A BIOLOGICAL RECONNAISSANCE OF OYSTERBED ISLAND, CHATHAM COUNTY, GEORGIA

Don Eyles

1937

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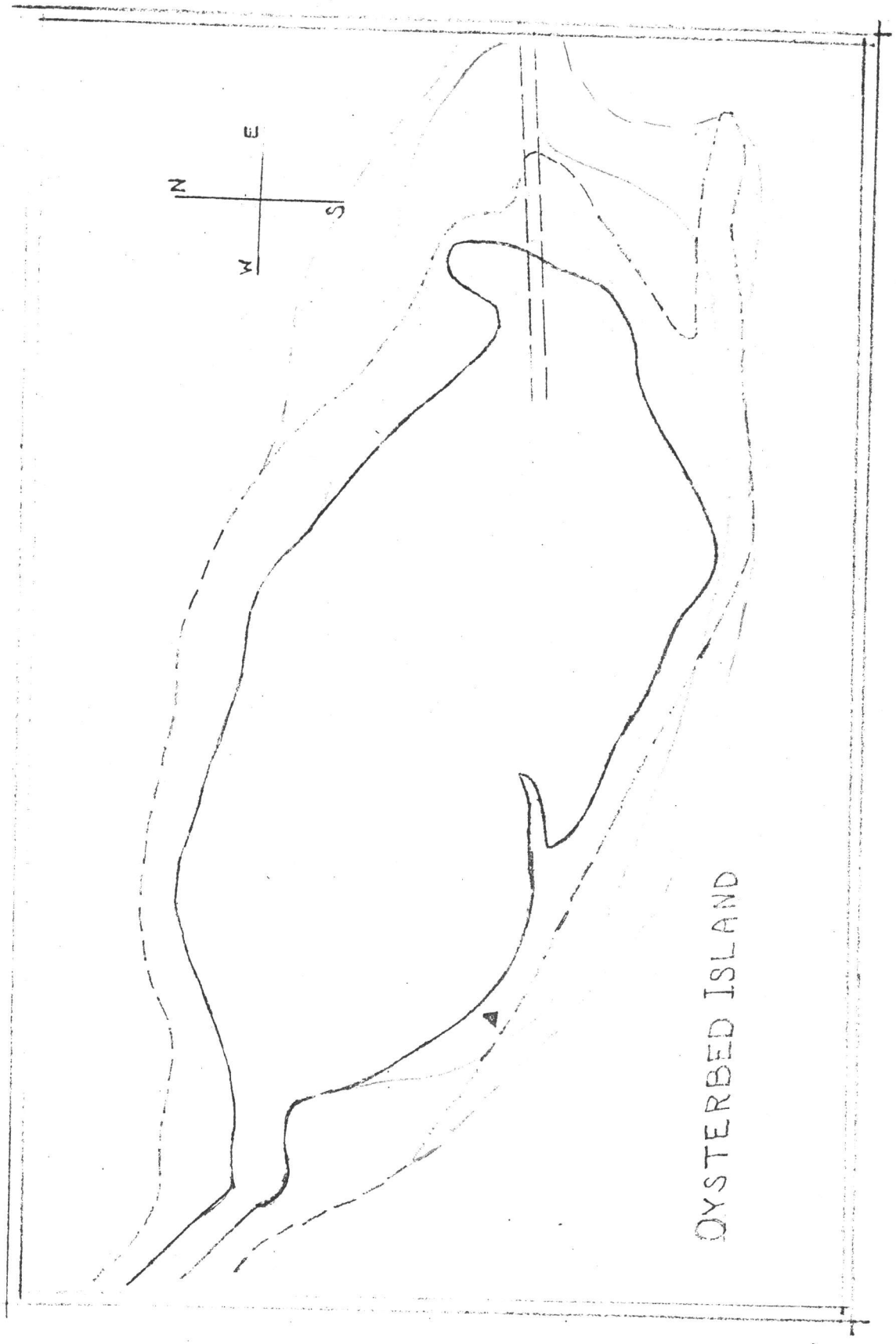
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INTRODUCTION

Oysterbed Island is a small island consisting of something over a hundred acres lying in the north channel of the Savannah River just north of Cockspur Island. It is made land built up around an old oyster reef and consists principally of shell, and some clay bound together with sand which has been deposited during past years by dredges in the river.

At one time the Savannah Quarantine station was located on Oysterbed Island. Each building was set on piling and the employees were literally able to fish from their front porch. Later it was moved to Cockspur Island. In the mean time more material was added to the island and a system of mud-flats built up. The map on page 1A shows the outline of the island as surveyed in 1930. Since then material has been added--particularly on the south side a little east of north of Quarantine and east of the old light. This is ruled in the map in red.

There has been considerable disagreement as to whether the Island is in Georgia or South Carolina. According to the U.S. Engineers the Island is in Georgia and it


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will be considered thus in this report.

Formerly separate, Oysterbed Island was connected about 1931 to Jones Island, S.C. by a hydraulic fill. During the first few years this fill was commonly used by the nesting birds but since then has grown up with vegetation. This fill furnished a highway for the migration of certain animals to the island. This will be discussed later.

The research upon which this report is based was carried on from June 5, 1937 until the first part of September of the same year. The writer lived upon the nearby Cockspur Island during this period and frequent trips across the river to Oysterbed were taken.

The writer is endebted to both Mr. Ivan R. Tomkins and Mr. Gilbert R. Rossignol for help given in preparing this report. Mr. Tomkins not only turned over to the writer his published papers but also any notes that were needed. Mr. Rossignol turned over to the writer the catalog of his extensive egg collection.

Eastern Willet--This species is a common summer resident on Oysterbed Island. No nest were observed on Oysterbed by the writer this season but the Appendix gives data concerning several nests in the Rossignol collection.

This vociferous bird requires a grassy nesting site the like of which is available on a large part of Oysterbed Island. A few lines concerning this species might be quoted from a letter from Ivan R. Tomkins. These lines apply to Oysterbed as well as the other islands of the mouth of the Savannah River.

"The Willet is spreading enormously, and where in 1924 I knew of three or four pairs now there are hundreds literally. One picture taken Sunday last over a marsh where the young must have been concealed, included 26 birds on a 4" x 5" film (in flight."

The Willets seem to disappear completely during July and August then in early September they are replaced by the paler Western Willets. The Eastern Willet returns in March and immediately nests.

Gull-billed Tern--One record of its breeding on Oysterbed Island exists; a set of eggs was collected there

by Gilbert R. Rossignol on May 23, 1926, the number of eggs being two. This species is rare and erratic; birds may be seen at intervals in the mouth of the river through the summer. The record mentioned above was published in the Auk, the official organ of the American Ornithologists' Union.[1]

Least Tern--Breeds regularly on Oysterbed Island. Nests have been observed there almost yearly since 1922 by Gilbert R. Rossignol and at least twelve hundred nests existed on the island this season.

Studies of the Least Tern colonies were carried on from June 9, 1937 through the month of July into the month of August when practically all of the young were on the wing. The colonies were two in number. The largest group was situated around and east of the old light on sandy non-vegetated land which had been deposited by the U.S. Dredge "Bacon" in the spring months of 1937.

This colony consisted roughly of four areas of about a half an acre each separated by small gullies. Estimation was made by walking a line through the four

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1. Erichson, Walter J. 1926. Gull-billed Tern (Gelochelidon nilotica), breeding on the Coast of Georgia. The Auk, Vol. 43. October, 1926, pp. 533-34.

sections, counting nests in a path about fifteen to twenty feet wide. In this manner 313 nests were counted and it was estimated that about a third of the total was touched. Thus, disregarding old nests, an estimate of 939 nests was reached. The above counts were made on June 9, 1937. About one in twelve of these nests contained three eggs or young and about one in twelve one egg or young. The rest had two eggs or two nestlings. Along the periphery of the colony small numbers of nests of Wilson's Plover were found. About a quarter of the above nests contained young on June 9th.

In addition to the above a pile of 332 Least Tern eggs, evidently gathered together by vandals, was found in one section of the colony. These eggs were well incubated and were not rotten. In view of the recency of the gathering of the eggs, 166 nests might be added to the above estimate of 939 giving a total of 1105 nests.

On June 14, 1937 young were hatching rapidly in this large colony and on June 22, 1937 a hundred birds about two-thirds grown were banded. On June 24th about one in five

birds of this age examined carried bands, indicating that about 500 birds between one-half grown and on the wing were existent in the middle, most thickly populated section of the colony. This serves as a verification of the above estimates. The west section of the colony in which the pile of eggs was found contained eggs several weeks after most of the birds in the other sections had hatched.

On July 5th large numbers of the Terns on the wing and much fewer eggs were noted. On July 7th even fewer eggs were to be seen.

The second and smaller colony was located on the west edge of the Black Skimmer colony on the east end of Oysterbed Island, and on June 11th at least forty nests were noted. By June 17th the number had increased to about a hundred nests and on July 7th there were about a hundred and fifty nests, mostly with eggs. It is thought that these birds were those that failed to succeed in a first nesting attempt elsewhere.

