killing of albatrosses on Midway: One of the members of the Conservation Committee, Eugene Eisenmann, served as presiding officer at a meeting organized by Dr. Robert Cushman Murphy and Richard Pough to protest the killing of the albatrosses on Midway. The meeting was extremely effective in airing the issue and rallying public opinion against extirpation of the albatross.
2. Opposition was expressed to the proper authorities to the establishment of a jet airport in the Great Swamp, New Jersey.
3. A plea was made for the discontinuance of motor-boating on Yellowstone Lake in Yellowstone National Park.
4. An urgent plea was made to the Borough Council of Stone Harbor, New Jersey, to safeguard in perpetuity the heron sanctuary in that municipality.
5. Opposition was expressed to the proper authorities to further encroachment of Central Park, notably the outdoor cafe proposed by Huntington Hartford.

Field Work Committee: The Field Work Committee, headed by Ned Boyajian helped John Bull last spring and summer collect information for his forthcoming book on the birds of the New York City region.

The committee also, in cooperation with the Gull Island Committee, surveyed the breeding colony of terns on Great Gull Island.

In the fall members of the Committee participated in George Breck's hawk watch in New Jersey.

Field Trip Committee: Joshua Wallman, Field Trip chairman, assisted by Douglas Heilbrun, scheduled weekly field trips in the New York area. Three pelagic trips were arranged for the Society, one of which produced an albatross!

Recognition: Special recognition has been received by several members of the Society during the last year. On Jan. 9, 1960, our Fellow, Roger Tory Peterson, was awarded the gold medal of the N. Y. Zoological Society as "an inspired interpreter of birds for the benefit of mankind." In April, 1960, Eleanor Dater was elected President of the Eastern Bird Banding Association. On March 7, 1961, it was announced that Joshua Wallman had won first prize in the Westinghouse Science Talent search, a $7,500 college scholarship. Mrs. William B. Irving has been elected president of the New York State Federation of Bird Clubs. Mr. Geoffrey Carleton, former president of the Society, has become editor, for *Audubon Field Notes*, of the New York-St. Lawrence region, replacing C. K. Nichols, another former president.

Program: The vice-president, Richard Sloss, arranged the interesting series of programs listed below.

Date	Speaker	Title
March 8, 1960:	Dr. Roger Tory Peterson	*Bwana Fisi*, wildlife in Serengeti
March 22:	Dr. Andrew Meyerriecks	Comparative Breeding Behavior in the Herons
April 12:	Dr. Edward I. Stearns	Big Day Manners and Morals
April 26:	Film (Courtesy of Creole Petroleum)	Venezuelan Wildlife
May 10:	Kenneth Schultz	Birding around San Francisco
May 24:	John L. Bull (Moderator)	Discussion of the Spring Migration
Sept. 13:	Miss Helen Hays	Behavior of the Ruddy Duck
Sept. 27:	Dr. Charles Vaurie	Hawks and Owls of the Palearctic Region
Oct. 11:	William G. Bentley	Long Island's Wetlands
Oct. 25:	Frank W. McLaughlin	Midlands to Maritime
Nov. 22:	Mr. and Mrs. Walter Ferguson	Wildlife in Israel
Dec. 13:	Dr. Raymond A. Paynter, Jr.	Herring Gull Demography
Dec. 27:	Dr. Richard B. Fischer	Natural History Photography
Jan. 10, 1961	Richard A. Sloss (Moderator)	Discussion of the Christmas Census
Jan. 24:	G. Stuart Keith	The Cranes of Japan
Feb. 14:	Dr. Alexander B. Klots	Opportunity for Ornithological Field Study; supposed protective coloration and mimicry in insects
Feb. 28:	Dr. William C. Dilger	Evolution of Behavior in the Parrot Genus *Agapornis*

The secretary would like to thank the president, Richard Harrison, the vice-president, Richard Sloss, the treasurer, Dr. Theodora Nelson, and the editor, Mrs. William A. Wachenfeld, for very helpful advice and counsel throughout the year, as well as their assistance with plans for the Annual Dinner. I would like to thank the Committee Chairmen for their reports: Mrs. William A. Wachenfeld, Emanuel Levine, Henry Collins, and Ned Boyajian. I am most grateful to those members of the Society who helped with preparations for the Annual Dinner: Mrs. Harold Taylor, Miss Lois Hussey, and Miss Catherine Pessino.

Respectfully submitted,

Helen Hays, *Secretary*

Report of the Secretary for the Year 1961-1962

This year the following members of the Society served as officers:

President	Richard Sloss
Vice-President	Robert Grant
Secretary	Miss Helen Hays
Treasurer	Dr. Theodora Nelson
Recording Secretary	John Yrizarry
Editor	Mrs. William A. Wachenfeld

Members of the Society elected to serve a three-year term on the Council: Richard Harrison, Dr. Richard Chamberlain, and Dr. Klaus Kallman.

We are happy to announce that Mrs. Gladys Gordon Fry was elected an honorary member of the Society.

The Society expresses its sympathy to the families of Norton Smithe, Henry Collins, A. P. Thornton, and Mrs. Abbott.

The following amendments to the Constitution and By-laws have been passed by the membership:

(1) Past presidents upon written application to the secretary may serve on the council.

(2) The amendment to the By-laws enables any student upon application to the treasurer to be granted an active membership in the Society for $2.50 instead of $6.00.

Last fall the Linnaean Society acted as host for the New York State Federation of Bird Clubs. Emanuel Levine was in charge of arrangements.

The president proposed and the Society accepted two moves toward more efficient expedition of Society business:

(1) The Society now uses an addressograph system for addressing the *News-Letter*. Thanks were expressed to members who have done this work since the inception of the *News-Letter*.

(2) The Society records have been consolidated and placed in a file purchased by the Society with its own funds as well as a contribution from the Bird Department of the American Museum of Natural History.

Committee Reports

Through the initiative taken by Geoffrey Carleton, the librarian, all back publications of the Linnaean Society, with two exceptions, have been sold to Stechert-Hafner a secondhand book dealer.

Mrs. Wachenfeld reports that the galleys for the Nice ms., *Development of Behavior in Precocial Birds* have been returned to the printer. We plan to distribute this work which will be *Transactions* Vol. 8 to all active members in good standing in the fall.

Richard Plunkett has done an excellent job as Field Trip chairman.

Emanuel Levine and Miss Lisa McGaw have maintained the high standard which they set for the *News-Letter* last year.

Robert Grant, the vice-president, arranged a fine series of programs as evidenced by the good attendance at the meetings.

Date	Speaker	Title
April 11, 1961:	Dean James L. G. Fitzpatrick	Avian Flight Engineering
April 25:	Dr. Lester L. Short	Relationship of Blue-winged, Golden-winged Warblers
May 9:	Dr. George B. Reynard (D.V.O.C. Exchange Speaker)	Recordings — Hawks, Owls, Goatsuckers, and Woodpeckers
May 23:	William F. Zimmerman	Avian Paleontology
Sept. 12:	M. Albert Linton	Animals and Birds of East Africa
Sept. 26:	Charles H. Rogers	The Rallidae, Birds of Rails, Gallinules, and Coots of the World
Oct. 10:	John L. Bull	Birds of the N.Y.C. Region: Changes since Cruickshank
Oct. 24:	Allen J. Duvall	Administering the Bird Banding System: Progress and Problems
Nov. 14:	Frank Fraser Darling	The Outlook for Conservation in Africa
Nov. 28:	Dr. Phillip S. Humphrey	The Monk Parakeet of Argentina: Agricultural Menace and Ornithological Mystery
Dec. 12:	Dr. Walter Spofford	The Golden Eagle in Appalachia
Dec. 26:	Neal Smith	Evolution of the Arctic Gulls
Jan. 9, 1962:	John L. Bull	Discussion of Christmas Census
Jan. 23:	Carl Buchheister	The Critical Need for Sanctuaries
Feb. 13:	Dr. William G. George	The Riddle of the Olive Warbler
Feb. 27:	Eugene Eisenmann	Why Do Some Eastern North American Birds Winter Further South than Western North American Birds?

I would like to thank the president, Richard Sloss, the members of the Council, and the members of the Society who helped me either with advice or by volunteering for projects during my term as secretary.

I am most grateful to the Museum staff and to the members of the Society who have made the arrangements for the Annual Dinner and would particularly like to thank Miss Lois Hussey and Miss Catherine Pessino for their help.

Respectfully submitted,
Helen Hays, *Secretary*

Report of the Secretary for the Year 1962-1963

At the 84th Annual Meeting of the Linnaean Society of New York on March 13, 1962, the following officers were elected for the ensuing year:

President	Richard Sloss
Vice-President	Emanuel Levine
Secretary	Lisa McGaw
Recording Secretary	Richard Ryan
Treasurer	Dr. Theodora Nelson
Editor	Mrs. Anne W. Wachenfeld

At the regular meeting on March 27, 1962, the Society elected Robert Grant, Douglas Heilbrun, and Richard Plunkett to serve on the Council until March, 1965. Miss Elizabeth Manning was elected to serve on the Council until March, 1963.

During the year the Society held 17 regular meetings and 3 informal summer meetings. The programs for the regular meetings were as follows:

March 13, 1962:
Annual Meeting. "New York City Looks Ahead" by the Hon. Newbold Morris.

March 27:
"Birds of the Volcanic Peaks of Costa Rica and Western Panama" by Dr. Lewis G. Sterner.

April 24:
"Animals Are Exciting" by Howard H. Cleaves.

May 8:
"Animal Societies" by Dr. Evelyn Shaw.

May 22:
"Acoustical Location of Prey by Owls" by Dr. Roger S. Payne.

Sept. 11:
"Experiments on Species Determination in *Myiarchus* Flycatchers" by Dr. Wesley E. Lanyon.

Sept. 25:
"Molt and Adaptation" by Prof. Erwin Stresemann.

Oct. 9:
"Snakes and the Bird Man" by Carl F. Kauffeld.

Oct. 23:
"Life in a Moth Ear" by Dr. Asher E. Treat.

Nov. 13:
"The Breeding Birds of Van Cortlandt Park" by Fred Heath and Jeffrey Zupan.

Nov. 27:
"The Forward Look in Conservation" by Charles H. Callison.

Dec. 11:
"Arena Behavior" by Dr. E. Thomas Gilliard.
Jan. 8, 1963:
Annual Christmas Census reports and discussion by members.
Jan. 22:
"Relationship of Foliage Profiles and Breeding Birds" by William Russell.
Feb. 12:
"Close-ups of Hawks and Owls" by Chester J. Robertson.
Feb. 26:
"Radar Studies of Bird Migration" by Jeff Swinebroad.

Throughout the year a full program of field trips has been sponsored by the Society, under the excellent leadership of Richard Plunkett, chairman of the Field Trip Committee.

In the summer of 1962, the Linnaean Society published *The Development of Behavior in Precocial Birds* by Margaret Morse Nice as Volume 8 of the *Transactions*. The book is a survey of present-day knowledge of the development of young birds and contains much original material based on the author's field studies. It includes an extensive bibliography as well as line drawings by the author. Publication of Transaction 8 was under the able editorship of Mrs. Anne W. Wachenfeld, Editor of the Society.

