

NARRATIVE REPORT

SALTON SEA NATIONAL WILDLIFE REFUGE

BRAWLEY, CALIFORNIA

May to July, 1941

Submitted by

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Note: The author was not present on the Salton Sea Refuge during the entire quarter, having left on June 13 for summer work on Imperial Refuge.

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I. GENERALA. Weather Conditions

	<u>Cloudy days</u>	<u>Precipitation</u>	<u>Average Max. temp.</u>	<u>Average Min. Temp.</u>
<u>May</u>	1	0	98.1	63.2
<u>June</u>	1	0	101.4	67.1
<u>July</u>	1	.04	108.9	76.5
Total	3	.04		

The average temperature for the same months last year was about 5 degrees higher. The prevailing direction of the wind during May and June, 1940 was southeast, but this year it was northwest. We have had more northwest winds this year than for several years. No cloudy days or rain were recorded during May, June, and July of last year. A few small tremors were felt in May and June of this year, but no such disastrous earthquake as that of May 13, 1940, occurred. (Records above obtained from El Centro Weather Sta.)

B. Water Conditions

The latest Salton Sea water level reading acquired by the refuge manager was taken on June 2. At that time, the level was noted to be minus 241.3 feet below sea level. The reading for last June taken on the first day of the month registered minus 242.1. Since these are below sea level readings, the June, 1941 reading shows a rise of 1.2 feet. The Salton Sea water level is definitely not stable.

II. WILDLIFE

A. Ducks and Geese

Ducks and geese had all pulled out for points north by the start of this quarter with the exception of the usual few scattered birds (probably non-breeders) that stayed around at least until June 1, when they were noticed last. Four mallards, 1 gadwall, 2 baldpates, 8 green-winged teal, 18 cinnamon teal, 11 redheads, and 8 canvasbacks were seen on this date, at a point where a fresh water ditch empties into the Sea at the southeast corner of the refuge. There seems to be at least a few ruddy ducks on the Salton Sea during all months of the year, but no nests or juveniles have been found.

The first fulvous tree duck was seen on May 2 but it is possible the first arrival from Mexico had been in the vicinity of the refuge for several days. This bird is more abundant along the Alamo River in the vicinity of the Imperial State Game Refuge than anywhere on the Salton Sea Refuge.

B. Upland-game Birds

A few white-winged doves nest in Imperial Valley. The first white-winged dove seen during the spring migration was on May 1. This is one day sooner than this species was observed last year.

Mourning doves appear to be having a good nesting season. Many of these birds nest right on the ground in Imperial Valley, and very little is used for nesting material in many cases. A few mourning doves were found nesting on the small islands in the Salton Sea. Pickleweed (Allenrolia occidentalis) was the main cover they used for their nests.

C. Other Birds

White pelicans are noticed on the Salton Sea Refuge all the year around but their numbers are considerably increased during April, and May finds them located in nesting colonies on some sandy islands in the Salton Sea about 1 $\frac{1}{2}$ miles from Sandy Beach.

The refuge manager was unable to land on the islands on April 16 because of high winds, but approximately 300 pelicans were seen on the islands at that time in close range. The first chance to land on the islands came on May 7. About 500 pelicans were found occupying 5 nesting sites then, and no doubt other birds were off feeding somewhere.

The white pelican nesting season was advanced over the previous season, but no reason for the change was found. Last year, no juvenile pelicans had been born by May 30th, but this year a number of nests held young several days old by May 7. It was unusual to note that on one small island, 12 juveniles were about 1/3 grown by May 7. However, the majority of nests held very young birds or eggs that were not yet hatched.

It was noted in nearly every case where evidence of fish food was found on the nesting grounds that it was some species of bottom feeding fish (probably mullet and carp). Pelicans were noticed coming to the islands from great heights which seemed to indicate they were feeding at distant points from the Salton Sea. When these birds, (noticed at first as white specks in the sky) would drop down to the islands on fixed wings, the sound of their bodies cutting the air could be heard a long way off.

A blind was built by the refuge manager for photographing and studying these interesting birds. The featherless newborn young succumbed to the hot desert sunshine if the parent birds left the nest for any length of time. (It is believed the parent birds wet their feathers occasionally and stood near the young to keep themselves and young cool by an evaporation process). Once in a while, a returning parent would clutch a young bird or egg in a huge webbed foot for a second or two as if to feel its condition. The mortality among pelicans, especially newly hatched birds, was quite high. Many eggs, also, were left unhatched. Young birds sometimes died after fighting among themselves, or being pecked by older birds. Eggs and young in nests placed so close together as these sometimes suffered when a parent or neighbor adult beat them with its large wings in taking off. Eggs laid in awkward places (among sticks or on inclines) were often deserted. Such eggs were sometimes found, too, in soft sand, partly covered. These eggs may have been infertile, or possibly were deserted when wind covered them with sand while the parents were away from their nests.

Despite the hardships, approximately six hundred juveniles reached a stage, by June 7, where they would take to the water readily.

The first gull-billed terns were noted on the refuge this spring on April 16. They established themselves on the nesting islands in four different nesting sites. The islands were visited on May 7, and it was estimated that 200 gull-billed terns had nests with from one to three eggs. Some gull-billed terns were still building nests and laying eggs as late as June 7. Mortality of young and the loss of eggs was quite high. Strong winds destroyed a number of nests. The terrific

heat of spring and summer is also against nesting birds in the Salton Sea area. It is interesting and unusual to see these water loving birds swooping down and feeding on lizards in the dry desert. Many lizards were carried to the islands to be fed to juvenile terns. It is believed the gull-billed tern will sometimes dive down and pick up a mouse. One small, dead, pocket mouse (Perognathus penicellatus angustirostris), was picked up on one of the nesting islands where there had been no sign of its previous residence. On one occasion a gull-billed tern was seen making repeated dives at a quick-footed kangaroo rat caught out from its hole in the daylight. It is possible that this tern was after a meal for itself or its young. Other dry-land food brought for the young include insects of the grasshopper group.