This little bird was, like the Egrets, on the point of extinction during the period in which the millinery trade was so destructive to bird-life. Formerly

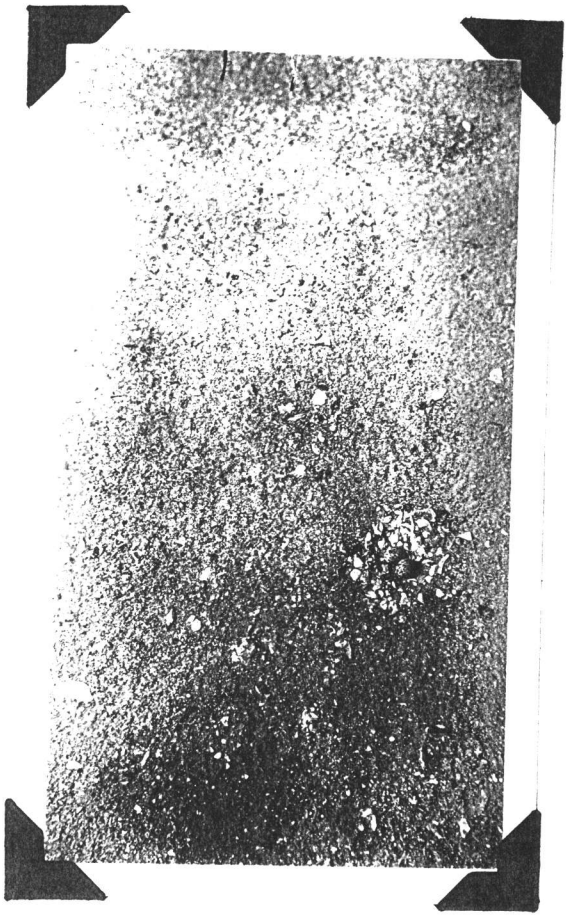
it was truly a rare sight to see these birds in Georgia waters. Now they have come back so thoroughly that in addition to the 1250 or more pairs on Oysterbed Island there are at least 500 pairs on Long Island and other small colonies even closer to Savannah. On page 12A is a photograph of a typical nest of the Least Tern containing two eggs. On page 12B is a photograph of a nest containing one egg and one young Least Tern. On page 12C is a photograph of a young Least Tern.

Map on page 12D shows the location of the 1937 Least Tern colonies shaded in red. The approximate location of the 1936 colony is shaded in green. Movement of the nesting area is frequently made necessary by the encroaching vegetation. Dredging operations alone have been responsible for preserving cleared areas for such a large number of birds. This subject will be considered more completely in the section of this report on recommendations as well as in connection with the section on the Black Skimmer.

It might be well to include here a statement as to the food habits of this bird. They are, quoting from Howell[1], as follows:

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1. Howell, A.H. 1932. Florida Bird Life. Coward-McCann Inc., New York.



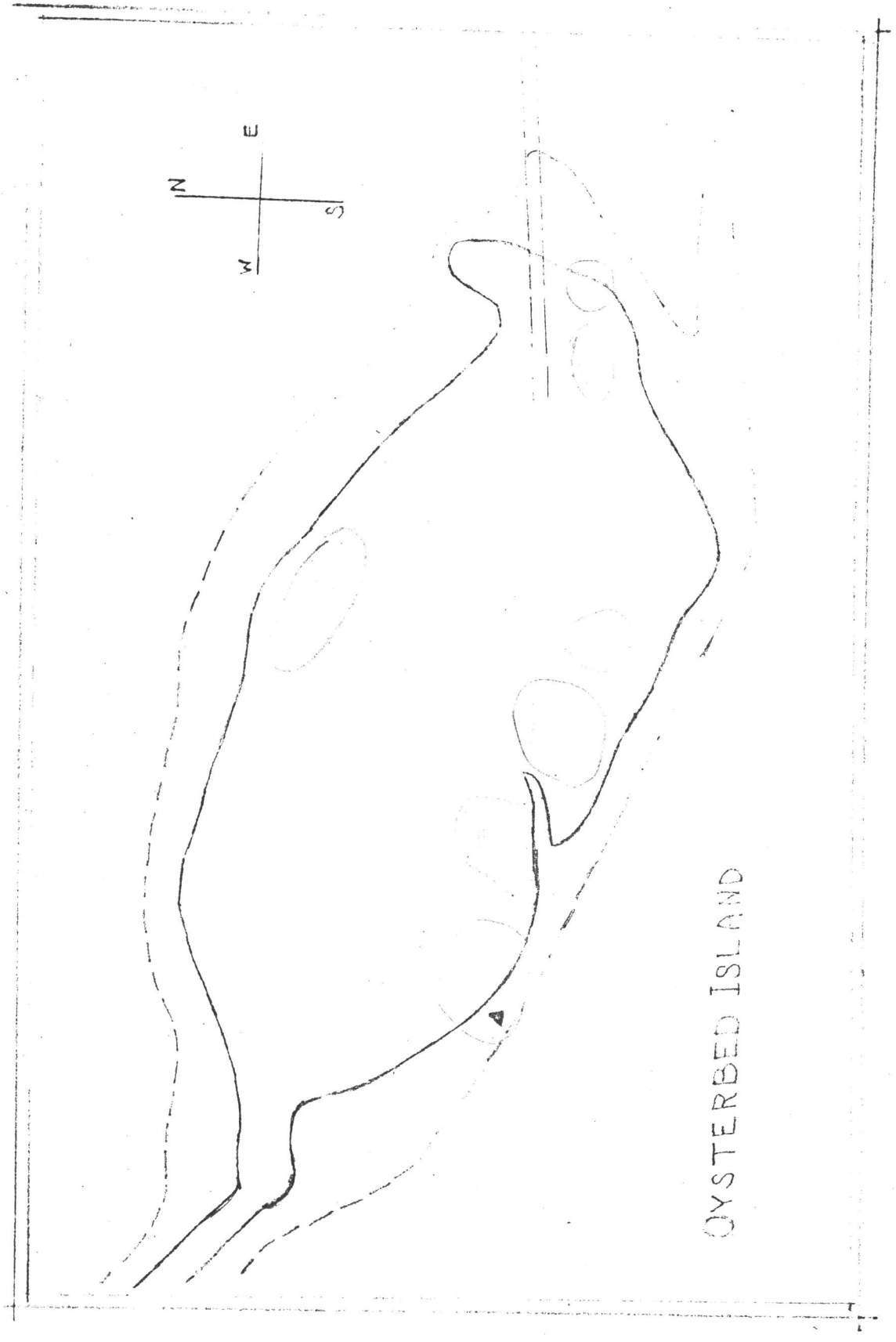
Photograph of a Typical Least Tern nest
(From Negative II.J.20 of Fort Pulaski
photograph file)



Nest of Least Tern with one egg and one young (from negative II.J.23 of Fort Pulaski photograph file)



Young Least Tern (from negative II.J.15 of Fort Pulaski photograph file)


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"Food.--Sixty-eight stomachs of the Least Tern were examined in the Biological Survey, all of which contained fish remains, though few of the species could be identified. No food fishes were recognized, but the following nonedible ones were identified: 3 killifishes, 21 silvery anchovies, 5 silversides, 7 menhaden, and 3 puray minnows. In addition, there were found fragments of at least 36 other fishes, 2 shrimps, 2 marine worms, and a few ants."

The Least Tern is not known to winter in this section and probably leaves sometime in September.

Royal Tern--There is but one nesting record for this large tern on Oysterbed Island. On June 17, 1933 a single egg of this species was collected on Oysterbed by Mr. Gilbert R. Rossignol. The single egg was fresh at the time. Large colonies of this species exist in South Carolina and with the proper protection and the providing of suitable nesting territory the species might someday move in in numbers.

Black Skimmer--The Black Skimmer has nested on Oysterbed Island regularly for at least the past fifteen years. Scientific information on the Oysterbed Island

Skimmer colony dates back to June 18, 1922 when Gilbert R. Rossignol collected about thirty-five sets of eggs. The numbers breeding on the island vary with the condition of the nesting area. This season (1937) there were about 500 pairs nesting on the island.

This season's colony was studied from about June 9th until the end of August, 1937. It is situated on the extreme eastern end of Oysterbed Island at the point where the north jetty meets the island. The area covered by the nests is between a half an acre and an acre. It is well above the high tide level the maximum elevation being about fifteen feet above low tide level. It is located on material deposited during the spring of 1937 by the U.S. Dredge "Bacon". This material consisted principally of sand with some shell in places. The nesting Skimmers seemed to prefer the loosely compacted sand to the more unyielding mixture of sand, shell, and clay.

An estimate of the number of birds nesting in this colony made when egg laying seemed at its height was about 500 nests. This number is considerably larger than

the number which nested in two areas on the island the year before.