Owing to a shortage of editors with abundant leisure time, publication of the *News-Letter* had to be suspended temporarily, but it is expected that this popular news-sheet will appear again shortly.

A more extensive and diversified system of field-note reporting was introduced by Robert Arbib this year, and the Society hopes in the coming year to elaborate on his suggestions and thus to make the field-note section of regular meetings more meaningful.

The Society lost 5 members through death this past year. On Aug. 26, 1962, Charles K. Nichols. Mr. Nichols, former President of the Linnaean Society, was a long-time contributor to *Audubon Field Notes* and a research associate in the Bird Dept. of the American Museum of Natural History . . . . In October, 1962, John Bellis . . . . On Oct. 21, 1962, Henry C. Hasbrouck . . . . On Nov. 30, 1962, Rosalie Barrow Edge. Mrs. Edge, a noted conservationist, is remembered particularly for her unremitting work to establish Hawk Mountain Sanctuary in Pennsylvania . . . . On Feb. 21, 1963, Beecher S. Bowdish. Mr. Bowdish, a member of the Linnaean Society since 1900, was active for many years in the field of ornithology, particularly in bird-banding and conservation work. For several years he was Executive Secretary of the New Jersey Audubon Society.

During the year 33 persons were elected to active membership in the Society, and 9 to associate membership. Membership now totals 363 persons, of whom 6 are Honorary Members, 10 are Fellows, 271 are Active Members, and 76 are Associate Members.

Respectfully submitted,
Lisa McGaw, *Secretary*

Report of the Secretary for the Year 1963-1964

The Linnaean Society of New York held its 85th Annual Meeting and Dinner on March 12, 1963. At the annual meeting the following officers were elected for the ensuing year:

President	Emanuel Levine
Vice-President	Ned Boyajian
Secretary	Lisa McGaw
Recording Secretary	Guy Tudor
Treasurer	Dr. Theodora Nelson
Editor	Anne W. Wachenfeld

At the meeting on March 26, 1963, the Society elected Lois Hussey Heilbrun, Catherine Pessino, and Richard Ryan to serve on the Council for a three-year term.

During the year the Linnaean Society held 17 regular meetings and 3 informal summer meetings. The programs for the regular meetings were as follows:

March 12, 1963:
Annual Meeting. "Conservation through the Years" by Dr. Ira N. Gabrielson.

March 26:
"Song of the Traill's Flycatcher" by Dr. Robert C. Stein.

April 9:
"Aquila 60, the Story of an Eaglet" by Dr. Walter Spofford.

April 23:
"A Naturalist's View of the United States Landscape: Travels without Charlie" by Richard E. Harrison.

May 14:
"East African Wildlife" by Arthur Singer.

May 28:
"The Contributions of Museum Collections to the Knowledge of the Living Bird" by Dr. Kenneth Parkes.

Sept. 10:
"The Kirtland's Warbler" by Harold Mayfield.

Sept. 24:
"Let's Knock on Nature's Door" by Mr. and Mrs. Thomas Martin.
Oct. 8:
"Changes in Bird Life in the New York City Region in the Past 20 Years" by John Bull.
Oct. 22:
"Comments on the Life History of the Slaty-breasted Tinamou" by Dr. Douglas Lancaster.
Nov. 12:
"Some Conclusions on Migration through Analysis of 'Operation Recovery' Data" by Bertram G. Murray.
Nov. 26:
"Symposium on Pelagic Birds" by Richard Plunkett, Richard Ryan, and Guy Tudor.
Dec. 10:
"Wildlife of the Passaic Valley of New Jersey" by Robert Perkins.
Jan. 14, 1964:
Reports and Discussion of the Annual Christmas Census, by members of the Society.
Jan. 28:
"The Common Loon" by Robert S. Arbib, Jr.
Feb. 11:
"A Comparison of the Bird Life of the Atlantic and the Pacific Lowland Forests of Costa Rica" by Ned Boyajian and Richard Ryan.
Feb. 25:
"The Ecology of the Osprey in Connecticut" by Peter Ames.

Throughout the year the Society has sponsored a full schedule of field trips, which have been ably organized by Harry F. McCauley, chairman of the Field Trip Committee. The *Linnaean News-Letter* has continued regular publication under the editorship of Richard L. Plunkett. There were no other publications by the Linnaean Society this year. However, Transaction 8, *Development of Behavior in Precocial Birds* by Margaret Morse Nice, has continued to sell well, as has Transaction 7, *The Species of Middle American Birds* by Eugene Eisenmann.

During the years, various members of the Linnaean Society have served with distinction in offices in other ornithological associations. This year Robert S. Arbib, Jr., a past President and a Fellow of the Linnaean Society, was elected President of the Federation of New York State Bird Clubs.

It has been the misfortune of the Linnaean Society to lose 4 members through death this year. On June 28, 1963, Robert Porter Allen, an elected Life Member and a former Secretary of

the Society. Mr. Allen had been research director of the National Audubon Society until he resigned in 1960 in order to devote his full time to writing. He was noted for his outstanding work in connection with North American birds threatened with extinction, notably the Whooping Crane. In recognition of his contributions to ornithology he received the Brewster Award from the A.O.U. in 1957 and the John Burroughs Association medal in 1958 . . . . On June 29, 1963, John J. Elliott. Mr. Elliott, long a familiar figure to New York area birders, was President of the Federation of New York State Bird Clubs at the time of his death. He was for many years author of a column, "Bird Notes", which appeared in the *Long Island Press*. He contributed to our knowledge of the Ipswich, Sharp-tailed, and Seaside Sparrows, the European Goldfinch in America, and the House Finch as established along the East Coast. . . . On Aug. 4, 1963, Mrs. Robert Coombs . . . . On Sept. 8, 1963, William P. Cooney. It was largely through the generosity of Mr. Cooney that the Linnaean Society was able to finance the building of the special bookcase to house the Feinberg natural history library.

During this past year 16 persons were elected to active membership and 2 to associate membership. Three members resigned. The membership for all classes is 373 persons, of whom 6 are Honorary Members, 10 are Fellows, 279 are Active Members, and 78 are Associate Members.

Respectfully submitted,
Lisa McGaw, *Secretary*

Report of the Secretary for the Year 1964-1965

At the annual meeting of the Society on March 10, 1964, the following officers were elected for the ensuing year:

President	Emanuel Levine
Vice-President	Ned Boyajian
Secretary	Miss Jacqueline Backstrom
Recording Secretary	Guy Tudor
Treasurer	Dr. Theodora Nelson
Editor	Mrs. William A. Wachenfeld

At a regular meeting on March 24, 1964, the Society elected Miss Lisa McGaw, Miss Elizabeth S. Manning, and Richard B. Sichel to serve on the Council until March, 1967.

From March, 1964, through February, 1965, the Linnaean Society held 18 regular meetings and 3 informal summer meetings. The programs for the regular meetings were as follows:
March 10, 1964:

Annual Meeting. "Nature Down Under," Mr. Maurice Broun.

March 24:
"The Desert Bighorn of Arizona," Walter H. Kilham, Jr.

April 14:
Symposium. "Breeding Birds," conducted by John Bull, Fred Heath, and Jeffrey Zupan.

April 28:
"Delaware Valley Birds Then and Now," Albert E. Conway.

May 12:
"The Barrier Reef and Beyond," Dr. Dean Amadon.

May 26:
Discussion of film "Poisons, Pests, and People".

Sept. 8:
"Census of Breeding Birds in Van Cortlandt Park Swamp," Fred Heath and Jeffrey Zupan.

Sept. 22:
"Gull Island Tern Colony: Past, Present, and Future," Helen Hays.

Oct. 13:
"Where the Desert Meets the Sea," Dr. Richard G. Van Gelder.

Oct. 27:
"The Ecology of Cape Horn," John C. Boyd.

Nov. 10:
"Birds and Army Ants," Dr. Edwin Willis.

Nov. 24:
"Pigmentation and Structural Colors in Bird Feathers," Richard Ryan.

Dec. 8:
Discussion of Future Field Projects, led by Ned Boyajian.

Dec. 22:
"Speciation in Ringed and Semipalmated Plovers on Baffin Island," Dr. Neal Smith.

Jan. 12, 1965:
Discussion of the Christmas Count, led by Geoffrey Carleton.

Jan. 26:
"Africa '64," Gardner D. Stout.

Feb. 9:
"Van Cortlandt Park—A Case History," Richard E. Harrison.

Feb. 23:
Symposium: "Criteria for the Acceptance of Field Records," led by Ned Boyajian.

Throughout the year Harry McCauley organized a full schedule of field trips and is responsible for their continued success.

The *News-Letter* continued publication under the able direction of Richard Plunkett.

During the year 20 persons were elected to active membership and 4 became associate members. At present the membership totals 360, as follows: 6 Honorary Members, 11 Fellows, 271 Active Members, and 72 Associate Members.

In recognition of outstanding and long-continued services to the Society and to the field of ornithology, the Society elected as Fellows Dr. Theodora Nelson and John Bull. Mr. Bull is the author of the recently published *Birds of the New York Area*, a long-needed and most welcome book.

We note with pride that members of the Society continue to serve in positions of responsibility in the ornithological world. Dr. Dean Amadon, our Fellow and former President, was elected President of the American Ornithologists' Union in September, 1964.

Dr. Roger Tory Peterson, a Fellow, was elected President of the Wilson Ornithological Society in 1964.

We regret to announce that we have lost through death three of our members: Dr. James P. Chapin, Curator Emeritus of Birds at The American Museum of Natural History, Dr. Ernest Thomas Gilliard, Curator of Birds at the Museum, and Mrs. Pauline Messing. Dr. Chapin was a Fellow of the Society and served as its President from 1928-29.

The Secretary would like to thank the present and former officers and members of the Council for their help and advice during the past year, and in particular the two previous holders of the Office, Miss Helen Hays, and Miss Lisa McGaw.

Respectfully submitted,
Jacqueline Backstrom, *Secretary*

Report of the Secretary for the Year 1965-1966

At the annual meeting of the Society on March 9, 1965, the following officers were elected for the ensuing year:

President	Ned Boyajian
Vice-President	Richard Ryan
Secretary	Miss Jacqueline Backstrom
Recording Secretary	Cornelius Ward
Treasurer	Dr. Theodora Nelson
Editor	Mrs. William A. Wachenfeld

At the next regular meeting on March 23, 1965, the Society elected Miss Helen Hays, Guy Tudor, and Jeffrey Zupan to serve on the Council until March, 1968. Harry McCauley was elected to serve on the Council for a one-year term. At the meeting of November 23, 1965, Mr. Zupan submitted his resignation from the Council and Richard Plunkett was elected to succeed him.