The Caspian terns had a hard time of it this nesting season. Only 8 birds and four nests with eggs were noticed on May 7, but a count of 32 birds and 13 nests was made on May 26. These nests were placed on a narrow sand spit that is subjected to wave action during high winds. After being partly washed out during a moderate wind storm, the terns went ahead with their nesting on the same sand spit but on a little higher ground. Sometime later, a severe wind storm nearly washed the island away, ruining all nests. The Caspian terns then picked a rather high point on an island near their original nesting place (that was being used by gull-billed terns) and proceeded to lay more eggs. Since the refuge manager left the Salton Sea Refuge for the summer on June 13, it was not learned how this third attempt to nest made out. At least these nests were too high for waves to reach them. Mr. J. R. Pemberton wrote, on May 20, 1927, (the day he discovered the colony of Gull-billed terns at Salton Sea), "Caspian terns had been noted in small numbers;

and a few nests containing one and two eggs were found on a very small island. A bad storm of the preceding week had washed away a large part of this island, and many nests had been ruined."

Approximately 400 black terns were observed resting in an irrigated field near the Refuge on May 1. These birds are active mainly over fields in Imperial Valley, where they consume untold numbers of insects. However, they are seen on the Refuge occasionally, especially near the shoreline of the Sea and at the mouths of the Alamo and New Rivers.

Actions of black-necked stilts, noted on May 8, indicated these birds were interested in nesting, but their nests were not discovered until May 18. Nests of 5 black-necked stilts were found on the Refuge. Their nests were located on little knolls of sand that protruded from the salty water near the shore. Pickleweed is the only vegetation found on these little knolls. The nests were placed so that they were shaded by this vegetation at least part of the day.

Avocets found the shallow water mud flats just off Sandy Beach attractive as a feeding area, and it was not uncommon to see from 100 to 400 birds there at one time. Four hundred and eight avocets were counted on June 26. Many of these birds acted like nesting birds, but no eggs were found. On open silt bars, little hollows that appeared to have been dug out for nests never held eggs.

A few snowy plovers and mourning doves were discovered using the nesting islands this season, also.

D. New Bird for List

One new bird was added to the refuge list during this quarter. The first record of a Lewis woodpecker on the Refuge was made on May 1. This bird was first noticed while feeding, flycatcher fashion, from some dead branches of a willow tree. It was just a visitor, and when looked for a few days later, could not be found.

III. Physical Development and Maintenance

No refuge development plans were made for this quarter. General maintenance of government property was continued as usual. The Refuge rowboat No. 781 was overhauled during the latter part of July and hauled to Imperial Refuge to be used in summer work there.

IV. Public Relations

A. Cooperation with State

Assistance was given to the California State Game Department and the Imperial Valley Conservation Association in releasing adult pheasants in Imperial Valley on May 6. The Conservation Association this season has completed 20 rearing pens for pheasants at the State Game Refuge near Calipatria, and young birds have been released from there at intervals during the past two months.

B. Visitors

May 21. The biology class (40 students) of the Calipatria High School visited the Refuge, by bus, on this date for bird study. The students were conducted to several points where they could see shore birds and marsh birds.

May 29. Mr. L. J. Goldman, Service Official, visited the Refuge on his way north from Mexico. Mr. Goldman was conducted to points on the Refuge and out to the nesting islands.

June 1-3. Mr. Doren E. Woodward, Service Official, visited the Refuge and inspected the area and looked over acreage that was recommended for inclusion within the refuge boundaries. Mr. Woodward visited the Offices of the Imperial Irrigation District regarding the acquisition of land for the Salton Sea Refuge.

June 7. Mr. James Murdock, photographer and bird enthusiast, visited the Refuge to take pictures of the pelicans. An attempt to reach the nesting islands in rough weather was frustrated. Mr. Murdock made several flight pictures of the gull-billed terns from the nearest island out from Sandy Beach.

July 9. Dr. Clarence Cottam and Mr. Cecil Williams, Service Officials, visited the Refuge but unfortunately the refuge manager was at Yuma, Arizona, and was not able to conduct them around the Refuge.

July 22, 27. Mr. Harold M. Hill, member of Cooper Club, continued bird banding operations.

Mr. Donald Bleits, Hollywood, California and Mr. Lewis Walker, of the staff of the San Diego Museum of Natural History, were the most persistent photographers to visit the area. They made several trips to photograph the pelicans.

V. Field Investigations

Bird Banding

Mr. Harold M. Hill, member of the Cooper Ornithological Society acquired a special use permit for the purpose of banding pelicans. Mr. Hill did not expect that the pelicans would nest nearly a month sooner than last year, and so was too late for effective banding. However, he banded five white-pelicans on July 22. Other young birds were too active and difficult for him to catch.

VI. Other Items

1. Mr. Hill found the young pelicans he banded infected by "a number of tightly-clinging, wingless insect parasites on the inside of the lower mandible near the angle of the mouth", but he did not collect any of them.

2. It was learned that the Navy Department has included a small part of the Salton Sea Refuge in an emergency landing area for sea planes. A 252' 6" dock is planned for Sandy Beach and five or six buoys are to be placed on the sea to mark off a landing place. According to information gathered from the Navy Department, planes would not land on the Salton Sea except in dire emergency. Navy Officials say the high salinity of the water would be extremely corrosive to metal parts of their planes.

U. S. Coast Guard planes are expected to use this landing area about once every six months to service the dock and bouys. Only slight disturbance to the birds is expected where planes use the area at such great intervals.