On June 9, 1937 the first visit to the colony was made. There were a good many nests with from one to three eggs and between a half dozen and a dozen full sets of four eggs. Most of the nests, however, were empty. On June 10th more full sets were to be found and one set was found containing eight eggs. It was estimated that a thousand birds were in the vicinity on this trip.

June 17th two nests with five eggs were noted. Full sets of four were common and two sets were found with eleven and ten eggs respectively. One of these was probably the same nest that contained eight eggs on June 10th. These undoubtedly both represent cases of several birds laying in one nest. Single eggs were to be found commonly on the open ground between nests. These might either have been eggs pushed from the nest or eggs laid before the female had completed her nest. On the same day a set of four eggs that included one extremely small runt egg was found. This runt egg is now in the collection of Gilbert R. Rossignol. On collection the runt egg was

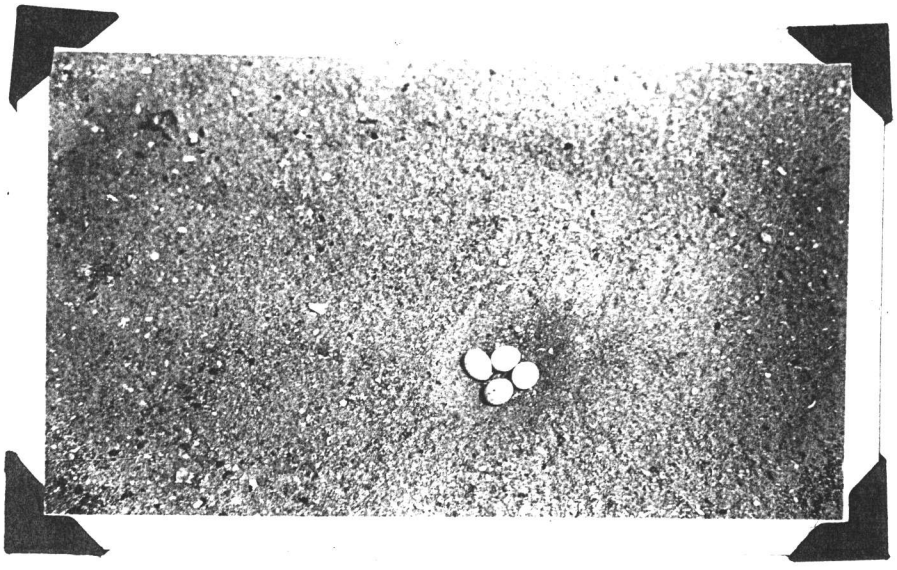
found to be addled. Other runts but none as small as this were seen.

On June 24th more full sets were noted but no young birds were found. The colony was then about at its peak. The birds had radiated out from the area where the first nests were located in all directions. This extension was from loose, soft sand toward compact shell and sand. In places the Skimmer colony now touched and even overlapped the Least Tern colony. The nests with eleven and ten eggs now contained just eight and seven. Near one of the abnormal nests laid a cracked egg. The writer has no speculation to offer for this except that it might have been due to Fish Crow predation.

On June 27th the first young were noted; a nest was found containing two eggs and two young. A photograph on page 16A shows two of these birds seeking shade in the shadows of the feet of one of the party. This behavior was noted frequently later. An albino set of eggs was found and photographed as shown on page 16B. The extansion of the colony was again noticed and it had distinctly overlapped the Least Tern colony.



Two young Black Skimmers getting out of sun in shadow around feet (negative II.J.4 of Fort Pulaski photograph file)



Albino set of Black Skimmer eggs (from negative II.J.65 of Fort Pulaski photograph file)

On July 5th many nests contained young, some rather large in size. Few nests were found in which all eggs had hatched; about a third contained both young and eggs. The odor of fish was to be noted distinctly and fish remains (regurgitated scales) were to be found throughout the nesting area. On July 7th almost half of the nests contained young.

On about the first of August the colony was visited and many birds (young) were found to be on the wing. There were still numbers of eggs and the colony had continued the above mentioned radiation to an extreme degree. Nests were to be found in the driftwood lined border of the colony. The section of the colony containing eggs now was more or less in the form of a circle surrounding the area were the earlier nests were found. On August 13th the colony was again visited and the extension had stretched out along the sand heaps along the north jetty and close to a hundred nests were found on a large heap fully two hundred yards from the original colony. More birds were on the wing;large birds, almost ready to fly, scurried everywhere when one walked

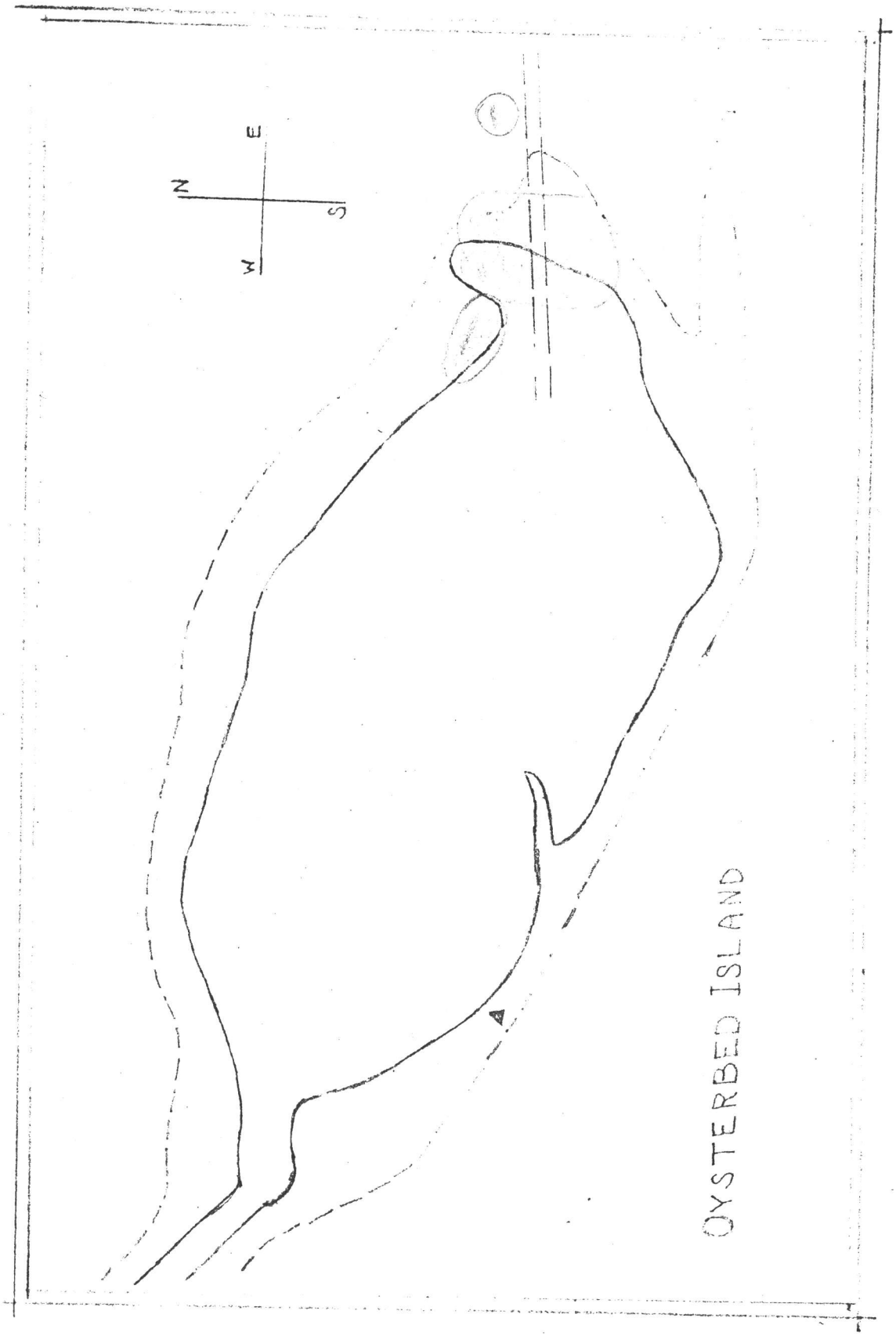
through the colony.

The map on page 18B shows the location of the 1937 Skimmer colony shaded in red. In green is the 1936 colony (one section) which was located a little northwest of the 1937 colony. From Ivan R. Tomkins it was learned that the 1936 colony was extremely crowded and contained fewer birds owing to the limited area. On page 18B is a picture of the limited 1936 area taken June 10, 1936 by Ralston B. Lattimore. On page 18C is a habitat picture of this year's colony.