From March, 1965, through February, 1966, the Linnaean Society held 16 regular meetings, 3 informal summer meetings, and 1 special seminar session. The last was on October 5, 1965, when Dr. Kenneth Parkes spoke on "The Hybridization and Taxonomy of Herons." Two of the regular meetings were canceled: the first because of the blackout of the Northeastern states on November 9, and the second due to the New York City transit strike on January 11. Both would have concerned the Christmas census. The programs for the regular meetings were as follows:

March 9, 1965:

Annual Meeting. "Ecological Impressions of Icelandic Landscapes," Dr. Joseph J. Hickey.

March 23:

"Relations Between Physiology and Ecology in Birds," Dr. Daniel S. Lehrman.

April 13:

"Birds and Stamps," F. Joseph Stokes.

April 27:

"Communication and Sex in Birds," Dr. Robert G. Wolk.

May 11:

"Wildlife of the Galapagos," Dr. Dean Amadon.

May 25:

"Discussion of the Spring Migration led by Ned Boyajian and Cornelius Ward.

Sept. 14:

"Murres at Machias Seal Island," Robert G. Fisher.

Sept. 28:

"Bird Anatomy," Lloyd Sanford.

Oct. 12:

Discussion of the Fall Migration, led by Ned Boyajian and Cornelius Ward.

Oct. 26:

"Gull Island 1965," Arthur Swoger.

Nov. 23:

"Natural Selection and Some Adaptations in Birds," Miss Frances Thompson.

Dec. 14:

"Fauna of the Lesser Antilles," Dr. Herndon Dowling.

Dec. 28:

"Swifts," Charles Collins.

Jan. 25, 1966:

"The Bald Eagle," David A. Hancock, followed by Discussion of the Christmas Count, led by Richard Ryan.

Feb. 8:

"Jamaica Bay Wildlife Refuge: Progress in the Last Five Years," Herbert Johnson.

Feb. 22:
"The Florida Everglades," Dr. David Schlesser.

During the summer the Great Gull Island Committee under the able direction of its chairman, Miss Catherine Pessino, organized several trips to and short stays on the Island to study and protect the nesting colony. Both Roseate and Common Terns were banded during this period.

Harry McCauley continued to direct the successful field trip program during the year.

During the year 18 persons were elected to active membership and 1 became an associate member. At present the membership totals 345 as follows: 6 Honorary Members, 12 Fellows, 261 Active Members, and 66 Associate Members.

The Society has had the honor the past year of electing Mrs. William A. Wachenfeld a Fellow, in recognition of her many contributions to the Society during the past 17 years.

We regret to announce that in the past year we have lost three of our members through death: Miss Margaret Fife, Dr. William H. Phelps, and Mr. Hugo B. Pladeck.

The Secretary wishes again to thank the present and former officers and members of the Council for their help and advice this past year.

Respectfully submitted,
Jacqueline Backstrom, *Secretary*

Report of the Secretary for the Year 1966-1967

At the Annual meeting of the Society on March 8, 1966, the following officers were elected for the ensuing year:

President	Ned Boyajian
Vice-President	Richard Ryan
Secretary	Mrs. Lucy Boyajian
Recording Secretary	Cornelius J. Ward
Treasurer	Dr. Theodora Nelson
Editor	Miss Lisa McGaw

At a regular meeting held on March 22, 1966, the Society elected Mrs. William A. Wachenfeld, Miss Jacqueline Backstrom, and Miss Helene Tetrault to serve on the Council for three-year terms. Mr. Tom Davis was elected to serve on the Council for a one-year term.

The Society held 18 regular meetings. The calendar for the year was as follows:

March 8, 1966:
88th Annual Meeting and Dinner. G. Stuart Keith: "Sights and Sounds of the African Wild."
March 22:
Arthur Singer: "Birding in Trinidad, Surinam, Tobago, and Costa Rica."
April 12:
Dr. Henry Ryan: "Early Winter Bird Populations in Western Quebec."
April 26:
George Reynard: "Puerto Rican Bird Songs."
May 10:
Eric Edler: "Aquatic Birds and the Aquatic Bird House at the Bronx Zoo."
May 24:
Symposium on Spring Migration, led by Tom Davis.
Sept. 13:
Symposium on Breeding Birds, led by Tom Davis.
Sept. 27:
John Bull: "Use of Museum Collections in Ornithology."
Oct. 11:
J. J. Shomon: "Nature Centers in New York City."
Oct. 25:
Edward Thompson: "Birds of the Keoleo Ghana."
Nov. 8:
Debate on the value of Christmas bird counts. Participants: John Bull, Ned Boyajian, and Robert Arbib.
Nov. 22:
A discussion of fall migration, led by Tom Davis.
Dec. 13:
Charles Collins: "Swifts and Cloud Swifts in Venezuela."
Dec. 27:
Alan Keith: "Extralimital Occurrences of the Varied Thrush."
Jan. 10, 1967:
Discussion of the Christmas census, led by Tom Davis.
Jan. 24:
Richard Thorsel: "Biological Effects of Water Pollution."
Feb. 14:
Jean Clark: "Birding in East Africa."
Feb. 28:
Benjamin and Joanne Trimble: "Birds of Newfoundland."

A Special Seminar talk was given on January 31, 1967, by Mr. Paul Schwartz on "The Northern Water Thrush—Winter Behavior in Venezuela."

Informal summer meetings were held on the third Tuesday of June, July, and August. During the June meeting Dr. Robert Wolk gave a talk on newly gathered information from his Roseate Tern study conducted on Gull Island.

Field Trip Committee Chairman, Harry McCauley, has retired. The Society owes Mr. McCauley a vote of thanks for all the effort he has put into making the field trips so successful. No replacement has been appointed but trips are continuing on a regular basis led by various members of the Society.

Richard Plunkett has advised that he is unable to continue to direct the publication of the *News-Letter*. Through untiring effort Mr. Plunkett has been responsible for the new look of the folding page layout of the *News-Letter* and has published a great deal of interesting material. Editorship of the *News-Letter* will be undertaken by Fred Heath and Frank Enders, who have contributed greatly to the Field Work Committee. Their energy, enthusiasm, and intelligent approach promise an interesting *News-Letter*.

Field Work Committee Chairman Robert Sutherland moved to the west coast and Benjamin Trimble was appointed to replace him. The principal project of the Field Work Committee for 1966 was the Long Island Raptor Census. The climax of this project was a visit to Gardiner's Island and a survey of the breeding Osprey population. Other projects carried out were the Tobay Breeding Bird Census and the Lawrence Marsh Rookery Study.

Under the direction of Miss Catherine Pessino, Chairman of the Gull Island Committee, and Miss Helen Hays, considerable research was accomplished last summer on the Gull Island study. It was the first year that a definite research program was started. Working with a permanent grid, members banded both adult and young Common and Roseate Terns to determine the population of both species. Best estimate for size of population of Common Tern, 2600-4000; Roseate, 2200-3000.

Members also banded adults for marked pairs, to determine stability of pair bonds, site tenacity, and group adherence.

Independent studies being done on Gull Island are a study by Dr. Robert Wolk on pair formation in the Roseate Tern and a study on Barn Swallows by Frederick Shaeffer.

The Conservation Committee, under the direction of the Chairman, Richard Edes Harrison, and Richard Sichel, has worked hard on a number of conservation projects in the immediate New York area: the preservation of Central Park as a park and the prevention of such structures as the newly proposed stables from being built within the confines of the Park. Mr. Harrison

has prepared a special map for distribution in the interest of the Society's stand in this argument. The map shows the Park as it was in the late 1900's and the additional structures which have been erected since then.

The Society has also entered the fight to prevent the construction of the Richmond Expressway in Staten Island in favor of the preservation of the Olmsted Trailway which lies in the so-called Greenbelt area.

Mr. Harrison testified before the Federal Power Commission against the erection of a Consolidated Edison plant at the site of Storm King Mountain on the Hudson. Plans encompass 240 acres of reservoir; 16 acres of dam.

The Conservation Committee is also studying Pelham Bay Park regarding the possibility of putting it under Federal Protection because of the varied ecology of its 12-mile natural shore line.

Among the achievements of individual members during the past year are:

Eugene Eisenmann has been named Chairman of the A.O.U. Checklist Committee. Mr. Eisenmann appointed Miss Jacqueline Backstrom Administrative Assistant to the Committee.

Robert Arbib has published a new book — *Enjoying Birds around New York City*—a most interesting and useful work.

The Society membership remains the same number as last year. The Society lost two members through death: Mrs. Gladys Gordon Fry and Mrs. Allene Dale. Mrs. Fry was a Life member. Five members resigned. One member was dropped. Total classes are as follows: 6 Honorary, 12 Fellows, 261 Active, 66 Associate. Total 345.

Respectfully submitted,
Lucy Boyajian, *Secretary*

Report of the Secretary for the Year 1967-1968

At the Annual Meeting of the Society on March 14, 1967, the following officers were elected for the ensuing year

President	Richard H. Ryan
Vice-President	Richard L. Plunkett
Secretary	Mrs. Lucy Boyajian
Recording Secretary	Thomas H. Davis, Jr.
Treasurer	Dr. Theodora Nelson
Editor	Miss Lisa McGaw

At a regular meeting held on March 28, 1967, the Society elected Benjamin Trimble, Dr. Donald Cooper, and Mrs. Katha-

rine O'Hare to serve on the council for three-year terms. Arthur Swoger was elected for a one-year term.

The Society held 18 regular meetings, arranged by Vice-President Richard Plunkett. The calendar for the year was as follows:

March 14, 1967:
89th Annual Meeting and dinner. Charles B. Schaughency: "Bird Finding in Mexico."

March 28:
Richard Edes Harrison: "Pelham Bay Park."

April 11:
Michael Rosenthal: "Sandy Hook State Park."

April 25:
Richard Plunkett: Birds off Monhegan Island, Maine."

May 9:
Dr. C. Brooke Worth, D.V.O.C. Exchange Speaker: "Medical Ornithology in the Caribbean."

May 23:
Roland Clement: "The Status of Raptores in North America."

Sept. 12:
Discussion: Validation of Records, moderated by Richard Plunkett with Ned Boyajian and Thomas Davis assisting.

Sept. 26:
Dr. Kenneth Parkes: "Migration, Banding and Taxonomy."

Oct. 10:
Mr. and Mrs. Benjamin Trimble: "Seabirds of the Virgin Islands."

Oct. 24:
Victor J. Yannacone: "Role of the Courts in the Defense of the Natural Environment."

Nov. 14:
Benjamin Trimble and Frederick Heath: "Breeding Birds of Gardiner's Island." Slides by Arthur Swoger.

Nov. 28:
Dr. Robert Dickerman: "Arborviruses in Birds."

Dec. 12:
Dr. Neal Smith: "Brood Parasitism Studies in Panama."

Jan. 9, 1968:
Discussion of Christmas Count, moderated by Thomas Davis and Frederick Heath.

Jan. 23:
Dr. Stan Wecker: "Habits and Habitats."

Feb. 14:
Jean Clark: "Birds of Africa."

Feb. 27:
Dr. Charles F. Wurster: "Harmful Effects of DDT in the Marine Environment."

Informal summer meetings were held on the third Tuesday of June, July, and August.