From these pictures and the above paragraph it may be seen that it was very fortunate that the Dredge "Bacon" deposited the material it did during the winter of 1936-7 and the spring of 1937. A letter from Ivan R. Tomkins to the writer during the summer preceding the dredging operations might be quoted:

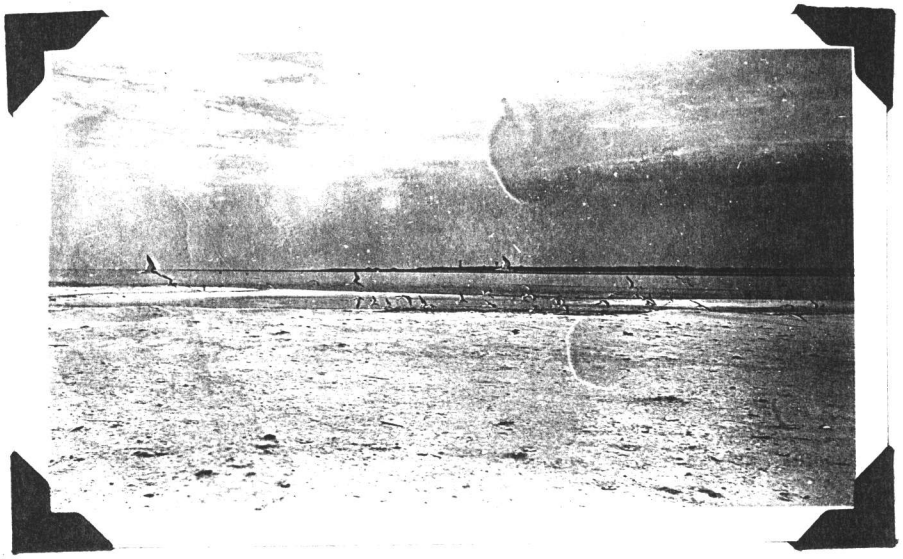
"The sand ridges, that were so clear five or more years ago, have so much grass now that the Skimmers nest almost at the water's edge, and the first northeast wind cleans them out. On one sand bar roughly oval 40' x 30', I counted 70 nests with eggs, and punctured eggs (probably due to pressure of nesting territory) were all about."

If the above mentioned dredging had not been done


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Nesting area of Skimmers in 1936
(from negative II.J.2 of Fort Pulaski
photograph file)



Nesting site of 1937 Skimmer colony
(from negative II.J.54 of Fort Pulaski
photograph file)

Oysterbed Island would probably have been almost devoid of breeding Skimmers this year. The vegetation grows quickly and the Skimmers, because of their long wings and peculiar flight, require absolutely clear areas for nesting territory. Lack of dredging pushes them to the water's edge; reduces the number of nesting birds; increases mortality; and exposes them to extremes of weather.

Any study of a nesting colony should include a section on mortality and predation. Four eggs is the normal Skimmer set as compared to two for the Least Tern. The observations of the writer bear out the supposition indicated above--that greater mortality would be found in the Skimmer colony. Dead nestlings were to be found everywhere in the Skimmer colony, even in the nests along with live nestlings. Apparently the parent Skimmers were either unaware of the death of their offsprings or ceased to recognize them as birds at their death. No definite cause could be attributed to the death of these birds, but heat exposure, starvation, and general lack of care probably caused most of them.

Addled eggs were found often laying between nests, and punctured eggs (perhaps the work of Fish Crows) were commonly found. Contrary to the observations of Tomkins[1], Fish Crows are to be found in flocks even through the month of June around the Skimmer colony. About the middle of June at least thirty of these birds were seen over the colony on one occasion; however, no actual predation was observed, although, as stated before, punctured eggs were all around. Snakes, especially the Gray Chicken Snake (Coluber obsoletus quadrivittatus), probably are enemies of the Skimmers. In the case of the Least Tern one snake was found a few years Back with over twenty eggs in its alimentary tract.

During the course of this study only one dead Skimmer was found, and the cause of its death could not be ascertained. Apparently few natural enemies of the adult Skimmer exist with the exception of man.

Rain squalls are supposed to cause considerable damage by washing eggs to low places and burying them in

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1. Tomkins, Ivan R. 1933. Ways of the Black Skimmer. Wilson Bulletin, Vol. XLV, December, 1933, p. 147.

sand. This year, perhaps owing to the good situation of the colony, little damage was done by rain although during the month of June there were at least three storms in which the precipitation was measured in inches.

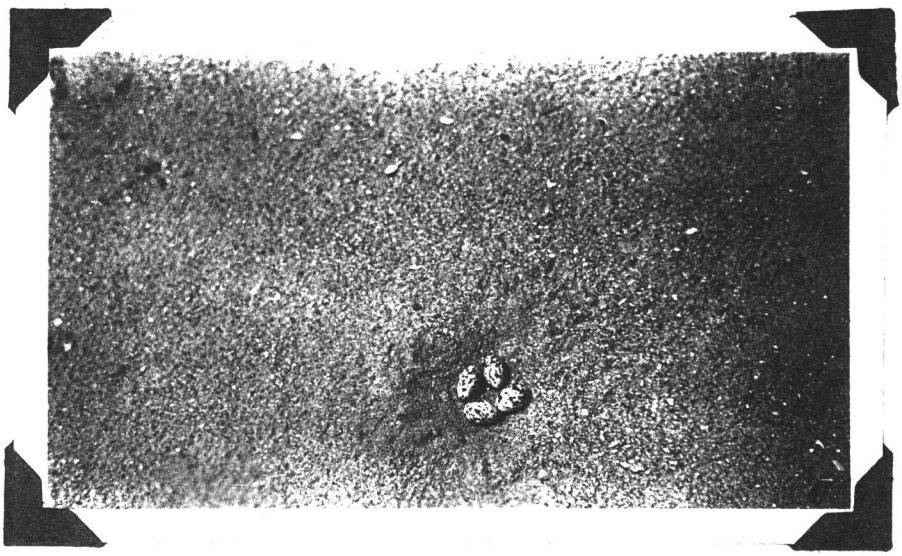
In regard to the number of young of the season reaching the flying stage, some counts made by Ivan R. Tomkins[1] might be quoted:

> "During late September, before there was any great liklihood of migrants from other breeding grounds, and after all the young were awing, I counted the young and old in several flocks that were resting on the sand-bars and found 156 young to 586 adults, or an increase of 26.6 per cent. This means of course only that this was a probable percentage of increase on the breeding birds up to the end of the season, in what seemed to me a normal year (1932). The yearly increase, or rather replacement, would be affected by the mortality of young and of adults during the rest of the year, and by the proportion of non-breeders that then were absent from the flocks. Possibly these last may be found to be birds too immature for nesting in the first or second summer, a common thing with the larger gulls. But that is not proven, and may be one of the things that banding may yet assist in ascertaining."

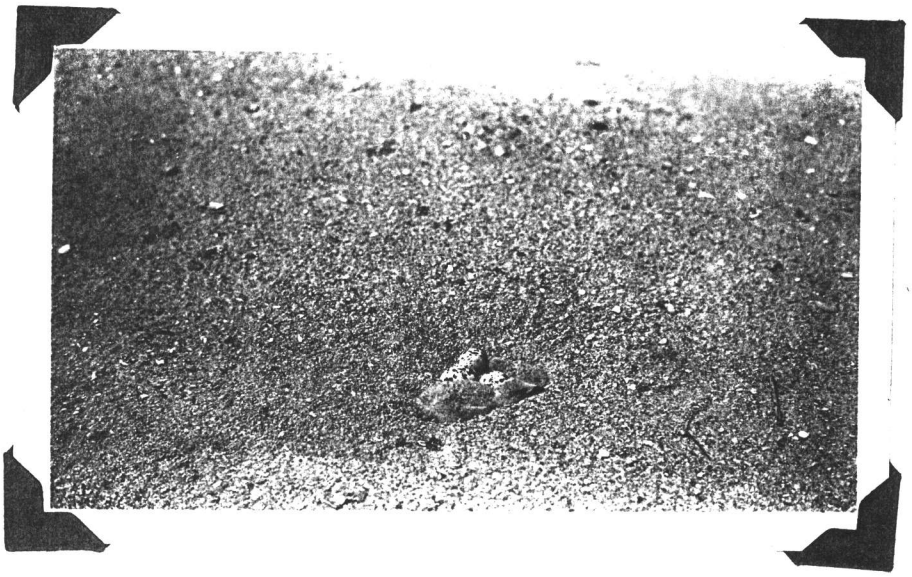
On page 21A is a picture of a typical nest of the Black Skimmer. It contains four eggs characteristically marked. On page 21B is a picture of a nest containing a young Skimmer and three eggs. The large size indicates

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1. Ibid., p. 151.



Typical Black Skimmer nest (from negative II.J.88 of Fort Pulaski photograph file)



Nest of Black Skimmer with young and eggs
(from negative II.J.64 of Fort Pulaski
photograph file)

the shuffling of young from nest to nest that has been described by other writers. On page 22A is a picture of a nest with three well grown young, and on page 22B is a picture of a young Skimmer almost large enough to fly. Two flight pictures of the Black Skimmer are shown on pages 22C and 22D.