During the last year the Society had its usual full schedule of field trips arranged by the Field Trip Committee under the Chairmanship of Harry McCauley.

Under the direction of Benjamin Trimble, Chairman, the principal project of the Field Work Committee was a breeding-bird census of Gardiner's Island which took place June 17 through June 18 with the generous help of Robert D. L. Gardiner. Ninety-two species were found, of which 80 were probably breeding. Status of the Osprey continues to be critical. Only 30 occupied nests were found. Only 5 young were known to have been fledged. The most outstanding discovery of the trip was a pair of Long-eared Owls which had successfully bred and fledged 2 young. On November 14, the Committee presented a program on Gardiner's Island to the Society. This program was superbly illustrated by slides taken on the Island by Arthur Swoger.

Individual projects undertaken by members of the committee were a census of the Lawrence Marsh heronry, a study of the breeding birds of Hadley Airport, a census of the breeding birds of Hecksher State Park, and a study of the breeding birds in a salt marsh at Oak Beach.

In addition to these projects, the Committee continued to cooperate with the Laboratory of Ornithology nest card program.

Directed by Miss Catherine Pessino, Chairman of the Gull Island Committee, assisted by Dr. Donald Cooper and Miss Helen Hays, research studies under way last summer were continued.

The size of the colony, as established in 1966, 1100 pairs of Roseate Terns and 1300 pairs of Common Terns, remained approximately the same.

Special permission was obtained from the Fish and Wildlife Service to color-band nesting species so that individual birds might be recognized in the field. Some 1342 adults were so marked.

The banding of young terns continued. In addition to receiving Fish and Wildlife Aluminum bands, each was ringed with a red plastic band so as to be recognized as belonging to the class of '67. Seven hundred young terns were banded.

Vegetation experiments were conducted to obtain more open beach area as suitable nesting habitat.

The Conservation Committee, under the direction of Richard Edes Harrison, Chairman, assisted by Richard Sichel, dedicated much time and effort to a number of conservation issues in the New York area:

First, the proposed construction of a giant equestrian complex in the dead center of Central Park. Determined opposition forced the city to drop its most vulnerable feature, the facilities for polo, but the remainder is still a major threat to the park and must be fought to a finish.

Second, the proposed hydroelectric plant at Storm King by Con Edison. The Conservation Committee participated actively, testifying and preparing maps for hearings before the Federal Power Commission. The case has not been settled, but there is a growing feeling that the plant will not be built.

Third, Pelham Bay Park. This remarkable park, threatened last spring by plans to cover the last fifty acres of salt marsh in the Bronx with rubbish, was saved after strenuous opposition by the scientific and conservation community.

Other threats loom over Troy Meadows, Jamaica Bay, the Staten Island Greenbelt, and the New Jersey Pine Barrens, but under the guidance of the Conservation Committee, the membership of the Linnaean Society will continue to give its support to these issues. A vote of thanks is most certainly due these two gentlemen for their interest and dedication.

The Linnaean Society has begun an extensive membership drive under the direction of Committee Chairman, Mr. Robert Arbib. Thanks to Mr. Arbib and his committee, the ranks of the Society have already swelled considerably. Several new members recruited through the word of the membership committee are here this evening and I would like to extend to them a most cordial greeting.

Total membership classes are as follows: 6 Honorary, 11 Fellows, 284 Active, and 68 Associate. Total 352.

The Society was saddened this last year by the death of three members: Mrs. Albert R. Brand, Miss Helen J. Williams, and Mrs. Eva Rich, a Fellow of the Society.

Respectfully submitted,

Lucy Boyajian, *Secretary*

Report of the Secretary for the Year 1968-1969

At the Annual Meeting of the Society on March 12, 1968, the following officers were elected for the ensuing year:

President	Richard Ryan
Vice-President	Richard L. Plunkett
Secretary	Donald M. Cooper
Recording Secretary	Thomas H. Davis, Jr.
Treasurer	Mrs. Douglas E. Heilbrun
Editor	Miss Lisa McGaw

At the regular meeting held on March 26, 1968, Miss Catherine Pessino, Guy Tudor, and Cornelius Ward were elected to the Council for terms of three years; Dr. Robert G. Wolk was elected for a two-year term. At the November 12 meeting, Miss Helen Hirschbein was elected to the Council to complete the unexpired term of Benjamin Trimble.

The Society had 16 regular meetings. The calendar for the year was as follows:

March 12, 1968:
90th Annual Meeting and Dinner. William G. Conway presented the color film "From the Pampas to Patagonia" made by Robert Goelet and William Drury.

March 26:
A report on the work conducted on Great Gull Island was presented by Grace Donaldson, Helen Hays, Mary Le Croy, Catherine Pessino, Charles Collins, and Donald Cooper.

April 9:
Dr. Jared Diamond, "Altitudinal Zonation and Speciation Mechanisms in New Guinea Montane Birds."

April 23:
Dr. Robert Wolk, "Morphological Adaptations in the Black Skimmer."

May 14:
Robert S. Arbib, Jr., "Techniques for Counting and Estimating Numbers of Birds in Flocks."

May 28:
Ned Boyajian and Thomas H. Davis, Jr., "Discussion of the Spring Migration."

Sept. 10:
Arthur Swoger, "Pymatuning Bird Portraits."

Sept. 24:
Howard H. Cleaves and Dr. William H. Loery, "Two Cameramen in Trinidad."

Oct. 8:
Dr. Neal Smith, "Experimental Studies of the Evolution of Adaptations for and against Brood Parasitism."

Oct. 22:
Robert S. Arbib, Jr., "The East African Scene."

Nov. 12:
Because of bad weather conditions, Carl Kauffeld was unable to present his talk "Snakes and the Birdman." In its place, a general discussion was led by Richard Ryan.

Nov. 26:
Adrian Dignan, "Wyoming Wildlife."

Dec. 10:
Richard Wiley, "Social Behavior of the Sage Grouse."

Jan. 14, 1969:
Annual Christmas Count Meeting.

Jan. 28:
Burt and Louise Keppler, "Photographing Wildlife and Birds."

Feb. 11:
The talk by Dr. Wesley Lanyon was canceled because of a heavy snowfall.

Feb. 25:
John Morony, "Plumage Color as an Insect Attractant."

Informal meetings were held on the third Tuesday during June, July, and August.

In the past year, the Constitution of the Society has been amended so that it is no longer necessary for proposed members to be known to two members of the Council.

The Field Trip Committee under Ned Boyajian's chairmanship presented a series of diverse and interesting trips for members. On many of these trips weather conditions and birds combined to make results for participants most rewarding.

Mr. Boyajian has also been responsible for the very successful series of lectures and field trips for beginners. Twenty-five to thirty members have taken advantage of this unique opportunity to be introduced to the art and science of bird-watching by some of the most competent birders in the country.

The Field Work Committee, currently chaired by Thomas H. Davis, Jr., and, prior to September, by Benjamin Trimble, reports some difficulty in involving members in the several projects that have been conducted for the past year or more. Most successful of this year's efforts was the continued investigation of Gardiner's

Island. Mr. Davis' study of the heron colonies on Lawrence Marsh and his work at the Captree gull colony produced much valuable information.

The Conservation Committee during the past year through the efforts of its chairman, Richard E. Harrison, together with Richard Sichel, has kept the Society informed of the current issues in the field of conservation and, most pertinently, about activities in the New York City region. Mr. Harrison, through his expertise, has carried the name of the Society into many committees and hearings determining the fate of green-belts and parklands of the City. The Riding Academy in Central Park has been the major problem for the year.

The editorship of the *News-Letter* has been taken over by Ned Boyajian. The editorship started out this year with Fred Heath and Frank Enders who left, respectively, for California and North Carolina.

The Society was both pleased and honored to have 54 new members join us this past year. Many of these new members came to us through the persuasive and enthusiastic efforts of Robert S. Arbib, Jr., who led the very successful membership campaign.

Miss Lisa McGaw, editor for the Society, now has all manuscripts for the next *Proceedings* of the Linnaean Society ready for the printer. She is hopeful that the *Proceedings* will be in press by the end of the year.

The Great Gull Island Committee reports continued progress with the studies on the Common and Roseate Terns together with work carried out on the Barn Swallow, Red-winged Blackbird, and Spotted Sandpiper. As well as the two notes already published in the *Auk* by Miss Pessino and Miss Donaldson, and a paper to be published in our next *Proceedings,* several papers are in the works as a result of studies done during the last three years. Through the fund-raising campaign conducted by Miss Pessino and Miss Hays, contributions, largely from Society members, totaled $962.00. Other moneys made available to the Great Gull Island Committee brought the total budget for the year to $1862.00. All of this has been spent on transportation, bands and equipment.

By far the greatest single contributor to the success of the work at Great Gull Island for the past two summers has been Captain Lawrence Malloy and his good ship *Anne.* Without his generosity in providing, at cost, transportation for equipment and supplies, it is questionable if the funds available to the Committee could have provided much more than transportation to and from

the Island at prevailing rates. The Committee offers their sincere thanks to all who have contributed to the success of the project.

The Brewster Memorial Award of the A.O.U. was made to our member Dr. Wesley E. Lanyon for his studies on the function of bird vocalizations.

It is with deep regret that the Society notes the death of two of its distinguished members, Guy Emerson and William Vogt. Both men made lasting contributions to the field of conservation, contributions that gained for both international acclaim. Their membership added luster to the Society.

Respectfully submitted,

Donald M. Cooper, *Secretary*

Report of the Secretary for the Year 1969-1970

At the annual meeting of the Society on March 11, 1969, the following officers were elected for the ensuing year:

President	Mr. Richard Plunkett
Vice-President	Mr. Thomas H. Davis, Jr.
Secretary	Miss Helen Hirschbein
Recording Secretary	Miss Helene Tetrault
Treasurer	Mrs. Lois Heilbrun
Editor	Miss Lisa McGaw

At the regular meeting of March 25, 1969, the Society elected Dr. Paul A. Buckley, Miss Helen Hays, and Mr. Lee Morgan to serve on the Council for three year terms.

There were 16 regular meetings, 3 informal summer meetings, and one special seminar held during the year from March 1969 to February 1970. The programs for the regular meetings were as follows:

March 25, 1969:
"Rearing Songbirds for Research," Dr. Wesley E. Lanyon.

April 8:
"Poisons, Pesticides, and People," a sound film produced by the National Film Board of Canada.

April 22:
"Snakes and the Birder," Mr. Carl F. Kauffeld.

May 13:
Discussion of the spring migration by members.

May 27:

"From the High Andes to the Humboldt Current," Mr. Peter Post.

September 9:

"Close-ups of the Life History of the Ladybug," Mr. Manuel Rodriguez.

September 23:

"Photographing Birds in Mexico," Mr. Arthur Singer.

October 14:

"The Ecology of the Clapper Rail on Long Island," Mr. Robert Johnson.

October 28:

"The Sabanas of Interior Guyana," Mr. Ronald Dagon.

November 11:

"Fall Migrations of the Black-capped Chickadee," Mr. Aaron Bagg.

November 25:

"Birds of Long Island," Mr. Adrian Dignan.

December 9:

"New Jersey—Out-of-Doors," Mr. Bert Schaughency.

January 13, 1970:

Discussion of the Christmas Count led by Mr. Ned Boyajian and Mr. Thomas H. Davis, Jr.

January 27:

"Birding in Africa," Mr. Richard Sloss and Mr. Emanuel Levine.

February 10:

"Evolution of *Dendrocopos* Woodpeckers," Dr. Lester L. Short, Jr.

February 24:

"Bird Banding in France," Alain and Vivian Loiseau.

A special seminar was held on December 23, 1969. Dr. Edwin Willis discussed his work on antbirds.

During the spring and summer extensive field work was carried out on Great Gull Island by members and others. Miss Helen Hays, Chairman of the Gull Island Committee, spent the period from May 1 to August 24 on the Island pursuing her research program and, incidentally, keeping trespassers away. A twelve-

foot high observation tower was constructed almost exclusively by the women observers.

The Beginners' Series of lectures and field trips started in 1968 by Mr. Ned Boyajian was continued with even greater success in 1969.

Members of the Society have been honored in the past year. Dr. Ernst Mayr, a Fellow, was one of six scientists to receive the 1969 National Medal of Science. The International Council for Bird Preservation, United States Section, struck a medal in honor of member Dr. Jean Delacour; the first recipient of the medal was Dr. Konrad Lorenz. Dr. Eugene Eisenmann, a former President of the Society, served as First Vice-President of the American Ornithologists' Union. Dr. Dean Amadon, also a former President, has co-authored with Leslie Brown the definitive work on birds of prey, "Eagles, Hawks and Falcons of the World."

We regret to announce the loss through death of four of our members: Mr. Lee S. Crandall, former Curator of Birds and former General Curator of the Bronx Zoo; Mrs. Stanley S. Dickerson; Mr. Benjamin Gilbert; and Mr. Francis Lee Jacques, artist and naturalist, who painted the background murals for the Whitney Hall of Birds in the American Museum of Natural History.

The membership drive of Mr. Robert Arbib, Chairman of the Membership Committee, has added 44 new members to the Society this year: 39 Active and 5 Associate Members. The membership in all classes is as follows: 6 Honorary Members, 11 Fellows, 338 Active Members, 76 Associate Members. The grand total is 431. Increased attendance at regular meetings necessitated a move to the larger Education Hall in the Museum for these meetings.

On two consecutive regular meetings, October 28, 1969 and November 11, 1969, the Society membership voted to amend Section 2, Article 1, of the Constitution increasing the cost of Life Membership to $150.00 from the former level of $75.00.

Respectfully submitted,

Helen Hirschbein, *Secretary*

Treasurer's Report (Condensed) for the Ten Years Ending February 29, 1968

Funds on hand March 1, 1958	$ 6,060.27	$ 6,060.27
Income:		
dues	$14,616.42	
life memberships	325.00	
contributions[1]	1,000.00	
sales of publications:	5,389.85	
sales to Dover Publications, 1965	250.00	
sales to Stechert-Hafner, 1962	1,355.00	
annual dinner tickets	6,797.00	
pelagic trips	192.94	
refund from printer, 1963	153.36	
interest on bonds and savings	2,507.45	
sundry income	98.93	
TOTAL	$32,685.95	$32,685.95
Disbursements:		
meeting expenses	$ 6,205.39	
annual dinners	7,027.88	
News-Letter	7,037.37	
Proceedings 66-70	1,486.17	
Transactions VIII[2]	1,863.36	
field cards	491.25	
advertising publications, 1963	737.46	
library case	460.00	
Elliott Memorial	100.00	
for work on Great Gull Island	603.50	
other operating expenses[3]	2,839.02	
sundry expenses	229.30	
TOTAL	$29,080.70	$29,080.70
Funds on hand March 1, 1968		
Checking account		
First National City Bank	$ 1,056.15	
Charles A. Urner Memorial Fund		
Union Dime Savings Bank	684.93	
United States bond	500.00	
Revolving Publications Fund		
Emigrant Savings Bank	4,924.44	
United States bonds	2,500.00	
TOTAL	$ 9,665.52	$ 9,665.52

[1] Including $500.00 in memory of Dr. Arthur Aronoff; $250.00 in memory of Ezra J. Feinberg; $195.00 for work on Great Gull Island.
[2] Additional cost of $1,500.00 paid by outside funds.
[3] Including officer's expenses, memberships and subscriptions, postage, stationery.

Theodora Nelson, *Treasurer*

Treasurer's Report for the Year Ending February 28, 1969

Funds on hand March 1, 1968	$ 9,665.52	$ 9,665.52
Income:		
dues	$ 1,742.00	
contributions	9.00	
sales of publications	99.19	
annual dinner tickets	1,035.00	
pelagic trip	289.00	
interest on bonds and savings	353.84	
TOTAL	$ 3,528.03	$ 3,528.03
Disbursements:		
meeting expenses	$ 833.15	
annual dinner	1,038.33	
News-Letter	379.74	
pelagic trip	269.00	
for work on Great Gull Island	35.00	
other operating expenses	107.98	
TOTAL	$ 2,663.20	$ 2,663.20
Funds on hand March 1, 1969		
Checking account		
First National City Bank	$ 1,469.95	
Charles A. Urner Memorial Fund		
Union Dime Savings Bank	787.93	
United States bond	500.00	
Revolving Publications Fund		
Emigrant Savings Bank	5,272.47	
United States bonds	2,500.00	
TOTAL	$10,530.35	$10,530.35

Lois H. Heilbrun, *Treasurer*

Irving Cantor, *Auditor*

Treasurer's Report for the Year Ending February 28, 1970

Funds on hand March 1, 1969	$10,530.35	$10,530.35
Income:		
dues	$ 1,958.50	
life membership	75.00	
contributions	28.00	
sales of publications	203.86	
annual dinner tickets	855.00	
pelagic trip	318.00	
interest on bonds and savings	429.05	
refund, postal	36.57	
TOTAL	$ 3,903.98	$ 3,903.98
Disbursements:		
meeting expenses	$ 1,067.13	
annual dinner	997.32	
News-Letter	338.52	
memberships & subscriptions	91.25	
pelagic trip	280.00	
for work on Great Gull Island	72.00	
stationery	81.15	
Proceedings	41.19	
field trip committee	58.17	
other operating expenses	153.77	
TOTAL	$ 3,180.50	$ 3,180.50
Funds on hand March 1, 1970		
Checking account First National City Bank	$ 1,622.51	
Charles A. Urner Memorial Fund Union Dime Savings Bank	1,340.17	
Revolving Publications Fund Emigrant Savings Bank	8,291.15	
TOTAL	$11,253.83	$11,253.83

Note: In June the three Series K bonds were redeemed; $500.00 were deposited in the Urner Fund and $2500.00 was deposited in the Revolving Publications Fund.

Lois Heilbrun, *Treasurer*
Irving Cantor,
Donen Gleick, *Auditors*

The Linnaean Prize for Ornithological Research

ELIGIBILITY

Any meritorious paper is eligible for the prize which embodies the results of substantial original research in ornithology by a member or members of the Society, not previously published, nor submitted for publication elsewhere, and not undertaken in the course of professional duties. A paper embodying research for which financial compensation was received by the author or which was undertaken as a requirement for a graduate degree is not eligible. A major portion of the research must have been done while the applicant for the award was a member of the Society.

Any member of the Society of any class is eligible, who is in good standing at the time of the submission of the paper and the making of the award. Two or more members may be jointly eligible when they are the sole authors of the paper and were responsible for the research.

The Prize

The sum of $100 and a Certificate of Award shall be given in the discretion of the Council, at the Annual Meeting of the Society, for the best eligible paper submitted since the previous award.

When and Where Submitted

The paper shall be delivered to the Secretary of the Society, at the American Museum of Natural History, New York City, on or before December 1 of the year for which the prize is sought.

Form of the Paper

The paper shall be submitted in duplicate, in a form suitable for publication, and shall be accompanied by a letter signed by the applicant, stating that the eligibility requirements have been complied with.

The Judge

The Council of the Society shall act as final judge, and may, in its sole discretion, determine that the prize should not be awarded to any of the papers submitted. The prize need not be awarded every year. A member of the Council submitting a paper shall not be present, participate, or vote at that portion of the meeting of the Council at which the awarding of the prize is discussed or determined. The Council may, at its discretion, appoint a sub-committee to advise it as to the best paper, without being bound by such advice.

Publication

By submitting a paper for the Linnaean Prize, the applicant agrees that the Society may publish such a paper, and that it will not be submitted for publication elsewhere until the Society has had three months to decide whether it intends to publish. If the Society notifies the applicant within such a period of its decision to publish, the applicant agrees that the Society shall have a reasonable time in which to effect publication. The provisions of this paragraph may be waived or the period of decision reduced if the applicant submits reasons deemed adequate to the Council why some other medium of publication is preferable, or the delay in publication would be unreasonable. While it is the intention of the Society to publish prize-winning and other meritorious papers entered for the Linnaean Prize, the Society shall not be obligated to do so.

In Memoriam

Mrs. Richard M. Abbott, 1960
Robert Porter Allen, 1963
Arthur Aronoff, 1960
John Bellis, 1962
Beecher S. Bowdish, 1963
Mrs. Albert R. Brand, 1966
James P. Chapin, 1964
Henry Hill Collins, 1961
Mrs. Robert Coombs, 1963
William P. Cooney, 1963
Allene Dale, 1966
Mrs. Stanley S. Dickerson, 1969
Rosalie Barrow Edge, 1962
John J. Elliott, 1963
Guy Emerson, 1968
Margaret Fife, 1965
Edward Fleisher, 1960
Gladys Gordon Fry, 1966
E. Thomas Gilliard, 1965
Ludlow Griscom, 1959
Raymond G. Guernsey, 1959
Henry C. Hasbrouck, 1962
Richard A. Herbert, 1960
R. H. Howland, 1968
Francis Lee Jaques, 1969
Pauline Messing, 1964
Charles K. Nichols, 1962
William H. Phelps, 1965
Hugo B. Pladeck, 1965
Eva Rich, 1967
Norton Smith, 1961
A. P. Thornton, 1961
William Vogt, 1968
Frank Walters, 1960
Helen J. Williams, 1967

Memorials

Beecher S. Bowdish 1872-1963

Beecher S. Bowdish, member of the Linnaean Society for 43 years, for the last ten of them an elected Life Member, died in Demarest, N. J., his longtime home, on Feb. 20, 1963.

For many of us who had known Beecher Bowdish, it seemed quite impossible that this slight, white-haired, gentle, and friendly man would no longer attend our meetings; he had always been there. It was hardly a meeting without him.

Beecher Bowdish was not given to taking the floor and holding it, but when he did he was eloquent and forceful; and always a worthy advocate of his position. You always knew where Beecher Bowdish stood. Even in later years, he would astonish members one third or one fourth his age with his energy and forcefulness, and with the constant flow of worthwhile records from northern New Jersey. Rare indeed was a meeting at which he did not contribute.