Few original contributions concerning the habits of the Black Skimmer can be made by the writer. Birds were often observed skimming but were never definitely seen to catch a fish nor were they seen fishing in the manner described by Arthur[1]. On July 15th one Skimmer fed along the shore of Cockspur Island during a twenty-five mile gale. He was expert at following the undulations of the rough water and only withdrew his lower mandible when a wave actually broke. The skimming was done at almost any angle with the wind.

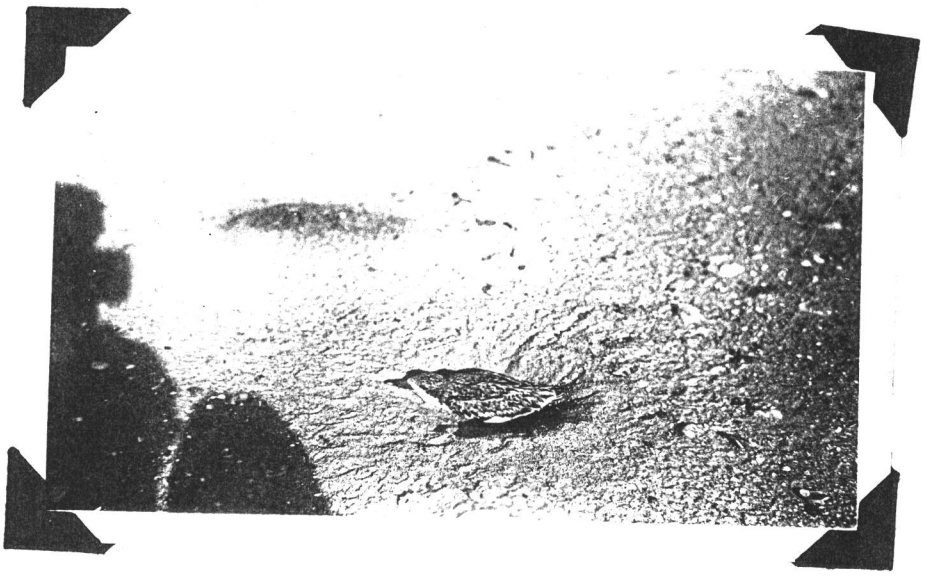
At the beginning of the storm on July 15th Skimmers were noticed circling over the nesting area for several minutes. Later they apparently settled over their eggs.

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1. Arthur, Stanley C. 1921. The feeding habits of the Black Skimmer. Auk, Vol. 38, pp. 567-574.



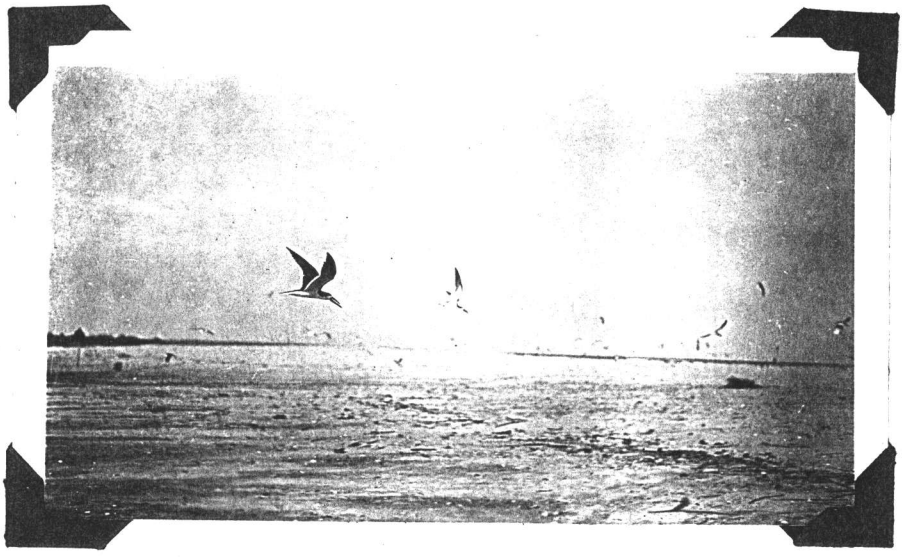
Young Black Skimmers in nest (from negative II.J.48 of Fort Pulaski photograph file)



Young Black Skimmer (from negative II.J.95 of Fort Pulaski photograph file)



Flying Black Skimmers (from negative II.J.55 of Fort Pulaski photograph file)



Flying Black Skimmer (from negative II.J.9[illegible] of Fort Pulaski photograph file)

On page 23 A is a photograph of a Black Skimmer skimming.

The notes of the Skimmers resembled, to the writer, those of a Fish Crow with a pulmonary disorder. They were to be heard constantly at night when they are supposed to feed. On the evening of July 19th between eleven and one o'clock several of the birds were observed feeding in the moonlight. On the afternoon of July 19th a bird was observed flying over Savannah Beach toward Oysterbed Island with a fish in its bill. The distance from Oysterbed was approximately three miles air line.

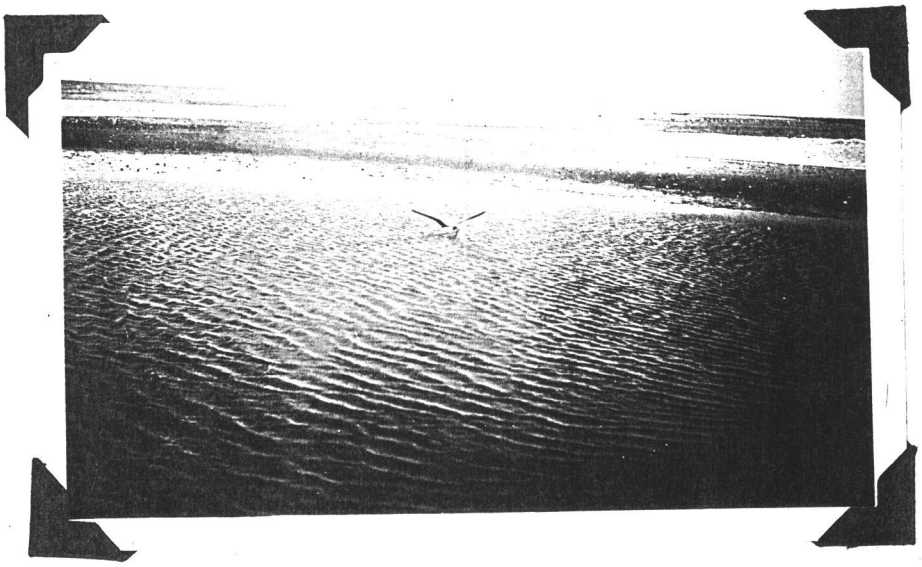
The Skimmers brood their eggs in the day time as the sun is so hot that the eggs would be cooked in a short time if left uncovered. Temperature of the sand in the middle of the day must run tremendously high.

The Black Skimmer winters often near the mouth of the Savannah River. Its presence seems to be dependant upon the food supply. A large flock is often to be found on the shoals south of Savannah Beach.[1]

The food habits as given by Howell[2] are as follows:

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1. Tomkins, Ivan R. 1932. The Black Skimmer a permanent resident in Georgia. Auk, Vol. 49, Jan., 1932, p. 85.
2. Op. Cit., p. 275.



Black Skimmer skimming (from negative II.J.96 of Fort Pulaski photograph file)

"Food.--Skimmers apparently feed wholly on fish. Of 42 stomachs examined in the Biological Survey, 30 were empty, in the others were found killifishes and blennies--neither of them edible species."

Eastern Mourning Dove--This species is often to be found on Oysterbed Island. One nest was noted there by Gilbert R. Rossignol on June 3, 1928. It contained two eggs and was situated on the ground. This species is probably a regular nester on Oysterbed Island, this assumption being based on its regular occurrence there during the nesting season. If the above is true then the habit of nesting on the ground is probably normal there for there are no trees.

Florida Nighthawk--The Florida Nighthawk or "bat" as it is locally known is another regular nesting bird of Oysterbed Island. Although birds were flushed on almost every trip during June, 1937, no nests were found, but during the past fifteen seasons Gilbert R. Rossignol has collected four sets on Oysterbed. These nests are included in the Appendix in the list of eggs collected by Mr. Rossignol on Oysterbed Island.

MIGRATORY AND WINTER BIRDS

Since this study was made during the nesting season little or no data were gathered on the migratory species of birds. Fortunately, Mr. Ivan R. Tomkins made available to the writer many of his data gathered during the past fifteen years.

Oysterbed Island is a happy island. It has abundant mud flats and sandbars, it is located in the mouth of a great river that may serve as a migration highway, and it is exposed to the open sea. On it many remarkable observations have been made. At least eight first records for the state of Georgia have been secured there on its hundred or soacres by Ivan R. Tomkins. They are as follows:

Golden Plover (Pluvialis d. dominica) April 4, 1931[1]

European Cormorant (Phalacrocorax c. carbo) on the north jetty October 19, 1930[2]

Glaucous Gull (Larus hyperboreus) February 28, 1931[3]

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1. Tomkins, Ivan R. 1931. Additional Species for the Georgia list. Auk, Vol. 48, July, 1931, pp. 435-6.
2. Tomkins, Ivan R. 1931. Further Notes from the Savannah River Entrance. Auk, Vol. 48, April, 1931, p. 279.
3. Tomkins, Ivan R. 1931. Additional Species for the Georgia list. Auk, Vol. 48, July, 1931, pp. 435-6.