At the society's celebration of its 75th anniversary in 1953, Beecher Bowdish was one of the honored guests, and scheduled on the program to reminisce about the early days of the society. But when the time came, Beecher was overcome with emotion, and could not bring back the memories. Later, he ventured the thought that he was not really one of the oldtimers. "I didn't join the Linnaean Society until I was 48!"

Beecher Scoville Bowdish was born in Phelps, Ontario County, N. Y., on Feb. 27, 1872, during the first term of President Ulysses S. Grant. His home was a working farm, and from a schoolteacher aunt he learned a love of nature that was to stay with him all his life.

After local schooling, Bowdish served in the Spanish-American War. His first enlistment found him a member of the New York Volunteers, Company B, where he served for five months until August, 1898. Early in 1899 he joined the Regular Army as a member of the 11th Infantry, serving, part of the time, in Puerto Rico. While stationed on that newly liberated island, he collected

300 bird skins for the American Museum of Natural History and for other museums.

In 1904, Bowdish moved to Demarest, N. J., and came to work in New York City for the (then) National Association of Audubon Societies. Six years later he was one of the founders of the New Jersey Audubon Society, and his services as Executive Secretary of that organization lasted from its inception until 1946. He also served several terms as Treasurer, and was on the Board of Directors for 43 years.

The President of the New Jersey Audubon Society, P. B. Philipp, was a close friend of Bowdish's, and together they pursued their interest in oology and made studies of warblers nesting in New Brunswick, Canada.

But egg, nest, and bird collecting were soon given up for a more intriguing interest, bird banding, and Bowdish was one of the founders and most active member of the Eastern Bird Banding Association. His other memberships included the A.O.U. (as an Honorary Life Member), the Cooper Ornithological Society, the D.V.O.C., the Urner Ornithological Club, and the Wilson Ornithological Society. He was the author or co-author of a number of papers, largely as the result of his bird banding.

In October, 1955, the New Jersey Audubon Society honored his years of service by naming an island in Cape May County the "Beecher S. Bowdish Island Sanctuary."

His active interest in bird banding lasted well into his 80's, failing eyesight alone putting an end to this activity; but his keen interest in birds remained to the end. Although modest of means, he was one of the founders of the J. A. Allen Fund of the Society of Mammalogists, and left a substantial bequest to the A.O.U. His collection of nests and eggs had already been donated to the New York State Museum.

Beecher Bowdish was survived by his wife, the former Christable Mary Everett of Tenafly, N. J., and a daughter, Mrs. Constance Van Ruyder of New Rochelle, N. Y.

Robert S. Arbib, Jr.

James P. Chapin 1889-1964

The name of James P. Chapin will be forever associated with the ornithology of Africa. His four-volume work on the birds of the Congo is one of the two or three greatest contributions ever made to the natural history of the Dark Continent.

But Jim Chapin, when he was not in Africa, was in New York, where he took an active part in local activities, including those of the Linnaean Society. Though he left for his first African expedition at the tender age of nineteen, he had already become an authority on the natural history of his home borough, Staten Island. His earliest published notes are to be found in the Annals of the Staten Island Institute of which he was later to be President.

Unlike some biologists who tend, as the years advance, to become exclusively what used to be called "closet naturalists," Chapin never lost his interest in the living bird. Picking up a pair of binoculars every time he stepped outdoors had become almost a reflex act. And always he found something of interest. A few winters ago, for example, he told me of checking each evening on a Blue Jay that came regularly to roost, by sitting on an old Robin's nest, in Ft. Tryon Park. A meticulous preparator, specimens of birds prepared by Chapin were described by a colleague as more perfect in appearance than the living bird itself.

Chapin's enthusiasm, his fine speaking voice, and his fluency on both formal or informal occasions impressed all who met him. I clearly remember the first time I saw him in 1933—when he vaulted to the platform without bothering with stairs—to deliver a paper on the wing-snapping display of the African Broadbill. It is the only paper presented at that distant A.O.U. meeting of which I have any recollection whatsoever.

Though not an ambitious man in the usual sense of the word, Chapin's integrity, diplomacy, and personality fitted him ideally for leadership. Without effort on his part he became President of our own Linnaean Society in 1928-29, President of the American Ornithologists' Union in the early forties, and later President of the Explorers Club. But this sociable and gregarious man as regularly sought the out-of-doors. There he was equally happy whether encamped with pygmies while searching for the elusive Congo Peacock or standing on the deck of a palatial yacht pointing out the seabirds of the South Pacific to Vincent Astor.

A bibliography and further biographical data for James P. Chapin may be found in the memorial by Herbert Friedmann published in *The Auk*, 1965.

Dean Amadon

James and Ruth Chapin, near Bukavu, eastern Belgian Congo, December, 1953.

John J. Elliott 1896-1963

John Jackson Elliott was born in Brooklyn on June 17, 1896, and died at his home in Seaford, L. I., on June 28, 1963. He had been an active member of the Linnaean Society of New York since 1939, and at the time of his death was President of the Federation of New York State Birds Clubs. He was also active in the Baldwin Bird Club and in an informal group that met at his home occasionally and called itself the Ornithologists' Club of Long Island. John Elliott was self-taught and already in his forties before his excellence and integrity as an observer and reporter became widely known. In the 1930's he began to send articles and reports to *Bird Lore* (now *Audubon Magazine*), and in 1941 took over the editorship of a weekly bird column on Long Island, which he maintained for the next seventeen years. John's interests were wide: his published papers include accounts of wintering Tree Swallows, eastern introduction of the House Finch, feeding habits of cuckoos, and notes on Adirondack birds. His favorite species undoubtedly were the introduced European Goldfinch and the Ipswich Sparrow; he is the author of the articles on both species in the latest (1968) volumes of the "Bent" life histories series. Although he was never an officer of the Society, he was a regular contributor to our publications and a welcome speaker at our meetings. He was known and admired by everyone in Long Island, and later in New York state, ornithology, and esteemed for his depth of knowledge, his shrewd wit, and his family- and civic-minded character.

Robert S. Arbib, Jr.

E. Thomas Gilliard 1912-1965

E. Thomas Gilliard was one of a number of famous ornithologists on the staff of the American Museum of Natural History to become also a member of the Linnaean Society of New York. Tom joined the Society in 1937 and at the time of his premature death was Curator of Birds at the Museum.

Although best remembered for his explorations and collecting trips to remote regions of the world, he found time to enjoy and study the birds around his home at Riverdale overlooking the Hudson and, in later years, at his summer place in the beautiful Poconos. It was at Riverdale that Tom was instrumental in getting the former Perkins estate set aside as a wildlife sanctuary. There he spent many an early spring morning observing the birdlife before driving to work at the Museum. At nearby Spuyten Duyvil during the winter of 1955-56 Tom corroborated the first-

known occurrence of the Tufted Duck in the New York City region by photographing this Old World species in color.

Tom Gilliard was one of the outstanding wildlife photographers in America and the members of the Linnaean Society were the beneficiaries of his beautiful films which he showed at meetings. His illustrated lectures invariably attracted capacity audiences. Whether it was an expedition to Venezuela for the Cock-of-the-Rock and manakins—both of which he photographed while they were engaged in courtship display—or to far-off New Guinea after colorful birds of paradise and bowerbirds, and primitive mountain peoples as well, Tom's talks were exciting and full of interest. He was the featured speaker at the annual dinner meeting in 1951 when he presented his talk, "Land of Paradise Birds and Stone Age Man."

Besides numerous scientific papers and articles of a popular nature, probably his two outstanding works were *Living Birds of the World,* published in 1958, and (together with Austin Rand) *Handbook of New Guinea Birds* (1968). A monograph, *Birds of Paradise and Bower Birds,* was published in 1969.

Tom was greatly liked and had a host of friends. Although he never spared himself from his rigorous work schedule, either at the museum or in the field, he gave freely of his time to help and encourage young people who sought his advice. His cheerful demeanor in the face of serious physical handicaps in his later years was an inspiration to everyone. His untimely passing in 1965 left a void which will be difficult to fill.

For a more detailed biographical account, see the article by Murphy and Amadon in *The Auk*, Vol. 83, pp. 416-422, 1966.

John Bull

Ludlow Griscom 1890-1959

Ludlow Griscom was born in New York City on June 17, 1890, and spent his formative years in the region. His death on May 28, 1959, left an ornithological void in New England, where he had been the dominant figure in local faunistics for some thirty years. His influence will continue to be felt in a much broader field not only through his many publications on taxonomy and distribution, but above all through his developments of the techniques of sight identification. These he passed on through disciples, first in New York and later in New England, and they in turn spread Griscom's methods throughout the country and beyond, by field guides and personal example. Much of modern ornithology depends on the reliability of sight identification; in this aspect of the science Griscom was recognized as the master.

Griscom was a legendary figure long before his death. The story of his multiple talents has been told and retold: a gifted musician, a remarkable linguist, a top-notch botanist, but above all an ornithologist with a breadth of interest. I have heard him described by one of our outstanding professionals as the finest field ornithologist in this country. He combined thorough museum training, wide field and collecting experience in much of the world, with an unflagging enthusiasm and amazing skill in finding and observing the living birds of his home areas. Bird spotting remained a joy to him to the end of his energetic life.

Griscom became a member of the Linnaean Society of New York in 1907. He was elected Secretary in 1912, Vice-President in 1922, President in 1927, and later was honored as a Fellow. While serving as the chairman of the Society's Local Avifauna Committee, he published *Birds of the New York City Region* (1923), which for almost twenty years was the bible of local faunistics for New York bird students.

In 1927 Griscom left the American Museum of Natural History, where he had been Assistant Curator of Ornithology, to join the staff of the Museum of Comparative Zoology at Harvard University. For the remainder of his life he resided at Cambridge, but his attachment to the Linnaean Society of New York persisted. He was a frequent and favorite speaker at meetings; he served as a court of last resort on fine points of sight identification; he was always helpful when Linnaeans, often youngsters unknown to him, called for information about Massachusetts winter rarities. His "Historical Developments of Sight Recognition" (Proc. Linn. Soc. N. Y., nos. 63-65: 16-20, 1954), delivered at the 75th Anniversary Meeting of the Society justifiably emphasizes the need for careful screening of sight observations before publication — if local faunistics is to preserve a scientific status.

Griscom's scientific accomplishments need no repetition here (see Peterson, "In Memoriam: Ludlow Griscom," Auk, 82: 598-605, 1965). But just what kind of man was he? He has been described as gruff, assertive, a showman, a genius. He was all of these and more. His intimates found his gruffness a veneer hiding a warm nature and a touch of sentimentality on occasion. A man of definite opinions, he expressed his views and feelings straightforwardly and with vigor. Thus he not infrequently drew sparks or roused resentment from those who did not agree. No one was ever in doubt as to Griscom's position. His drive was backed by great physical stamina, coupled with a singleness of purpose which recognized no obstacle. He remained thus until, in 1949, he suffered a severe stroke, massive enough to have permanently incapacitated a lesser man. Nevertheless, only thirty-four days later, and with one side partially paralyzed, he was a-

gain in the field, although accompanied by a trained nurse. At this point he could hold his binocular with but one hand and was unable to walk more than a very few steps from his car. It was an inspiration to watch his progress. He slowly but surely recovered almost full use of his damaged arm and leg, eventually resumed driving his car, and returned to his museum post. His enthusiasm and indomitable spirit won out against tremendous odds and his eyesight and hearing were still truly impressive. Even after other strokes, several years later, he could not be held down.