Lapland Longspur (Calcarius l. lapponicus) March 24, 1935[1]

Eastern Snow Bunting (Plectrophenax n. nivalis) December 24, 1932[2]

Blue Goose (Chen caerulescens) November 9, 1929 a sight record; Tomkins took one further inland five years later[3]

Southern Sharp-tailed Sparrow (Ammospiza caudacuta diversa?)[4]

Wayne's Marsh Wren[5]

Land birds, with the exception of those already mentioned are practically absent from Oysterbed Island. This of course may be attributed to the lack of arborescent plants.

The largest group of birds using the island is the shorebird family. Following is a summary of the shorebirds of Oysterbed Island almost directly quoted from Tomkins[6].

American Oystercatcher (Haematopus p. palliatus).--Permanent resident, breeding increasingly. Flocks of 65 seen in winter.

Piping Plover (Charadrius melodus).--A regular fall

1. Tomkins, Ivan R. 1935. The Lapland Longspur, a South Carolina specimen and a Georgia sight record. Auk, Vol. 52, July, 1935, p. 315.
2. Tomkins, Ivan R. 1933. An Eastern Snow Bunting from Georgia. Auk, Vol. 50, April, 1933, p. 227.
3. Tomkins, Ivan R. 1930. Some records from the Savannah River Entrance during 1929. Auk, Vol. 47, October, 1930, p. 577.
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and spring visitor, wintering in small numbers regularly. Departs in April. Arrives in August.

Semipalmated Plover (Charadrius semipalmatus).--Permanent resident. Does not breed. Most abundant in spring in fall.

Wilson's Plover (Pagolla w. wilsonia).--Summer resident. Breeding increasingly, range spreading somewhat inland. Earliest record March 3rd, common by March 20th. Leaves in August and September.

Killdeer (Oxyechus v. vociferus).--Common winter resident, occasional in summer. Favors freshwater marshes and fields.

American Golden Plover (Pluvialis d. dominica).--Two specimens (April 4, 1931; March 16, 1935), are the only records.

Black-bellied Plover (Squatarola squatarola).--Permanent resident, non-breeding. Largest numbers seen in September and May.

Ruddy Turnstone (Arenaria interpres morinella).--Permanent resident, non-breeding.

Wilson's Snipe (Capella delicata).--A very abundant winter visitor, arriving in numbers in October, and remaining occasionally until mid-May.

Long-billed Curlew (Numenius a. americanus).--A few records in June, October and November. None certainly seen since 1931.

Hudsonian Curlew (Phaeopus hudsonicus).--Occasionally seen throughout the year. Fairly common in spring and fall.

Spotted Sandpiper (Actitis macularia).--Spring and summer visitor, more common in fresh water. Spring migration in April-May, returns in July-September.

Eastern Willet (Catoptrophorus s. semipalmatus).--Arrives in mid-March, breeds with increasing frequency and is extending range inland. Departs soon after the young are able to fly in July to late August. No certain winter records.

Western Willet (Catoptrophorus semipalmatus inornatus).--Winters regularly in small numbers about salt-water rivers and beaches.

Greater Yellowlegs (Totanus melanoleucus).--A few present in summer, abundant other seasons.

Lesser Yellowlegs (Totanus flavipes).--Common in spring and fall, occasionally winters, a few seen in summer.

American Knot (Calidris canutus rufus).--Common in spring migration, April last through June, less common in fall (October).

Least Sandpiper (Pisobia minutilla).--Permanent resident, commonest in spring (April-May) and in fall (August-October). Does not breed.

Red-backed Sandpiper (Pelidna alpina sakhalina).--Common fall and spring migrant, winters in smaller numbers.

Eastern Dowitcher (Limnodromus g. griseus).--Abundant in spring (April-June) and in fall (July-September). A few remain in winter and summer.

Long-billed Dowitcher (Limnodromus g. scolopaceus).--Three specimens, November 30, 1929; March 16, 1936; April 14, 1935. Probably this subspecies is much more common than supposed but field identification is difficult.

Semipalmated Sandpiper (Ereunetes pusillus.)--Probably resident all year, difficult to distinguish from the next species. Abundant in spring and fall, some through the summer, and occasional specimen at least in winter.

Western Sandpiper (Ereunetes maurii).--Abundant from September through May, perhaps at other seasons also.

Marbled Godwit (Limosa fedoa).--Uncommon fall and winter resident. From August 28, 1931 until Febuary 20, 1932, I saw over the same area from one to six birds on thirty-one different days.

Sanderling (Crocethia alba).--An abundant permanent resident, non-breeding.

Avocet (Recurvirostra americana).--Three specimens and seven other sight records from October 4, 1928, through December 24, 1931, in one area. Never seen elsewhere. Accidental.[1]

It is understood that the above statements regarding the shorebirds apply to the whole region around the mouth of the Savannah River, but all of the species listed above do occur on Oysterbed Island and a large part of the above data is directly referable to the Island. The only reason for not including the whole list in quotation marks is that occasionally an extra word or two was added.

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1. Tomkins, Ivan R. 1929. The Avocet in Georgia. The Auk, Vol. 46, July, 1929, p. 383.

ADDITIONAL FAUNA

Mammals

Forminformation on the mammals of Oysterbed Island the writer is also indebted to Ivan R. Tomkins. Following is Mr. Tomkins' list of mammals with his and the writers comments. The nomenclature is according to North American Recent Mammals by Miller[1].

Marsh Rabbit (Sylvilagus palustris).--This species is well covered in "The Marsh Rabbit" by Tomkins[2]. It is common on Oysterbed and has been since the hydraulic fill connecting it with Jones Island, S.C. was pumped up.

Raccoon (Procyon lotor subs.).--Common since Oysterbed Island has been connected with Jones Island. Unknown before.

Mink (Mustela vison lutensis).--Common since Oysterbed Island has been connected with Jones Island. Occasional before.

Roof Rat (Rattus rattus alexandrinus).--A permanent resident at least since 1923, rather less in

1. Miller, North American Recent Mammals. U.S. National Museum Bulletin #128.
2. Tomkins, Ivan R. 1935. The Marsh Rabbit: An Incomplete Life History. Jour. of Mammalogy, Vol. 16, Aug., 1935, pp. 201-5.

numbers of late years. The Black Rat (R. r. r.) has not yet been found there.

House Rat (Rattus norvegicus).--An occasional specimen seen on Oysterbed Island.

House Mouse (Mus musculus musculus).--A resident on the small dunes. Of fourteen specimens trapped by Tomkins in 1930-31, eight had a small white spot on the head. Dr. Francis Harper has found both of his supposed subspecies among specimens taken on Oysterbed.

Rice Rat (Oryzomys palustris palustris).--Tracks seen, probably more common than supposed.

Cotton Rat (Sigmodon).--Has not yet been found on Oysterbed Island. Is plentiful on Cockspur Island.

Pigmy Sperm Whale (Kogia breviceps).--First State record for Georgia from Long Island fill.[1]

Porpoise (sp. ?).--A specimen washed ashore in 1934 and one in 1936.

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1. Tomkins, Ivan R. 1934. Jour. Mamm. Vol. 15, No. 3, August, 1934, pp. 250-51.

Reptiles

This group is not very well represented on Oysterbed Island. Only one snake is known and it is the Gray Chicken Snake (Coluber obsoletus quadrivittatus). This species is very destructive to bird eggs as was mentioned before.

The only other two reptiles known from the Island are the Loggerhead Turtle (Thalassochelys caretta caretta) which occasionally crawls up and leys eggs on the beach and the Diamond-backed Terrapin (Malaco-clemmys palustris) which regularly comes ashore in small numbers to lay. In addition to the above, Alligators are occasionally seen close by in the river, but proper habitat for this reptile is lacking.

Invertebrates

Crustacea is the most abundant group of invertebrate species. A list in no particular order follows. Most of the species included on the list are from actual specimens collected and identified by Lunz at the Charles-

ton Museum or by others. The writer is indebted to Ivan R. Tomkins for this list.

The Common Shrimp (Penaeus setiferus)

Penaeus brazilensis (?)

The "hard-backs" (Palaemonetes carolinus and P. vulgaris)

A burrowing or mud shrimp (Upogebia affinis)

A small shrimp (Ziphopenaeus kroyeri)

The oyster crab (Pinnotheres ostreum)

A hermit crab (Petrochirus bahamensis)

Another hermit crab (Clibanarius vittatus)

Mud-crabs of the following genera: Panopeus, Neopanope, and Eurypanopeus

The blue crab (Callinectes)

A snapper shrimp (Crangon heterochaelis)

A fiddler crab (Uca minax)

Another fiddler (Uca pugilator)

The square fiddler (Sesarma cinereum)

The sand or ghost crab (Ocypode albicans)

Chief representatives from the Class Mollusca are the Oyster, the Angel-wing Clam, and a small land snail. Also at least one species of periwinkle is to be found.

Fossils

The fossil remains from Oysterbed Island have not been well worked up. They are entirely material that has been pumped ashore by the dredges working in the river. Their manner of deposition results in a mass heterogeneous as to age and with the exception of vertebrate species almost impossible of identification or correlation.

About all that are recognizable are the following. A few teeth from a species of Equus (not a recent form); a few bits of elephant molar (probably Archidiskodon imperator); possibly one species of Mastodon; and more numerous shark, ray, and fish remains. As implied before the shells are difficult of correlation owing to the mixture of material from all strata.

RECOMMENDATIONS

Oysterbad Island is very fortunately situated as regards wildlife. On it is situated one of the largest nesting colonies of Black Skimmers on the Georgia coast as well as one of the largest breeding colonies of Least Terns. It is a haven for migrating shorebirds which frequent its mud-flats and sand-bars by the thousands. In addition this land is almost useless for any commercial enterprise; its sole value lies in the wildlife it supports.

In the event of the purchase of this land by the National Park Service, Oysterbed Island would possess several advantages over other areas. Protection would be very easy and would fit in well with the program of the Fort Pulaski National Monument. Maintenance would amount to absolutely nothing. The following suggestions and recommendations will be made for use in case of this purchase.

1. Dredging should be allowed to continue. Without this dredging the available bare space usable by the nesting waterfowl would be so diminished by encroaching vegetation as to reduce the number of breeding birds considerably. Bare ground, high enough

to be safe from storm water, consists at present of close to ten acres. This is a good mean and this much suitable territory would be desirable at all times. Dredge dumps probably stay bare from vegetation for from two to four years depending upon the type of material and the thickness of the dump. Time of dredging would be impossible to control, but it is probable that the dumps could be placed according to the advice of a wildlife technician in such a manner as to steadily maintain nesting territory. Also in the event of dredging during the nesting season, it should be seen to that lines do not run into the colonies.

2. Trespassing should be prohibited except to those particularly interested in wildlife. This would be desirable not only because of the possibility of vandalism, but because of the damage a careless person with no interest in the birds could do.

3. If possible the Oysterbeds around the island should be watched. These oysters are quarantined by the Public Health Service but colored poachers often destroy beds. The oyster is by no means as common now on this coast as formerly and should be protected especially in the quarantined areas.

4. The land should be posted. Fencing should not be necessary as the only connection to land is the very narrow hydraulic fill to Jones Island, S.C. In the event of the introduction of cattle to this island and their migration to Oysterbed it might be necessary to erect a barbed wire fence about a hundred or less yards long. No fence which would keep out small mammals seems necessary as long as the birds are given plenty of nesting territory. All of these enemies are natural and the policy of the Park Service is to preserve natural conditions. There seems to be little danger of the house cat reaching the island immediately.

5. During the past there has been considerable egg collecting on Oysterbed Island. This has mostly been wisely done, but it is advisable that in the event of the purchase of this area such collecting be stopped, especially in the case of the Oystercatcher. This bird is not present in sufficient numbers to allow much collecting.

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APPENDIX

LIST OF EGG SETS COLLECTED BY GILBERT R. ROSSIGNOL

ON OYSTER BED ISLAND, GEORGIA

Species	Date	No. Eggs	Incubation
American Oystercatcher	3-27-27	3	Fresh
" "	5-1-27	2	Advanced
" "	5-20-28	2	Slight
" "	6-16-28	3	Advanced
" "	6-5-30	2	Slight
" "	4-21-32	2	Advanced
" "	4-26-33	3	Fresh
" "	5-20-33	3	Slight
" "	5-22-33	2	Fresh
" "	4-19-34	2	Slight
" "	4-19-34	2	Slight
" "	4-25-34	3	Slight
" "	5-6-34	3	Fresh
" "	5-6-34	3	Slight
" "	5-10-34	3	Fresh
" "	5-19-34	2	Fresh
" "	6-26-34	2	Fresh
" "	4-22-35	3	Fresh
" "	4-22-35	3	Fresh
" "	5-1-35	3	Fresh
" "	4-14-36	3	Fresh
" "	4-15-36	3	Fresh
" "	4-15-36	3	Slight
" "	4-18-36	3	Fresh
" "	5-4-36	3	Fresh
" "	5-4-36	3	Slight
" "	4-18-37	3	Slight
" "	4-18-37	3	Fresh
" "	4-20-37	3	Fresh
" "	5-16-37	3	Fresh
Wilson's Plover	6-7-22	2	Fresh
" "	6-7-22	3	Slight
" "	6-7-22	3	Fresh
" "	6-7-22	3	Advanced
" "	6-7-22	3	Advanced
" "	6-7-22	3	Advanced

Species	Date	No. Eggs	Incubation
Black Skimmer	6-28-30	4	Slight
" "	6-28-30	4	Slight
" "	6-28-30	4	Fresh
" "	6-28-30	4	Fresh
" "	6-28-30	4	Slight
" "	6-28-30	3	Advanced*
" "	7-4-30	4	Slight
" "	7-4-30	4	Slight
" "	7-4-30	4	Slight
" "	7-4-30	4	Slight
" "	7-4-30	3	Slight
" "	7-4-30	3	Slight
" "	7-4-30	3	Slight
" "	7-4-30	3	Slight
" "	7-6-30	4	Advanced
" "	7-6-30	4	Slight
" "	6-15-31	4	Fresh
" "	6-15-31	4	Fresh
" "	6-15-31	4	Fresh
" "	6-9-32	4	Fresh
" "	6-18-32	4	Slight
" "	6-18-32	4	Slight
" "	6-22-32	4	Fresh
" "	6-22-32	4	Slight
" "	6-22-32	1	Fresh*
" "	6-4-33	4	Fresh
" "	6-16-34	3	Fresh
" "	6-17-37	4	Slight*
Eastern Mourning Dove	6-3-28	2	Not collected[1]
Florida Nighthawk	5-13-23	2	Slight
" "	6-9-28	2	Advanced
" "	5-18-30	2	Advanced
" "	5-18-30	2	Fresh

* One runt egg
[1] Nest on ground

Species	Date	No. Eggs	Incubation
Black Skimmer	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-23	3	Fresh
" "	6-18-23	3	Fresh
" "	6-18-23	3	Fresh
" "	6-18-23	4	Fresh
" "	6-18-23	4	Fresh
" "	6-18-23	4	Fresh
" "	6-18-23	4	Fresh
" "	6-22-24	4	Fresh
" "	6-22-24	4	Fresh
" "	6-22-24	4	Fresh
" "	6-22-24	4	Fresh
" "	6-22-24	4	Fresh
" "	6-13-26	3	Slight
" "	6-13-26	4	Slight
" "	6-13-26	4	Slight
" "	6-9-28	4	Fresh
" "	6-9-28	4	Fresh
" "	6-9-28	4	Fresh
" "	6-9-28	4	Fresh
" "	6-9-28	4	Fresh
" "	6-16-28	4	Fresh
" "	6-16-28	4	Slight
" "	6-16-28	4	Slight
" "	6-16-28	4	Slight
" "	6-16928	4	Fresh
" "	6-16-28	4	Fresh
" "	6-16-28	4	Fresh
" "	6-16-28	5	Slight
" "	6-5-30	4	Slight
" "	6-5-30	4	Fresh
" "	6-5-30	4	Fresh
" "	6-5-30	4	Fresh
" "	6-9-30	4	Fresh
" "	6-9-30	4	Fresh
" "	6-9-30	4	Fresh
" "	6-9-30	4	Fresh
" "	6-9-30	4	Fresh

Species	Date	No. Eggs	Incubation
Least Tern	6-5-32	2	Fresh
" "	6-5-32	1	Fresh
" "	6-22-32	1	Fresh*
" "	5-31-33	3	Advanced
" "	6-8-33	2	Fresh
" "	5-19-34	2	Slight
" "	6-6-34	2	Fresh
" "	6-16-34	2	Slight
Royal Tern	6-17-33	1	Fresh
Black Skimmer	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Slight
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18022	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh
" "	6-18-22	4	Fresh