The passage of time, coupled with the physical handicaps of his later years, made Ludlow more mellow and less abrupt. This merely revealed to others the warm and affectionate nature which many of us knew had always existed.

In my files is a letter from Ludlow, in reply to one in which I had told him of *seeing* a Least Pygmy-Owl in Mexico, the location indicating it was the race known as *Glaucidium minutissimum griscomi*. He said: "Of course, it should have been collected. You may as well remember that any bird named after me should always be collected". In the same letter he wrote: "I have just completed my fiftieth year with the warbler migration hereabouts and can still hear all the high songs". This was less than two years before his death.

Griscom's scientific accomplishments are a matter of record and will benefit generations as yet unborn. Fortunate are those who by personal acquaintance learned what a kind, warm, and human person Ludlow was.

R. Dudley Ross

Richard A. Herbert 1907-1960

Richard A. Herbert, who joined the Linnaean Society of New York in 1928, died at Wilmington, Del., on April 11, 1960. Born on Feb. 28, 1907, in New York City, the son of Thomas and Elizabeth Herbert, he was first introduced to the world of the out-of-doors by his father during the latter's hunting trips, began his study of birds at the age of eleven, and pursued it with undiminished zeal for the rest of his life. His life-long friendships with J. J. Hickey, Irving Kassoy, and J. F. Mathews were formed in his boyhood; all four began to attend meetings of the Linnaean Society in 1923; and, with A. D. Cruickshank, J. F. and R. G. Kuerzi, and F. J. Ruff, formed the Bronx County Bird Club in 1924. This teen-aged group soon adopted an innocent immigrant from Jamestown, R. T. Peterson, and carried out—on a nearly daily basis—avifaunal surveys of the Bronx and lower Westchester that were published in the Linnaean *Proceedings* in 1926. At a time when

the imagination of teen-aged bird watchers can be rather wild, Herbert's deep-rooted intellectual honesty did much to steady this group and keep it respectable. Six of this Linnaean generation ultimately served the Society in its various officerships, and RTP went on to become an international figure in ornithology.

Herbert was an ardent conservationist from the day he first read Ernest Harold Baynes. His love affair with the Peregrine Falcon began about 1930, and he never recovered. He spent thousands of hours watching the Hudson River eyries and censusing wintering Peregrines in the Bronx and Manhattan, taking almost no notes but relying on a simply prodigous memory. Too shy to accept an office in the Linnaean Society, he worked on many of its committees, was active behind the scenes in the Hawk and Owl Society during the 1930's and, upon his retirement from the banking business in 1948, added bird photography as a hobby, and stepped up his Peregrine field work. An amateur ornithologist all his life, he was extremely well read on the biology of raptorial birds and was always an engaging field companion. He had a catlike skill in climbing cliffs and the utter fearlessness of a mountain goat while working at great heights.

In 1957 he married Kathleen Green Skelton, a member of the Society, and moved to Delaware. Traveling to Mexico and Africa in his later years, he developed rapidly into a good photographer whose career was abruptly curtailed by cancer. His discovery, with Leslie Brown, of the Taita Falcon nesting in Southern Rhodesia in 1957 was one of the memorable events of the First Pan-African Ornithological Congress, as it involved a species known to science only from the type and one other specimen. Many of his Peregrine observations were salvaged or shared by his wife, and these are summarized in a jointly authored paper that appeared in *The Auk* in 1965. He is survived by his wife, Kathleen, who now resides in Middletown, Del. and by his brother, Gerald F., of New York City.

Joseph Hickey

Charles K. Nichols 1880-1962

Charles K. Nichols, President of the Linnaean Society of New York from 1941 to 1943, died at Ridgewood, N. J., on Aug. 26, 1962. He was born in Arden, N. Y., in 1880 and is survived by a widow and three sons.

C. K. (as he was known to most of his colleagues in the Linnaean Society) had been an engineer with the Consolidated Edison Company of New York; he retired in 1938. His was one of the unusual cases in ornithology: a man who had become a bird stu-

dent at a mature age. It is reported that his interest was aroused when one of his sons was qualifying for a Boy Scout merit badge. By 1930 he was elected a member of the Linnaean Society of New York, and soon acquired a reputation for his knowledge of the birds of northern New Jersey. He successively served as Secretary, Vice-President, and President of the Society. After his retirement from business he became a volunteer worker in the Department of Ornithology of the American Museum of Natural History, and was later appointed Research Associate and Honorary Librarian in the Department. Meanwhile he had become Regional Editor of *Audubon Field Notes* for the Hudson-St. Lawrence Region (which included the New York City area), a post held almost to the time of his death.

C. K. published relatively few scientific papers. Although he was an ardent student of ornithology and allied subjects and made conscientious researches for several long ornithological papers, his perfectionism and modesty prevented his bringing them to the point where he would submit them for publication. Shortly before his death he finished the work of preparing and editing the Ten-Year Index to *The Auk* for 1941-1950 (begun by George Willett). In recognition of his services, he was elected an Honorary Life Elective Member of the American Ornithologists' Union.

A quiet, self-effacing man, C. K. nevertheless insisted on the highest standards for the acceptance of sight observations. The period of his presidency and vice-presidency of the Linnaean Society was notable for the scientific quality of the formal programs. C. K. endeavored to obtain as speakers not only distinguished ornithologists, but leading workers in other fields. In this way he brought to the attention of his fellow amateurs important developments in various aspects of zoology. Until his final illness reduced his activity, C. K. remained an ardent field "birder" and a regular attendant at Linnaean meetings. There his ornithological knowledge, practical wisdom, and undogmatic manner of expression always carried the greatest weight.

Eugene Eisenmann

Eva Rich

Mrs. Eva Jacobs Rich, a Fellow of the Linnaean Society and its Treasurer from 1943-52, died on June 25, 1967. Mrs. Rich had been a member of the Society since 1922. Hers was an active interest in birds, so contagious that her husband, the late Marcus

C. Rich, also became an ardent student and a member of our Society in 1929. Endowed with a musical ear and an exceptionally discriminating and retentive auditory memory, Mrs. Rich came to be recognized as a local expert on bird song identification. The Riches for many years carefully followed bird migration in Central Park and were regarded until Marcus Rich's death as the unofficial screeners of Central Park bird reports. Eva Rich was a person of friendly and cheerful disposition. She was responsible for introducing to the Linnaean Society many of its most valued members. Her practice was to invite to attend meetings birders she met afield who struck her as likely to gain from or to contribute to the Society's activities.

She served the Society on committees, on the Council, and for many years as its Treasurer. In recognition of these and other services she was elected first a Life Member and later a Fellow of the Society. Combining keen intelligence, respect for the opinions and feelings of others, and the kindly wisdom of long experience, Eva Rich was a preeminently useful member of the Linnaean Society and an outstanding human being.

Eugene Eisenmann

William Vogt 1902-1968

William Vogt, one of the most distinguished alumnae of the Linnaean Society, died at his apartment on Riverside Drive, July 11, 1968. His age was sixty-six. When he first attended meetings of the Society about 1930 he was a professional writer and drama critic who soon switched his allegiance to birds. It was at that time that he urged me to prepare my first Field Guide and, I confess, without this urging, I probably would never have done so.

Mr. Vogt served as curator of the state bird sanctuary at Jones Beach from 1932 to 1935. When the National Audubon Society took over Frank M. Chapman's *Bird Lore* (later renamed *Audubon Magazine*) in 1934 he became its first editor under the new regime. Terminating his association with the Audubon Society in 1939 he was engaged for three years by the Compania Administradora del Guano at Lima, Peru as consulting ornithologist to increase, as he put it, "the increment of the excrement." It was while in Peru that he became deeply absorbed in the population dynamics not only of birds but also of people. This led to a broader interest in ecology and further South American assignments. From 1943 to 1950 he acted as chief of the conservation section of the Pan American Union and it was during these years

that he wrote his best-selling *Road to Survival*, pointing out the desperate imbalance between human increase and dwindling natural resources. It was appropriate that he should take over in 1951 as National Director of the Planned Parenthood Federation of America, where he served for ten years.

Since 1961, after he retired from Planned Parenthood, he served as Secretary of the Conservation Foundation, retiring only a year ago before his death. He had exciting plans for further conservation activity, had he lived.

Drama critic and birth control advocate may seem worlds apart, but the odyssey of Bill Vogt's career, leading from one to the other—via birds—has been a very logical one. He believed, as Dean Amadon once put it, that "birds are far more to us than ducks and pheasants to be shot, or chickadees and cardinals to brighten a suburban winter." He knew them as sensitive indicators of forces in our environment that might affect our own survival. Although always a naturalist first, he felt that the most realistic way to tackle the multitudinous problems of conservation was through human population control.

Roger Tory Peterson

Constitution and By-Laws of the Linnaean Society of New York (as amended)

Constitution

Section 1. *General Organization.*

Article 1. This Society shall be composed of persons interested in natural history.

Article 2. It shall consist of Life, Active, Associate, and Honorary Members, and Fellows.

Article 3. Active Members, Life Members and Fellows only shall be entitled to vote, to hold office, to serve on committees and Council, and to transact business. Associate Members and Honorary Members may attend the meetings and take part in the scientific discussions of the Society. The president shall have the power to appoint Associate Members to serve on committees (other than committees dealing with the business or organizational affairs of the Society), but such Associate Members shall not be chairmen of committees or entitled to vote. All members, not in arrears of dues, shall be entitled to receive without charge the various publications of the Society issued during the period of membership, unless the Council shall otherwise provide, on the basis of cost or class of membership.

Article 4. The officers of the Society shall be a President, a Vice-President, a Secretary, a Recording Secretary, a Treasurer, and an Editor. With the exception of the Treasurer and Editor no officer shall hold the same office more than two consecutive years, but shall again be eligible for election one year after the expiration of such a term. Such officers, together with nine members at large, shall form a board for the management of the concerns of the Society to be called the Council. Councilors shall be elected for a term of three years, in such manner that the term of three councilors shall expire every year.

The current officers and elected councilors are called current elective Council members. A majority of the current elective Council members shall be required as a quorum for a meeting of the Council. Any former President of the Society, who shall have been elected and shall have served a full term as President and who is a Fellow, Life Member, or Active Member in good standing, shall also be entitled to attend Council meetings and, when present, to vote as a member of the Council. This is not to preclude the election of any past president as a current elective council member.

Any former President, qualified to participate in Council meetings who wishes prior notice of such meetings, shall advise

the Secretary in writing during the fiscal year for which he wishes notices, indicating mailing address.

Article 5. By-Laws for the more particular regulation of the Society shall from time to time be made.

Article 6. This Constitution may be altered or amended by a three-fourths vote of the Active Members, Life Members and Fellows present at any meeting of the Society, provided written notice of the proposed change and of the meeting at which the proposed change is to be acted upon has been sent to each Active Member, Life Member and Fellow at least 30 days previously.

Section 2. *Of Members.*

Article 1. Active Members shall be persons who have shown an interest in some branch of natural history. Active Members may become Life Members upon the payment to the Treasurer of Seventy-five Dollars, at one time, which shall be in lieu of annual dues.

Article 2. Associate Members shall be persons interested in some branch of natural history (a) residing 50 miles or more from New York City and unable to attend meetings of the Society regularly; or (b) regularly enrolled as full-time students for an entire academic year at an established institution of learning. Persons holding Associate Membership as students shall be obliged to advise the Treasurer on or before the first day of February of each year as to their current and prospective status as students; they may be dropped from membership by the Treasurer if satisfactory evidence of such status is not supplied. Nothing herein shall preclude a student or a person residing 50 miles or more from New York City from being elected an Active Member.

Honorary Members shall not exceed ten in number, and shall be persons eminent for their attainments in zoology.

Any member may be elected a Fellow in recognition of distinguished service to the Society.

Article 3. All classes of Members shall be chosen by majority vote, after having been nominated at a preceding meeting and approved by the Council. The amount and time for payment of dues shall be fixed by the By-Laws.

Article 4. Any undesirable member may be expelled from the Society, upon recommendation of the Council, by a three-fourths vote of the Active Members, Life Members and Fellows present at any regular meeting, provided written notice of the proposed action and of the meeting at which such action is proposed to be taken has been sent at least 30 days previously to each Active Member, Life Member and Fellow and to the member involved.

Section 3. *Of Officers and Their Duties.*

Article 1. The President shall preside at meetings of the Society and of the Council, preserve order, regulate debate; and shall conduct all proceedings in accordance with parliamentary usage.

Article 2. The Vice-President shall have charge of the archives of the Society; shall, with the advice and assistance of the President and Secretary, plan and prepare the programs for meetings of the Society; and shall perform the duties of President in the absence of the latter.

Article 3. The Secretary shall give notice to persons of their election as members, and to committees of their appointment; shall give notice of all regular meetings of the Society; shall call special meetings when directed by the President; shall give notice to all members of the Council of all Council meetings; shall inform officers of all matters requiring their attention; shall conduct the correspondence of the Society and prepare all letters to be written in its name, retaining copies of them; and shall assist the President and Vice-President in planning the programs for meetings of the Society.

Article 4. The Recording Secretary shall take and preserve correct minutes of all meetings of the Society and shall preserve and compile in systematic order field notes presented by members.

Article 5. The Editor, with the assistance of Associate Editors, who may be appointed by the President when necessary, shall edit and supervise all publications of the Society, and shall exchange and distribute them.

Article 6. The Treasurer shall collect all money due, shall pay all bills against the Society as authorized by the Council; shall keep a correct account of all receipts and expenditures; and shall make a detailed report of the same at the Annual Meeting.

Article 7. Officers shall be nominated by the Council and chosen at the Annual Meeting, and a majority vote of the Active Members, Life Members, and Fellows present shall be sufficient for a choice. The slate of officers nominated by the Council shall be announced at a meeting prior to the Annual Meeting. Any other qualified member may be nominated if such nomination is subscribed in writing by 15 persons who are Active Members, Life Members or Fellows and is received by the President or Secretary at least 5 days prior to the Annual Meeting. Any office becoming vacant during the year shall be filled at the next meeting of the Society in the same manner, except that the Council need not announce its nomination in advance of the meeting, and other nominations may be made from the floor.

Section 4. *Of the Council and its Duties.*

Article 1. The Council shall pass upon all nominations of candidates for membership, and shall make such recommendations as it sees fit on new business initiated by properly qualified members. Its recommendations shall be presented by the Secretary at the next meeting whenever possible. A majority vote of the members present shall be sufficient to ratify favorable recommendations.

Article 2. It may initiate any new business promoting the general interests and welfare of the Society, and a majority vote of the members attending the meeting at which such business is presented shall be sufficient for ratification. The prior authorization or approval by a majority of the Councilors, given at meeting of the Council, shall be necessary for any expenditures in excess of $50.00.

Article 4. It shall hold regular meetings for the transaction of general business. Special meetings may be called by the President or upon the request of any three Councilors.

Article 5. Councilors shall be nominated by a committee to be appointed by the President at the Annual Meeting, such committee to consist of three members of the Society who are not members of the Council. This shall not be construed as precluding additional nominations from the floor. Councilors shall be chosen at the first regular meeting after the Annual Meeting, up to the number sufficient to fill the vacancies. In case the number of nominations exceeds the number of vacancies the elections shall be by ballot. Those receiving the largest number of votes of Active Members, Life Members and Fellows present shall be elected. If, for any reason, a Councilor does not complete his term of office his successor for the remainder of the term shall be chosen at the next regular meeting by nomination from the floor and election as prescribed above.

Section 5. *Of Meetings.*

Article 1. A meeting shall be held annually for the choice of officers and for other general purposes. At this meeting the Secretary shall present a report upon the publications, meetings, membership, etc.; the Treasurer upon the receipts and expenditures. Previous to the Annual Meeting the President shall appoint a committee of two members, neither of whom shall be a member of the Council, to audit the accounts of the Treasurer.

By-Laws

Section 1. *Of Members.*

Article 1. Every Active Member shall be subject to annual dues of six dollars ($6.00) and every Associate Member to an-

nual dues of two dollars and fifty cents ($2.50) payable at the first regular meeting in March. Dues of newly elected members shall be payable upon election to membership, but those persons elected in the period between the first regular meeting in September prior to the first regular meeting in March shall be obligated to pay for such period only one half the regular annual dues. Upon written application to the Treasurer, subject to the approval of the Council, and if the applicant is not in arrears of dues for a previous year, (a) a member who for a full year is absent on a scientific expedition or is engaged in military service may be excused from the payment of dues for that year; (b) an Active member who is regularly enrolled as a full-time student for an entire academic year at an established institution of learning may have his status changed to that of Associate Member, provided his application is received on or before the first day of February of the year for which the change of status is sought, accompanied by the annual dues of an Associate Member for that year. Upon recommendation of a majority of the Council, a person who has been an Active Member of the Society for twenty-five consecutive years may be considered a Life Member.

Article 2. Any member who shall neglect to pay his regular dues for one year from the date when payable shall be dropped from the roll of members after having been sent notification to that effect in writing by the Treasurer.

Article 3. Any Active or Associate Member may withdraw from the Society by giving written notice of this intention and paying all arrearages due the Society.

Section 2. *Of Meetings.*

Article 1. The Annual Meeting shall be held the second Tuesady in March.

Article 2. Regular meetings shall be held on the second and fourth Tuesdays of each month from September to May inclusive, except when suspended by a majority vote of the Society at a previous meeting.

Article 3. Twenty-one Active Members, Life Members and Fellows shall form a quorum.

Article 4. The order of proceedings at meetings shall be, at the discretion of the presiding officer:

1. Reading of minutes of the previous meeting by the Recording Secretary.
2. Reading of correspondence received by the Secretary.
3. Proposal of candidates for membership.
4. Election of members.
5. Business (a) Unfinished; (b) New.

6. Presentation of formal papers.
7. Presentation of field notes.
8. General discussion.
9. Adjournment.

Section 3. *Of Changes of By-Laws.*

Article 1. The By-Laws of the Society may be altered or amended by a three-fourths vote of the Active Members, Life Members and Fellows present a) at any one meeting, provided written notice of the proposed change and of the meeting at which the proposed change is to be acted upon has been sent to each Active Member, Life Member and Fellow at least 30 days previously, or b) at two regular meetings held on the second Tuesday of two successive months, provided such change has been recommended by a vote of three-fourths of the Council.

Section 4. *Of Committees.* The President shall appoint such Committees as he or the Society may deem necessary to conduct its affairs and interests.

Article 1. A Conservation Committee shall be appointed annually by the President to investigate such matters involving the preservation of the fauna and flora of the New York City region as may arise from time to time; and to represent the Society on conservation matters in general.

Article 2. An Editorial Committee, with the Editor acting as chairman, shall be appointed annually by the President to read and prepare papers for the Society's publications. Such Committee shall publish, annually if possible, and with the consent of the Council, an issue of the Society's *Proceedings*, which shall contain the annual reports of the Secretary and Treasurer, reports of pertinent Committees, general notes, and such scientific papers as may be available on the birds of the New York City region, or otherwise written by Members of the Society. The Editorial Committee shall also recommend to the Council, for inclusion in the Society's *Transactions*, publication of extensive papers that are submitted to it from time to time and which, by reason of their length, are disbarred from the ordinary channels of scientific communication. Upon recommendation by the Council, the publication of each volume of the *Transactions* shall be subject to the approval of a majority of the Fellows, Life Members and Active Members present at a regularly scheduled meeting of the Society.

Article 3. A Field Work Committee shall be appointed annually by the President to encourage and conduct constructive field work in the New York City region; and to promote the discussion of local faunal problems at meetings of the Society.

Section 5. *Of Funds and Prizes.*

Article 1. A prize of one hundred ($100.00) dollars, to be known as the Linnaean Prize for Ornithological Research, shall be awarded at the discretion of the Council from time to time to that Member of the Society who submits the best paper which embodies the results of ornithological research not previously published and not undertaken in the course of professional duties. The Council shall fix the conditions of the prize, shall act as final judge, and shall announce such awards as are made at the annual meetings of the Society.

Article 2. The Society shall administer a fund to be known as The Charles A. Urner Memorial Fund, the principal and interest of which is to be used for the promotion of field ornithology in New Jersey, New York and Connecticut, and for the publication of studies made in said areas.

Article 3. The Treasurer is authorized to accept from Members and other interested persons contributions to a Publication Endowment Fund, the income of which is to be devoted primarily to the publication of worthy scientific papers.

Membership List, June 1970

HONORARY MEMBERS

1947 Murphy, Dr. Robert Cushman, American Museum of Natural History, New York, N.Y. 10024
1937 Nice, Mrs. Margaret Morse, 5725 Harper Ave., Chicago, Ill. 60637
1941 Pinto, Dr. Oliverio, Dept. de Zoologia, Caixa Postal 7172, Sao Paulo, Brazil
1956 Salomonsen, Dr. Finn, Zoologisk Museum, Krystalgade, Copenhagen K, Denmark
1938 Stresemann, Prof. Erwin, Zoologisches Museum der Universitat, Invaliden Strasse 43, Berlin, Germany
1954 Wetmore, Dr. Alexander, c/o Smithsonian Institution, Washington, D.C. 20025

FELLOWS

1938 Amadon, Dr. Dean, American Museum of Natural History, New York, N.Y. 10024
1938 Arbib, Robert S., Jr., 226 Guion Drive, Mamaroneck, N.Y. 10543
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