*Albino egg

Species	Date	No. Eggs	Incubation
Least Tern	5-18-30	2	Fresh
" "	5-20-30	2	Fresh
" "	5-20-30	2	Fresh
" "	5-20-30	2	Fresh
" "	5-26-30	2	Slight
" "	5-26-30	2	Slight
" "	5-26-30	2	Fresh
" "	5-26-30	2	Fresh
" "	5-26-30	2	Fresh
" "	5-26-30	2	Fresh
" "	5-26-30	2	Fresh
" "	5-26-30	3	Fresh
" "	6-10-30	2	Slight
" "	6-10-30	2	Advanced
" "	6-19-30	2	Fresh
" "	6-19-30	2	Fresh
" "	6-28-30	2	Fresh
" "	5-16-31	2	Fresh
" "	5-16-31	2	Fresh
" "	6-1-31	2	Fresh
" "	6-1-31	2	Slight
" "	6-1-31	2	Advanced
" "	6-1-31	2	Advanced
" "	6-1-31	2	Slight
" "	6-1-31	2	Slight
" "	6-1-31	2	Advanced
" "	6-1-31	2	Fresh
" "	6-1-31	2	Fresh
" "	6-1-31	2	Advanced
" "	6-1-31	2	Advanced
" "	6-1-31	3	Slight
" "	5-5-32	2	Fresh
" "	5-8-32	2	Fresh
" "	5-13-32	2	Fresh
" "	5-13-32	2	Fresh
" "	5-13-32	2	Fresh
" "	5-13-32	2	Fresh
" "	5-13-32	2	Fresh
" "	5-20-32	2	Fresh
" "	5-20-32	2	Slight
" "	5-20-32	2	Slight

Species	Date	No. Eggs,	Incubation
Least Tern	6-17-23	2	Slight
" "	5-18-24	2	Fresh
" "	5-18-24	2	Fresh
" "	5-18-24	2	Fresh
" "	5-18-24	2	Fresh
" "	5-18-24	2	Fresh
" "	5-18-24	2	Fresh
" "	5-18-24	2	Fresh
" "	5-18-24	3	Fresh
" "	5-18-24	3	Fresh
" "	5-18-24	3	Fresh
" "	5-23-26	2	Fresh
" "	5-23-26	2	Fresh
" "	6-13-26	3	Advanced
" "	6-13-26	3	Advanced
" "	5-22-27	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27 -	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27	2	Fresh
" "	5-22-27	3	Fresh
" "	5-22-27	3	Fresh
" "	5-20-28	3	Fresh
" "	5-20-28	3	Fresh
" "	5-20-2 8	3	Fresh
" "	5-20-28	2	Fresh
" "	5-20-28	1	Fresh
" "	5-20-28	1	Fresh
" "	5-30-28	2	Advanced
" "	5-30-28	2	Fresh
" "	5-30-28	2	Fresh
" "	5-30-28	2	Fresh
" "	5-30-28	2	Fresh
" "	5-30-28	2	Fresh
" "	5-30-28	2	Fresh
" "	5-30-28-	2	Fresh
9 " "	5-30-28	2	Fresh
" "	5-30-28	2	Fresh

Species	Date	No. Eggs	Incubation
Least Tern	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	3	Slight
" "	6-7-22	3	Fresh
" "	6-7-22	3	Fresh
" "	6-7-22	3	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Advanced
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	2	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	5-13-23	2	Slight
" "	5-13-23	2	Slight
" "	5-13-23	2	Slight
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh
" "	5-29-23	2	Fresh

Species	Date	No. Eggs	Incubation
Least Tern	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Slight
" "	6-7-22	2	Slight
" "	6-7-22	2	Slight
" "	6-7-22	2	Slight
" "	6-7-22	2	Slight
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
"8 "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Slight
" "	6-7-22	2	Fresh
" "	6-7-22	2	Slight
" "	6-7-22	2	Advanced
" "	6-7-22	2	Advanced
" "	6-7-22	2	Slight
" "	6-7-22	2	Slight
" "	6-7-22	2	Slight
" "	6-7-22	2	Advanced
" "	6-7-22	2	Slight
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh

Species	Date	No. Eggs	Incubation
Eastern Willet	5-13-23	4	Slight
" "	5-13-23	4	Slight
" "	6-18-23	4	Slight
" "	5-18-24	4	Fresh
" "	5-1-27	5	Slight
" "	5-8-27	4	Slight
" "	5-8-27	4	Slight
" "	5-20-28	4	Advanced
" "	5-30-28	4	Slight
" "	6-3-28	4	Slight
" "	6-3-28	4	Slight
" "	5-2-31	4	Fresh
" "	5-16-31	4	Fresh
" "	4-29-32	4	Fresh
" "	5-13-32	4	Slight
" "	5-6-34	4	Fresh
" "	5-6-34	4	Slight
" "	5-7-34	4	Slight
" "	5-7-34	4	Slight
" "	5-7-34	4	Fresh
" "	5-23-34	4	Fresh
" "	5-13-35	4	Advanced
" "	5-4-36	4	Fresh
" "	4-24-37	4	Fresh
" "	5-12-37	4	Advanced
" "	5-16-37	4	Fresh
" "	5-16-37	4	Slight
Gull-billed Tern	5-23-26	2	Slight
Least Tern	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh
" "	6-7-22	2	Fresh

Species	Date	No. Eggs	Incubation
Wilson's Plover	5-20-28	3	Slight
" "	5-30-28	3	Fresh
" "	5-30-28	3	Fresh
" "	5-30-28	4	Fresh
" "	6-3-28	3	Fresh
" "	6-3-28	3	Fresh
" "	6-28-30	3	Slight
" "	6-1-31	3	Slight
" "	6-1-31	3	Slight
" "	4-24-32	3	Slight
" "	4-27-32	3	Fresh
" "	4-27-32	3	Fresh
" "	4-29-32	3	Fresh
" "	5-3-32	3	Fresh
" "	5-3-32	3	Advanced
" "	5-3-32	3	Fresh
" "	5-3-32	3	Slight
" "	5-5-32	3	Fresh
" "	5-5-32	3	Slight
" "	5-7-32	3	Fresh
" "	5-7-32	3	Fresh
" "	5-7-32	3	Slight
" "	5-7-32	3	Fresh
" "	5-8-32	3	Fresh
" "	5-13-32	3	Slight
" "	5-13-32	3	Fresh
" "	6-5-32	3	Fresh
" "	6-5-32	3	Slight
" "	5-7-33	3	Advanced
" "	5-7-32	3	Fresh
" "	5-9-32	3	Advanced
" "	5-20-33	3	Fresh
" "	5-22-33	3	Fresh
" "	6-4-33	3	Fresh
" "	5-6-34	3	Fresh
" "	5-19-34	3	Slight
" "	5-23-34	3	Fresh
" "	6-6-34	3	Fresh
" "	6-6-34	3	Fresh
" "	4-25-35	3	Fresh

Species	Date	No. Eggs	Incubation
Wilson's Plover	6-7-22	3	Advanced
" "	6-7-22	3	Advanced
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	6-18-22	3	Fresh
" "	5-13-23	3	Advanced
" "	5-13-23	3	Advanced
" "	5-13-23	3	Advanced
" "	5-29-23	3	Slight
" "	5-29-23	3	Slight
" "	6-17-23	3	Advanced
" "	6-17-23	3	Advanced
" "	6-17-23	3	Slight
" "	6-18-23	3	Slight
" "	6-18-23	3	Advanced
" "	6-18-23	3	Advanced
" "	6-18-23	3	Advanced
" "	6-18-23	3	Advanced
" "	6-18-23	3	Advanced
" "	6-18-23	3	Advanced
" "	5-18-24	4	Fresh
" "	5-18-24	3	Fresh
" "	5-18-24	3	Fresh
" "	5-18-24	3	Fresh
" "	5-23-26	3	Fresh
" "	5-23-26	3	Slight
" "	6-13-26	3	Slight
" "	6-13-26	3	Slight
" "	5-1-27	3	Slight
" "	5-1-27	3	Advanced
" "	5-1-27	3	Advanced
" "	5-1-27	3	Slight
" "	5-1-27	3	Slight
" "	5-1-27	3	Slight
" "	5-8-27	3	Fresh
" "	5-8-27	3	Fresh
" "	5-22-27	3	Fresh
" "	5-22-27	3	Fresh

BLACK SKIMMER RETURNS FROM BIRDS BANDED ON OYSTER

BED ISLAND, GEORGIA

A450476 - Black Skimmer, banded July 21, 1932 on Oyster Bed Island, (E. end); Found dead March 12, 1934 on Lemon Bay, near South Englewood, Florida.

A450228 - Black Skimmer, banded July 12, 1932 on Long Island Fill (W. end); Killed by plane, May 2, 1935 at St. Petersburg, Florida.

A431871 - Black Skimmer, banded July 11, 1932 on Long Island Fill (W. end); captured alive and released January 21, 1933 near Savannah, Georgia. (12 mi. S.)

A450670 - Black Skimmer, banded July 30, 1932, Long Island Fill, (E. end); found dead about January 20, 1933 20 miles N. Daytona Beach, Florida.

A450536 - Black Skimmer, banded July 21, 1932, Long Island Fill (E. end); found dead February 24, 1933 at Charlotte Harbor, Fla.

A431887 - Black Skimmer, banded July 11, 1932 on Long Island Fill (W. end); Found dead on Morris Island, near Charleston, S.C., September 19, 1933.